

USA FREDERICK P. WHIDDON COLLEGE OF MEDICINE UNIVERSITY OF SOUTH ALABAMA

ANNUAL REPORT
October 1, 2021 - September 30, 2022



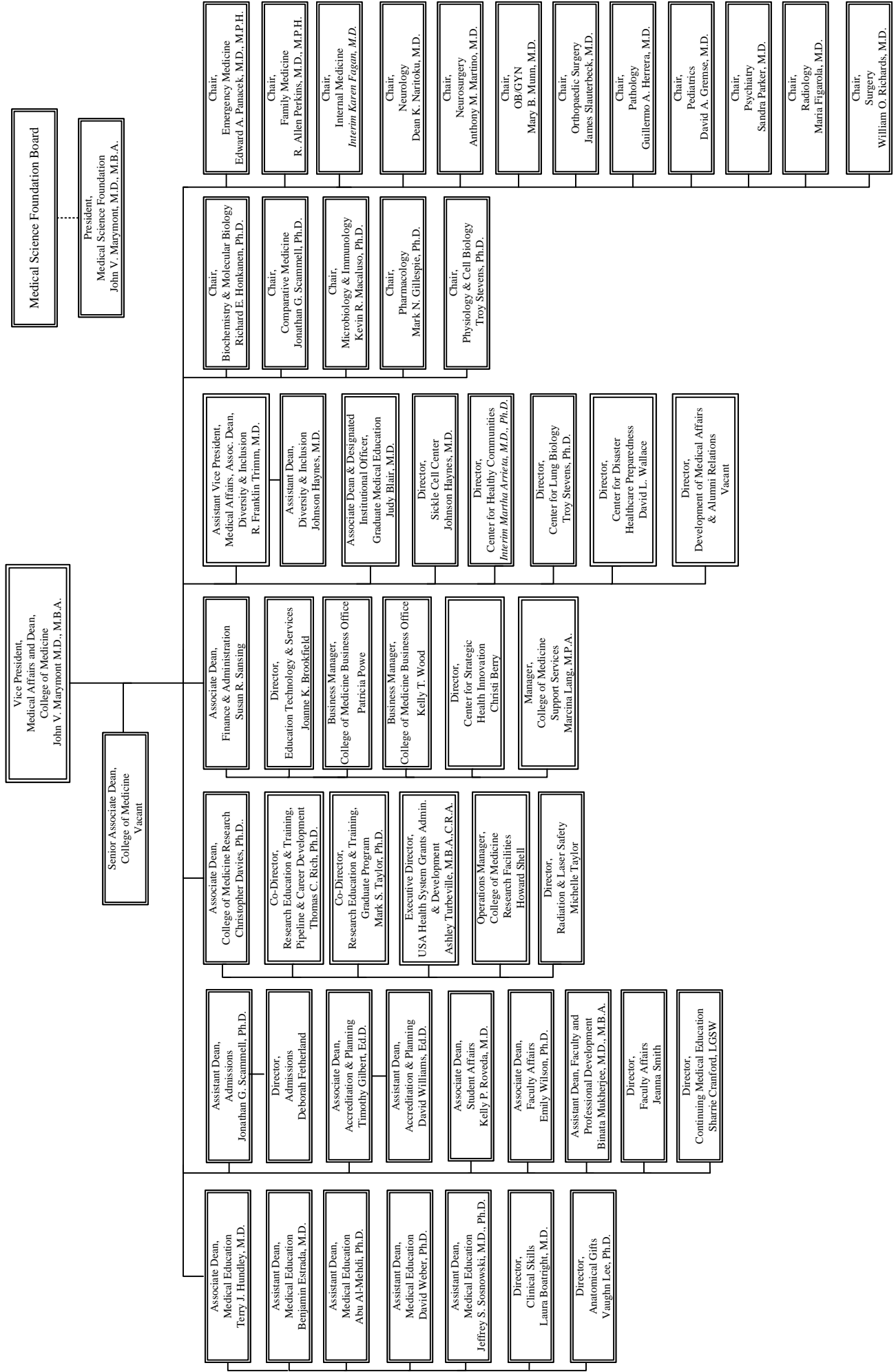
**We educate.
We discover.
We serve.**



**ANNUAL REPORT
UNIVERSITY OF SOUTH ALABAMA
WHIDDON COLLEGE OF MEDICINE**

October 1, 2021 through September 30, 2022

USA College of Medicine Organizational Chart October 20, 2022



FOREWORD

As we prepare to celebrate the Frederick P. Whiddon College of Medicine's 50th anniversary, we look back on our successes from the past academic year. The 2021-2022 annual report catalogs the accomplishments of our faculty, staff and students relating to teaching, research, scholarship and community service.

The College of Medicine community got a first look at plans for the new medical school building. The nearly 300,000-square-foot facility is designed to bring research and education together in one building to encourage collaboration. The construction of a flagship 21st century research and education building is possible thanks to a \$60 million appropriation from U.S. Sen. Richard Shelby, a \$50 million appropriation from Alabama Gov. Kay Ivey, and a \$30 million gift from the University of South Alabama Foundation.

With the lifting of some of the COVID restrictions, which impacted in-person events last year, the College of Medicine saw a return to large group gatherings to celebrate most events during the academic year, including Match Day, White Coat Ceremony and Honors Ceremony. The Medical Alumni Association also was able to host the 2022 Medical Alumni Reunion Weekend at the Grand Hotel in Point Clear, and we look forward to bringing all alumni classes together this year for the 50th anniversary celebration.

After the recent passing of Johnson Haynes Jr., M.D., Ardie Pack-Mabien, Ph.D., FNP-BC, has stepped in as interim director of newly renamed Johnson Haynes Jr., M.D., Comprehensive Sickle Cell Center. Following the retirement of Carole Boudreaux, M.D., Judy Blair-Elortegui, M.D., was appointed the Designated Institutional Official, associate dean for Graduate Medical Education, and chair of the Graduate Medical Education Committee at the University of South Alabama that together oversees all GME training programs at the institution. With the departure of Errol Crook, M.D., Karen Fagan, M.D., was appointed interim chair of the Department of Internal Medicine; and Martha Arrieta, M.D., Ph.D., M.P.H., was named interim director of the USA Center for Healthy Communities. Additionally, the College of Medicine formally established the Department of Urology, expanding its educational, research and patient care offerings. Christopher Keel, D.O., an associate professor and urologist at USA Health University Urology, serves as the interim chair.

The individual and collective accomplishments detailed in this report are the result of the focused and continual effort of our excellent faculty, students and staff. I thank each of you for this successful year.

John V. Marymont, MD, MBA
Vice President for Medical Affairs
Dean, Frederick P. Whiddon College of Medicine

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2021-2022
Summary of Scholarly Activities
Department of Biochemistry

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Boyd A, Aragon IV, Rich J, McDonough W, Oditt M, Irelan D, Fiedler E, Abou Saleh L, Richter W. Assessment of PDE4 inhibitor-induced hypothermia as a correlate of nausea in mice. *Biology (Basel)*. 2021 Dec 20;10(12):1355.

Choi CS, Gwin M, Voth S, Kolb C, Zhou C, Nelson AR, deWeaver A, Koloteva A, Annamdevula NS, Murphy JM, Wagener BM, Pittet JF, Lim SS, Balczon R, Stevens T, Lin MT. Cytotoxic tau released from lung microvascular endothelial cells upon infection with *Pseudomonas aeruginosa* promotes neuronal tauopathy. *J Biol Chem*. 2022 Jan;298(1):101482.

Coley AB, Ward A, Keeton AB, Chen X, Maxuitenko Y, Prakash A, Li F, Foote JB, Buchsbaum DJ, Piazza GA. Pan-RAS inhibitors: hitting multiple RAS isozymes with one stone. *Adv Cancer Res*. 2022;153:131-168.

D'Arcy BM, Arrington J, Weisman J, McClellan SB, Vandana, Yang Z, Deivanayagam C, Blount J, Prakash A. PMS2 variant results in loss of ATPase activity without compromising mismatch repair. *Mol Genet Genomic Med*. 2022 Feb 21;10(5):e1908.

Fenton BA, Tomberg J, Sciandra CA, Nicholas RA, Davies C, Zhou P. Mutations in PBP2 from Ceftriaxone-resistant *Neisseria gonorrhoeae* Alter the Dynamics of the β 3- β 4 Loop to Favor a Low-affinity Drug-binding State. *J Biol Chem*. 2021; 297:101188.

Ghigo A, Murabito A, Sala V, Pisano AR, Bertolini S, Gianotti A, Caci E, Montresor A, Premchandrar A, Pirozzi F, Ren K, Della Sala A, Mergioti M, Richter W, de Poel E, Matthey M, Caldrea S, Cardone RA, Civiletti F, Costamagna A, Quinney NL, Butnaru C, Visentin S, Ruggiero MR, Baroni S, Crich SG, Ramel D, Laffargue M, Tocchetti CG, Levi R, Conti M, Lu XY, Melotti P, Sorio C, De Rose V, Facchinetti F, Fanelli V, Wenzel D, Fleischmann BK, Mall MA, Beekman J, Laudanna C, Gentsch M, Lukacs GL, Pedemonte N, Hirsch E. A PI3K γ mimetic peptide triggers CFTR gating, bronchodilation, and reduced inflammation in obstructive airway diseases. *Sci Transl Med*. 2022 Mar 30;14(638):eabl6328.

Grelet S, Fréreau C, Obellianne C, Noguchi K, Howley BV, Dalton AC, Howe PH. TGF β -induced expression of long noncoding lincRNA Platr18 controls breast cancer axonogenesis. *Life Sci Alliance*. 2021 Nov 22;5(2):e202101261.

Howley BV, Mohanty B, Dalton A, Grelet S, Karam J, Dincman T, Howe PH. The ubiquitin E3 ligase ARIH1 regulates hnRNP E1 protein stability, EMT and breast cancer progression. *Oncogene*. 2022 Mar;41(12):1679-1690.

Jeong K, Murphy JM, Kim JH, Campbell PM, Park H, Rodriguez YAR, Choi CS, Kim JS, Park S, Kim HJ, Scammell JG, Weber DS, Honkanen RE, Schlaepfer DD, Ahn EE, Lim SS. FAK activation promotes SMC dedifferentiation via increased DNA methylation in contractile genes. *Circ Res*. 2021 Dec 3;129(12):e215-e233.

Lee JY, Stevens RP, Kash M, Alexeyev M, Balczon R, Zhou C, Renema P, Koloteva A, Pastuhk V, Gwin MS, Voth S, deWeever A, Wagener BM, Pittet JF, Eslaamizaad Y, Siddiqui W, Nawaz T, Clarke C, Fouty BW, Audia JP, Alvarez DF, Stevens T. Carbonic anhydrase IX and hypoxia promote pulmonary endothelial cell survival during infection. *Am J Respir Cell Mol Biol*. 2021 Dec;65(6):630-645.

Mohanty BK, Karam JA, Howley BV, Dalton AC, Grelet S, Dincman T, Streitfeld WS, Yoon JH, Balakrishnan L, Chazin WJ, Long DT, Howe PH. Heterogeneous nuclear ribonucleoprotein E1 binds polycytosine DNA and monitors genome integrity. *Life Sci Alliance*. 2021 Jul 16;4(9):e202000995.

Sharma N, Thompson MK, Arrington JF, Terry DM, Chakravarthy C, Preville PE, Prakash A. Novel interaction interfaces mediate the interaction between the NEIL1 DNA glycosylase and mitochondrial transcription factor A. *Front Cell Dev Biol*. 2022 Jul 22;10:893806.

Warner AJ, Hathaway-Schrader JD, Lubker R, Davies C, Novince C. (2022). Tetracyclines and bone: Unclear actions with potentially lasting effects. *Bone*. 2022 Jun 1; 159:116377.

Yuan L, Gao F, Lv Z, Nayak D, Nayak A, Bury P, Cano K, Jia L, Oleinik N, Atilgan F, Ogretmen B, El Oualid F, Williams K, Davies C, Wasmuth W, Olsen S. Crystal Structures Reveal Catalytic and Regulatory Mechanisms of the Dual-Specificity Ubiquitin/FAT10 E1 Enzyme Uba6. *Nat Commun*. 2022 Aug 19; 13:4880.

II. PUBLISHED ABSTRACTS

Boyd A, Abou Saleh L, Aragon I, Fiedler E, Irelan D, Spadafora D, Barrington R, King J, Richter W. Ablation of PDE4A exacerbates *pseudomonas aeruginosa*-induced acute lung injury in mice. *FASEB J*. 2022;36(S1):R4152. Available from: <https://faseb.onlinelibrary.wiley.com/doi/10.1096/fasebj.2022.36.S1.R4152>

D'Arcy BM, Arrington J, Weisman J, McClellan SB, Vandana, Yang Z, Deivanayagam C, Blount J, Prakash A. PMS2 variant results in loss of ATPase activity without compromising mismatch repair. 2nd Southern Genome Maintenance Conference; 2022 Jun 25-26; Miami, FL.

Davies C, Singh S, Bala S, Stratton C, Turner J, Tomberg J, Unemo M, Nicholas RA. Mutations in penicillin-binding protein 2 from cephalosporin-resistant *Neisseria gonorrhoeae* hinder ceftriaxone acylation via restriction of protein dynamics. 22nd International Pathogenic Neisseria Conference; 2022 Oct 9-14; Cape Town, South Africa.

Deweever A, Choi C, Pastukh V, Gwin MS, Voth SB, Paudel SS, Baumann AJ, Kozhukhar N, Lee J, Francis CM, Leavesley S, Alexeyev M, Nelson A, Lin MT, Balczon R, Stevens T. Autofluorescent detection of cytotoxic tau as a putative point of care method. *Am J Respir Crit Care Med*. 2022 May;205:A5145.

Available from: https://www.atsjournals.org/doi/epdf/10.1164/ajrccm-conference.2022.205.1_MeetingAbstracts.A5145

Gwin MS, Geurts A, Zhou C, Lin M, Voth SB, Alexeyev M, Pastukh V, Lee J, Balczon R, Stevens T. A first-in-kind knockout rat reveals a lung- and brain-protective role for gamma secretase activating protein. *Am J Respir Crit Care Med*. 2022 May;205:A3118. Available from:https://www.atsjournals.org/doi/epdf/10.1164/ajrccmconference.2022.205.1_MeetingAbstracts.A3118

Irelan D, Boyd A, Aragon I, Fiedler E, Richter W. Pharmacologic or genetic PDE4 inactivation reduces obesity and improves glucose handling in mice. *FASEB J*. 2022;36(S1):R2312. Available from: <https://faseb.onlinelibrary.wiley.com/doi/10.1096/fasebj.2022.36.S1.R2312>

Lin MT, Choi CS, Gwin M, Voth S, Kolb C, Zhou C, Nelson AR, deWeaver A, Koloteva A, Annamdevula NS, Murphy JM, Wagener BM, Pittet JF, Lim SS, Balczon R, Stevens TT. Pulmonary endothelial tau aggregation after infection. *FASEB J*. 2022;36(S1):R4516. Available from: <https://faseb.onlinelibrary.wiley.com/doi/10.1096/fasebj.2022.36.S1.R4516>

Smolen K, Papke C, Swingle M, Honkanen R, Kettenbach A. Disorder-related variants of a PP2A-regulatory subunit (PPP2R5D) causes constitutively active AKT-mTOR signaling and uncoordinated cell growth. 69th American Society for Mass Spectrometry Conference on Mass Spectrometry and Allied Topics; 2021 Oct 31-Nov 4; Philadelphia, PA. p. 21.

Smolen K, Papke C, Swingle M, Honkanen R, Kettenbach A. Disorder-related variants of a PP2A-regulatory subunit (PPP2R5D) cause deregulated RPS6 signaling and uncoordinated cell growth. European Molecular Biology Organization Workshop on Reversible Phosphorylation, Signal Integration and Drug Discovery; 2022 May 22-26; Vouliagmeni, Greece. p 98. Abstract no 3.

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

Davies C. Invited Speaker. Lockdown-how mutations in penicillin-binding protein 2 confer cephalosporin resistance to *N. gonorrhoeae*. UT Health San Antonio Seminar Series, Long School of Medicine; 2022 Mar 4; San Antonio, TX.

Davies C. Invited Speaker. Getting Grants Budgets Right. Center for Clinical and Translational Science (CCTS) Translational Training Program Symposium; 2022 Sept 16, Mobile, AL.

Honkanen R. Invited speaker. Update of PPP2R5D variant cell lines [virtual presentation]. Jordan's Guardian Angels Workshop; 2021 Dec 18; New York, NY.

Honkanen R. Invited speaker. PPP2R5D variant cell lines update and progress [virtual presentation]. Jordan's Guardian Angels Workshop; 2022 Apr 8; New York, NY.

Prakash A. Invited speaker. ATPase dead? What this means for PMS2 variants during mismatch repair. 2nd Southern Genome Maintenance Conference; 2022 Jun 25; Miami, FL.

Prakash A. Invited speaker. A structural approach to understanding the function of DNA repair complexes. Tulane University School of Medicine; 2022 Mar 14; New Orleans, LA.

Prakash A. Invited speaker. A structural approach to understanding the function of DNA repair complexes. Thomas Jefferson University; 2021 Nov 15; Philadelphia, PA.

Prakash A. Invited speaker. Career pathways to academia. University of Louisville; 2021 Nov 12; Louisville, KY.

V. NATIONAL PROFESSIONAL RECOGNITION

Ronald Balczon: Journal editor or editorial board member: Editorial Boards of Biology and Frontiers in Medicine; Reviewer-Gorgas Scholarship Program: Alabama Academy of Sciences; Judge-Oral presentations: Alabama Academy of Sciences; Judge-Summer Student Research Day

Christopher Davies: Reviewer for Drug Discovery and Mechanisms of Antimicrobial Resistance (DDR) NIH Study Section.

Simon Grelet: Study Sections for Grant Review: COM Predoctoral Fellowship and COM Intramural Grants Program 2021-2022; Journal Peer Review: Bioengineered, Molecular Cancer Research, Journal of Hematology & Oncology

Richard Honkanen: Study sections for grant review: NIH ZRG1 OTC1-B (11) Cancer Therapeutics SBIR/STTR panel Chair and Reviewer; NIH ZRG1 BCMB G55 (Pilot Projects investigating Understudied G protein coupled receptors, ion channels and protein kinases) Special Emphasis Panel/Scientific Reviewer; Research grant reviewer; BSF. United States- Israel National Science Foundation: Reviewer; KU Leuven, Belgium: Ph.D. Jury member (Expert External Evaluation of Ph.D. students at midterm exams, dissertation, and final defense); NIH (NIDDK) ZDK1 GRB-7 R13 Review Committee panel member; Special Emphasis Panel/Scientific Review Research grant reviewer; BSF. United States-Israel National Science Foundation; Journal editor or editorial board member: Frontiers in Cell and Developmental Biology

Aishwarya Prakash: NIH/NIEHS ViCTER Award R01 Study Section ZES1 ARL-D (RO)2, NIH/NCI PO1 Grant Applications Study Section ZCA1 SRB-K (M1)P, NSF

Faculty Early Career Development (CAREER) Program Review, NIH Study Section ZRG1 MDCN-B (03)

Wito Richter: Study sections for grant review: Cystic Fibrosis Research Inc.; NSF-GRFP; NIH-ZRG1 CVRS-J (11) B - Small Business: Respiratory Sciences; Journal editor or editorial board member: Editorial board Biology (Biochemistry and Molecular Biology); Journal peer review: Ad hoc reviewer: Cells, AJPLung, Endocrine, Biochemical Pharmacology

VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS

The department of Biochemistry and Molecular Biology contributes to the College of Medicine's mission of teaching, research and service. In recent years, the recruitment of Dr. Mark Swingle, Dr. Simon Grelet, and Dr. Christopher Davies has helped revitalize the department. Dr. Lim left USA to accept a position at UBA. A national search for additional faculty is ongoing, with a major goal of increasing diversity in the department.

The department is a research-intensive academic unit that contributes primarily to undergraduate medical education, basic medical sciences graduate education and the service mission of the College of Medicine. In education, the faculty contribute significant effort to the systems-based medical curriculum, contributing to the basic science (Principles of Foundational Medicine), endocrine, cardiovascular, and musculoskeletal modules. In addition, the faculty have a major commitment to multiple graduate science courses in the various tracks. Dr. Balczon served as the director of the endocrine module. Dr. Swingle is the director of a new graduate course that he helped develop (IDL 590 Genome engineering). Dr. Swingle also served as the course director for IDL 576. Dr. Honkanen served as the course director for IDL 577. With the SARS-CoV-2 outbreak winding down, the department's efforts devoted to education and research are getting back to "normal". Nonetheless, if needed, all faculty are ready to rapidly adapt from in-class teaching to on-line instruction or to a hybrid, in which some students attend class in person and some are online. Again, this year, productivity in research was also maintained by implementing social distancing, the wearing of masks, and by adopting a work schedule in which people worked in shifts. All faculty and staff devoted substantial extra effort to ensure that the quality of education and scholarly activity of the department did not suffer during these challenging times.

This year, two graduate students, Abigail Boyd and Yelitza Rodriguez, earned their Ph.D. degrees in Basic Medical Sciences. Currently, seven students enrolled in the Ph. D. Basic Medical Science graduate program are continuing their extensive small group training with faculty in the department. In addition, five postdoctoral fellows in the department received intensive advanced training in the laboratories of Dr Richter, Dr. Lim, Dr. Prakash, Dr. Davies, and Dr. Honkanen. Members of the faculty also contribute to undergraduate and summer medical research training, acting as mentors for students enrolled in the BMD honors research programs and medical students.

The faculty continues to demonstrate excellence in scholarly activity and research, as is evident by their publications and presentations at national and international at scientific meetings. The department's intensive research effort has been made possible by extramural grant support from AHA, NIH, and a subaward from the UC-Davis/ Jordan's Guardian Angles (JGA)-foundation, as well as internal funds supplied by the College of Medicine and USA.

2021-2022
Summary of Scholarly Activities
Department of Comparative Medicine

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Jeong K, Murphy JM, Kim JH, Campbell PM, Park H, Rodriguez YAR, Choi CS, Kim JS, Park S, Kim HJ, Scammell JG, Weber DS, Honkanen RE, Schlaepfer DD, Ahn EE, Lim SS. FAK activation promotes SMC dedifferentiation via increased DNA methylation in contractile genes. *Circ Res.* 2021 Dec 3;129(12):e215-e233.

II. PUBLISHED ABSTRACTS

Buckley CT, Lee YL, Schuler AM, Langley RJ, Kutcher ME, Barrington R, Audia JA, Simmons JD. Deleterious effects of plasma-derived cellular debris in a porcine model of hemorrhagic shock. American Association for Surgery of Trauma Annual Meeting; 2021 Sep 29-Oct 2; Atlanta, GA. Abstract no. Quickshot 10.

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

V. NATIONAL PROFESSIONAL RECOGNITION

Jonathan G. Scammell: Board Member, Alabama Board of Medical Scholarships; ad hoc reviewer for AAMC and the Endocrine Society.

A. Michele Schuler: Secondary veterinarian for the Alabama Marine Mammal Stranding Network.

VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS

The faculty and staff of the Department of Comparative Medicine participate in service, education, and research in the university's animal care and use program. The department oversees the AAALAC International-accredited program, which received exemplary status at the last review. The faculty and staff provided essential and uninterrupted support of the animal care and use program during the continued pandemic and tropical storms.

The team:

Director of University Biological Resources: Dr. A. Michele Schuler
Animal Health Care Technologist: Leigh Ann Wiggins
Laboratory Animal Tech Supervisors: Benjamin Gumbs, Craig Youngman
Laboratory Animal Assistant: Hannah Bryant

Laboratory Animal Technicians: Francelina Nores, Carmen Thomas, Melanie Wiggins
Vivarium Maintenance Coordinator: Gavin Guy
Financial Operations Specialist: Kenyetta Grissom; Secretarial Support: Sheila Pierce

We thank Ms. Kitty Leaird, research technician III, who retired this year after many years of loyal service to the department. The department continues to upgrade equipment and maximize the use of facilities with the goal of enhancing research and teaching capabilities for the benefit of investigators throughout the university. The department supports the VEVO high resolution ultrasound imaging system from VisualSonics, the hypoxia core for the development of pulmonary hypertensive rodents, the *Pseudomonas* delivery core, the behavior core, the Kimtron, Inc. IC-320 irradiator, IVIS Spectrum Imaging System, the OEC-Diasonics C-Arm Fluoroscopic Imaging System, clinical chemistry and the burgeoning activities in the ABSL-3 facility of the Laboratory of Infectious Disease (LID). The department purchased a Hydropac automated watering system to improve efficiency, hurricane preparedness and LID support. This is a portable unit that will be added to the equipment infrastructure of the new medical sciences building.

A major commitment of time and effort was spent this year on the design of the vivarium in the next medical sciences building. The goal is that the most contemporary design be incorporated into the facility with mutual benefit to personnel and researchers. The faculty continue formal and informal educational commitments within the department to technical staff, supervisors, and colleagues and outside the department to graduate students, postdoctoral fellows, and faculty. Dr. Schuler's commitment to collaboration and education reaches broadly within the university with formal participation with research groups in the Dauphin Island Sea Lab, the College of Arts and Sciences, and every department within the College of Medicine. She holds a joint appointment in the Department of Microbiology and Immunology and works extensively with investigators in the LID. Outside of the university, Dr. Schuler works with the Alabama Marine Stranding Network collaborating with the NOAA's National Marine Fisheries Service to provide veterinary care to stranded cetacean species.

Members of the department play significant roles in other aspects of college and university life. Dr. Scammell serves as Assistant Dean for Admissions, member of the Endocrinology and Reproduction Module, Obstetrics and Gynecology clerkship and Clinical Pharmacology teaching staff, and chairs the MD with Research Honors Committee. Outside of the college, Dr. Scammell serves on the University's Committee on Standards in the Conduct of Research, the Scholarship and Financial Aid Committee, the University Committee on Diversity and Inclusion, and the USA Health Branding Advisory Team. Dr. Schuler serves as a standing member of Institutional Animal Care and Use and Biosafety Committees and is a member of the Safety and Environmental Compliance Committee. She continued her role as director of the introductory graduate level course on Fundamentals of Basic Medical Sciences (IDL 580) and of the endocrine and microbiology sections of IDL 581.

2021-2022
Summary of Scholarly Activities
Department of Emergency Medicine

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Anderko RR, Gómez H, Canna SW, Shakoory B, Angus DC, Yealy DM, Huang DT, Kellum JA, Carcillo JA; ProCESS Investigators (Panacek EA, collaborator). Sepsis with liver dysfunction and coagulopathy predicts an inflammatory pattern of macrophage activation. *Intensive Care Med Exp*. 2022 Feb 21;10(1):6.

Briggs B. Clinical controversies: stick with the hard signs of neck trauma. *Emerg Med News*. 2021 Oct;43(10):31-32.

Briggs B. Clinical controversies: stop the madness, and bring back droperidol. *Emerg Med News*. 2021 Nov;43(11):14.

Briggs B. Clinical controversies: a smackdown for epinephrine skin necrosis. *Emerg Med News*. 2021 Dec;43(12):1,10.

Briggs B. Clinical controversies: stop playing games with anaphylaxis. *Emerg Med News*. 2022 Jan;44(1):12.

Briggs B. Clinical controversies: hydralazine is broken (no need to fix it). *Emerg Med News*. 2022 Feb;44(2):14.

Briggs B. Clinical controversies: why are we still talking about ICP and ketamine? *Emerg Med News*. 2022 Mar;44(3):1,27.

Briggs B. Clinical controversies: have you ever tried viscous lidocaine? *Emerg Med News*. 2022 Apr;44(4):12.

Briggs B. Clinical controversies: no need for CTs in dizzy patients. *Emerg Med News*. 2022 May;44(5):19.

Briggs B. Clinical controversies: avoid a one-size-fits-all approach for meningitis, but don't let CT or LP delay antibiotics. *Emerg Med News*. 2022 Jun;44(6):29.

Carothers D, Crawford G, Guan L, Mellick L, Nalaraj A, Rudd A. Vibrator stuck in the rectum [video]. Burbank, CA: Warner Brothers, Discovery, Inc., producer. STUCK, The Learning Channel; 2022 Feb 16. Season 1, episode 1. Available from: <https://go.tlc.com/video/stuck-tlc-atve-us/vibrator-in-the-rectum> [Subscription required].

Crawford G, Carothers D, Livermore G, Guan L, Mellick L, Westafer M. Stiletto in the eye [video]. Burbank, CA: Warner Brothers, Discovery, Inc., producer. STUCK, The

Learning Channel; 2022 Mar 3. Season 1, episode 3. Available from: <https://go.tlc.com/video/stuck-tlc-atve-us/stiletto-in-the-eye> [Subscription required].

Mellick L. Paroxysmal sympathetic hyperactivity or neurostorm emergency [video]. University of South Alabama College of Medicine, producer. Mobile, AL: University of South Alabama Medical Education Videos; 2021 Oct 16. Available from: https://www.youtube.com/watch?v=F0_pjXxm55Y

Mellick L. Huge splinter stuck in toddler's foot [video]. University of South Alabama College of Medicine, producer. Mobile, AL: University of South Alabama Medical Education Videos; 2021 Oct 21. Available from: https://www.youtube.com/watch?v=sBv_C6bwY0o

Mellick L. Neonatal supraventricular tachycardia emergency [video]. University of South Alabama College of Medicine, producer. Mobile, AL: University of South Alabama Medical Education Videos; 2021 Oct 29. Available from: <https://www.youtube.com/watch?v=VWPLe0PCrGw>

Mellick L. Stuck ring removal emergency [video]. University of South Alabama College of Medicine, producer. Mobile, AL: University of South Alabama Medical Education Videos; 2021 Nov 8. Available from: <https://www.youtube.com/watch?v=z8EtfpzolEQ>

Mellick L. Ring removal pearls [video]. University of South Alabama College of Medicine, producer. Mobile, AL: University of South Alabama Medical Education Videos; 2021 Nov 13. Available from: <https://www.youtube.com/watch?v=bqMtbIqgx3E>

Mellick L. How to atomize medications safely [video]. University of South Alabama College of Medicine, producer. Mobile, AL: University of South Alabama Medical Education Videos; 2021 Nov 17. Available from: <https://www.youtube.com/watch?v=Rbc9O0grpE0>

Mellick L. Stopcocks and atomizers are medication thieves [video]. University of South Alabama College of Medicine, producer. Mobile, AL: University of South Alabama Medical Education Videos; 2021 Nov 17. Available from: <https://www.youtube.com/watch?v=h7wpSHhEqSM>

Mellick L. Trying out the Wellue ECG recorder [video]. University of South Alabama College of Medicine, producer. Mobile, AL: University of South Alabama Medical Education Videos; 2021 Nov 22. Available from: <https://www.youtube.com/watch?v=yLAZ-c-om74>

Mellick L. My baby is blue! [video]. University of South Alabama College of Medicine, producer. Mobile, AL: University of South Alabama Medical Education Videos; 2021 Dec 1. Available from: <https://www.youtube.com/watch?v=gy56PJrKhao>

Mellick L. Infant respiratory failure emergency [video]. University of South Alabama College of Medicine, producer. Mobile, AL: University of South Alabama Medical Education Videos; 2021 Dec 7. Available from: <https://www.youtube.com/watch?v=TXIDMEPOquc>

Mellick L. Two finger nail gun emergencies [video]. University of South Alabama College of Medicine, producer. Mobile, AL: University of South Alabama Medical Education Videos; 2021 Dec 16. Available from: <https://www.youtube.com/watch?v=1pUQXX3PXVQ>

Mellick L. Treating SVT emergency with ice to the face [video]. University of South Alabama College of Medicine, producer. Mobile, AL: University of South Alabama Medical Education Videos; 2022 Jan 4. Available from: <https://www.youtube.com/watch?v=dAzHDSukNQQ>

Mellick L. “Painless” nasogastric tube placement [video]. University of South Alabama College of Medicine, producer. Mobile, AL: University of South Alabama Medical Education Videos; 2022 Jan 4. Available from: <https://www.youtube.com/watch?v=ucpj5J7H9jA>

Mellick L. Anterior tibial tuberosity avulsion fracture emergency [video]. University of South Alabama College of Medicine, producer. Mobile, AL: University of South Alabama Medical Education Videos; 2022 Jan 18. Available from: <https://www.youtube.com/watch?v=gINU5KDHSe4>

Mellick L. Patella dislocation emergency [video]. University of South Alabama College of Medicine, producer. Mobile, AL: University of South Alabama Medical Education Videos; 2022 Jan 18. Available from: <https://www.youtube.com/watch?v=WYEKtsKeN9s>

Mellick L. A brief tutorial on breath actuated nebulizers [video]. University of South Alabama College of Medicine, producer. Mobile, AL: University of South Alabama Medical Education Videos; 2022 Jan 30. Available from: <https://www.youtube.com/watch?v=xqMxzwTEHks>

Mellick L. A little girl with an ear ring back stuck in the ear canal [video]. University of South Alabama College of Medicine, producer. Mobile, AL: University of South Alabama Medical Education Videos; 2022 Jan 31. Available from: https://www.youtube.com/watch?v=YT_c7i_LlCU

Mellick L. A radial arterial line placement tutorial [video]. University of South Alabama College of Medicine, producer. Mobile, AL: University of South Alabama Medical Education Videos; 2022 Feb 5. Available from: <https://www.youtube.com/watch?v=VtoVavr0W9k>

Mellick L. A new TLC TV show-STUCK [video]. University of South Alabama College of Medicine, producer. Mobile, AL: University of South Alabama Medical Education Videos; 2022 Feb 14. Available from: <https://www.youtube.com/watch?v=Q2lkhJgLeG0>

Mellick L. We saved his dying testicle in 10 seconds [video]. University of South Alabama College of Medicine, producer. Mobile, AL: University of South Alabama Medical Education Videos; 2022 Mar 3. Available from: <https://www.youtube.com/watch?v=KnRDUZD0h4Q>

Mellick L. Learning the nuances of the Wispr Otoscope [video]. University of South Alabama College of Medicine, producer. Mobile, AL: University of South Alabama Medical Education Videos; 2022 Mar 10. Available from: <https://www.youtube.com/watch?v=qU4H4YpXCZI>

Mellick L. Transtracheal needle jet ventilation (TTJV) with the Ventrain [video]. University of South Alabama College of Medicine, producer. Mobile, AL: University of South Alabama Medical Education Videos; 2022 Apr 3. Available from: <https://www.youtube.com/watch?v=avGYIYyiCgg>

Mellick L. Parenteral diarrhea and urinary tract infections [video]. University of South Alabama College of Medicine, producer. Mobile, AL: University of South Alabama Medical Education Videos; 2022 Apr 15. Available from: https://www.youtube.com/watch?v=-_1polwDVgY

Mellick L. Fishhook stuck in thumb emergency [video]. University of South Alabama College of Medicine, producer. Mobile, AL: University of South Alabama Medical Education Videos; 2022 Apr 19. Available from: <https://www.youtube.com/watch?v=AUOLvZLwwvk>

Mellick L. You simply have to watch this video! [video]. University of South Alabama College of Medicine, producer. Mobile, AL: University of South Alabama Medical Education Videos; 2022 May 7. Available from: <https://www.youtube.com/watch?v=ppahcZAZ1tk>

Mellick L. Teenager impaled in the abdomen by a catfish spine [video]. University of South Alabama College of Medicine, producer. Mobile, AL: University of South Alabama Medical Education Videos; 2022 May 17. Available from: https://www.youtube.com/watch?v=4s_qXN7BOiM

Mellick L. Treating bronchiolitis in the outpatient setting [video]. University of South Alabama College of Medicine, producer. Mobile, AL: University of South Alabama Medical Education Videos; 2022 May 24. Available from: https://www.youtube.com/watch?v=rxV_Hj_ba24

Mellick L. Finger fracture emergency pearls [video]. University of South Alabama College of Medicine, producer. Mobile, AL: University of South Alabama Medical Education Videos; 2022 May 26. Available from: <https://www.youtube.com/watch?v=APWd6e0qJes>

Mellick L. The new testicular torsion traction technique [video]. University of South Alabama College of Medicine, producer. Mobile, AL: University of South Alabama Medical Education Videos; 2022 Jun 6. Available from: <https://www.youtube.com/watch?v=gLsIgKDKvJw>

Mellick L. RSV bronchiolitis emergency management [video]. University of South Alabama College of Medicine, producer. Mobile, AL: University of South Alabama Medical Education Videos; 2022 Aug 1. Available from: <https://www.youtube.com/watch?v=CYkGfWvDLrg>

Mellick L, Crawford G, Gay C, Bass M, Guan L, Livermore G, Carothers D, Gallups JM, Bovenkerk S. A hairy, toothy teratoma [video]. Burbank, CA: Warner Brothers, Discovery, Inc., producer. STUCK, The Learning Channel; 2022 Feb 23. Season 1, episode 2. Available from: <https://go.tlc.com/video/stuck-tlc-atve-us/a-hairy-toothy-teratoma> [Subscription required].

Mellick LB, Murray C, Kalra S. “Parenteral” diarrhea associated with pediatric urinary tract infections: a retrospective chart review. *Pediatr Emerg Care*. 2022 Aug. 1;38(8):e1489-e1492.

Mellick LB, Singhapakdi K, Clanton C, Waldrop R. The prevalence of pathologic Q waves on electrocardiograms of pediatric patients with confirmed hypertrophic cardiomyopathy: a systematic review of the literature. *Emerg Med Open J*. 2022; 8(1):1-6.

Miles MVP, Beasley JR, Reed HE, Miles DT, Haiflich A, Beckett AR, Lee YL, Bowden SE, Panacek EA, Ding L, Brevard SB, Simmons JD, Butts CC. Overutilization of helicopter emergency medical services in central Gulf Coast region results in unnecessary expenditure. *J Surg Res*. 2022 May;273:211-217.

Molinari L, Del Rio-Pertuz G, Smith A, Landsittel DP, Singbartl K, Palevsky PM, Chawla LS, Huang DT, Yealy DM, Angus DC, Kellum JA; ProCESS and ProGRess-AKI Investigators (Panacek EA, collaborator). Utility of biomarkers for sepsis-associated acute kidney injury staging. *JAMA Netw Open*. 2022 May 2;5(5):e2212709.

Parsons M, Zuckerman M, Twigg S, Martinez Martinez CJ, Gottlieb M. A national assessment of residency wellness initiatives in emergency medicine. *AEM Educ Train*. 2021 Aug 1;5(4):e10691.

Sternberg ML, Phillips DM. Society for Academic Emergency Medicine Clinical Image Series: chronic back pain [internet]. Mobile, AL: Academic Life in Emergency Medicine; 2021 Nov 22. Available from: <https://www.aliem.com/saem-clinical-image-series-chronic-back-pain/>

Waldrop RD, Plash W. Male genital lichen sclerosus in a child with spina bifida and incontinence. *Vis J Emer Med.* 2022 Apr;27:101346

II. PUBLISHED ABSTRACTS

Ekpo E, Henning P, Kalra S. Emergency department double sequential external defibrillation for refractory ventricular fibrillation from thyrotoxic periodic paralysis. EMerald Coast Conference; 2022 Jun 5-9; Destin, FL.

Hall K, Musselwhite C, Warner A. Blasted black magic. EMerald Coast Conference; 2022 Jun 5-9; Destin, FL.

Ifeoluwa AA, Trinh JH, Sternberg ML. Big bumpy belly - case of autosomal polycystic kidney and liver disease. EMerald Coast Conference; 2022 Jun 5-9; Destin, FL.

Patel PK, Viyuoh NY, Sternberg ML. Cough and chills - case of acute myelogenous leukemia. EMerald Coast Conference; 2022 Jun 5-9; Destin, FL.

Sternberg ML, Ifeoluwa AA. Acute dacrocystitis. Society for Academic Emergency Medicine Conference 2022 Annual Meeting; 2022 May 10-13; New Orleans, LA.

Sternberg ML, Patel PK. Sturge Weber syndrome. Society for Academic Emergency Medicine Conference 2022 Annual Meeting; 2022 May 10-13; New Orleans, LA.

Sternberg ML, Trinh JH. Venous air embolism. Society for Academic Emergency Medicine Conference 2022 Annual Meeting; 2022 May 10-13; New Orleans, LA.

Sternberg ML, Viyuoh NY. Hemophilia a with tongue swelling. Society for Academic Emergency Medicine Conference 2022 Annual Meeting; 2022 May 10-13; New Orleans, LA.

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

Briggs BC. Invited speaker. Difficult patient populations in EMS. Gulf Coast Trauma Symposium. 2022 Mar 24; Mobile, AL.

Briggs BC. Invited speaker. EM board bombs – airway module. SAEM’s FOAM showcase, Society for Academic Emergency Medicine Conference; 2022 May 13; New Orleans, LA.

Briggs BC. Invited speaker. On a tear: how to not miss an aortic dissection. EMerald Coast Conference; 2022 Jun 7; Destin, FL.

Briggs BC. Invited speaker. CTA vs LP for subarachnoid hemorrhage. EMerald Coast Conference; 2022 Jun 9; Destin, FL.

Panacek EA. Invited speaker. Pretest/introduction to workshop. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2021 Nov 29; Fort Worth, TX.

Panacek EA. Invited speaker. Process of research. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2021 Nov 29; Fort Worth, TX.

Panacek EA. Invited speaker. Research questions. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2021 Nov 29; Fort Worth, TX.

Panacek EA. Invited speaker. Research hypotheses, objectives. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2021 Nov 29; Fort Worth, TX.

Panacek EA. Invited speaker. Research terminology. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2021 Nov 29; Fort Worth, TX.

Panacek EA. Invited speaker. Introduction to study design. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2021 Nov 29; Fort Worth, TX.

Panacek EA. Invited speaker. Practicum: your study design. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2021 Nov 29; Fort Worth, TX.

Panacek EA. Invited speaker. Discuss your questions. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 21 Nov 29; Fort Worth, TX.

Panacek EA. Invited speaker. True experimental design. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2021 Nov 29; Fort Worth, TX.

Panacek EA. Invited speaker. Quasi-experimental designs. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2021 Nov 29; Fort Worth, TX.

Panacek EA. Invited speaker. Case control and other designs. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2021 Nov 29; Fort Worth, TX.

Panacek EA. Invited speaker. Recognizing design. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2021 Nov 29; Fort Worth, TX.

Panacek EA. Invited speaker. Research design practice. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2021 Nov 29; Fort Worth, TX.

Panacek EA. Invited speaker. Survey research. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2021 Nov 29; Fort Worth, TX.

Panacek EA. Invited speaker. Qualitative studies. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2021 Nov 29; Fort Worth, TX.

Panacek EA. Invited speaker. Practicum: selecting your study design. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2021 Nov 29; Fort Worth, TX.

Panacek EA. Invited speaker. Elements of a study protocol. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2021 Nov 29; Fort Worth, TX.

Panacek EA. Invited speaker. Sample size calculations. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2021 Nov 29; Fort Worth, TX.

V. NATIONAL PROFESSIONAL RECOGNITION

Mellick L. Video editor, Visual Journal of Emergency Medicine, ScienceDirect.com by Elsevier Editorial Board Member, Journal of General and Emergency Medicine Editorial Board, Editorial Board and Editor Emeritus-Pediatric Emergency Medicine Reports

Panacek EA. Director Emeritus; EMF Emergency Medicine Basic Research Skills Course (EMBRS); Moderator, Research Forum Research Abstract (ACEP); Moderator, Research Forum Research Abstract (SAEM); Senior Oral Examiner, American Board of Emergency Medicine; Editorial Board member, Western Journal of Emergency Medicine; Editorial Board member, International Journal of Emergency Medicine; Peer Reviewer for 6 different journals.

Plash WB. Wilderness Medical Society Membership Committee, Wilderness Medical Society Resident and Student Education Committee.

Sternberg ML. Board of Directors, Alabama ACEP, Counselor District 1-Mobile County Medical Society, Board of Censors-Mobile County Medical Society, Board of Directors-Mobile County Health Department, Board of Directors, Mobile Medical Museum.

VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS

Overall, it continues to be a year of growth and maturation for the Department of Emergency Medicine. Several new faculty were hired, continuing the transition from a non-ED boarded and non-academic clinical faculty to a more purely EM or Pediatric EM trained certified and academically oriented faculty group. There has also been growth in clinical programs, educational activities and scholarship, as outlined below. In addition, COVID continued to have a substantial impact on clinical and educational programs during the year.

Clinical Activities: It has been a very busy year in growth and development of new clinical programs for emergency medicine. The new emergency department in University Hospital saw substantial growth in volume of 20% during the year, though boarding and crowding of admitted patients in the ED has been an ongoing challenge. A new free-standing emergency department was opened in West Mobile near the USA campus. It quickly increased in patient volumes and received very positive reviews from the community. Final plans were made, and initial ground broken for building a new pediatric emergency department at Children's and Women's Hospital. Overall, between the (now) three emergency departments, emergency patient volumes in total have increased approximately 50%.

Education: This year marked a true milestone in educational activities in the department of emergency medicine. The emergency medicine residency program was finally at full classes in all three years. Importantly, the initial class of residents graduated from the program in June. The emergency medicine residency has already become a respected program and competitive in the annual match. The visiting student program for 4th year medical students has been the largest and most robust of such programs at USA Health. This is despite the negative impact of COVID over the year. With the EM residency, didactic programs and increased use of simulation and cadaver lab exercises has grown. Dr. Garri has taken the lead in expanding and improving simulation sessions for the residents. He has also taken on the role of directing simulation for graduate medical education as assigned from the graduate medical education committee. The medical student emergency medicine interest group (EMIG) under the consistent leadership of Dr. Sternberg was rated the top such student EM interest group in the south-east and one of the top five in the country nationally.

Scholarship: Scholarly activities and research in the department of emergency medicine have grown during the year. The number of peer reviewed and other publications in the

department have doubled over the past 1-2 years. In addition, the first extramural funded “industry” clinical trial performed in the emergency department was done this past year. It involved a novel diagnostic marker for sepsis. In addition, the emergency medicine residents are required to do a scholarly activity before graduation, and that was accomplished by all of the senior residents. Our annual “resident academic day” was held, in which they presented their projects and participated in an internal competition.

Service and Leadership: Emergency medicine faculty are increasingly involved in institutional, regional and national service activities. Drs. Panacek and Mellick continue their involvement in a number of national organizations, peer review journal editorial boards, etc. Dr. Sternberg continues his involvement on the Board of Directors of the state chapter of the American College of Emergency Physicians. Dr. Blake Briggs is respected for his podcasts and website on emergency medicine board preparation called EM Board Bombs. Internally, EM faculty have increasingly become involved on committees at the college of medicine, as well as within the health system. Dr. Mellick has a very successful educational YouTube channel that garners some income. He donates all of that to the “Mellick Foundation”. That foundation makes philanthropic donations to a number of entities within the University of South Alabama and the USA Health System.

2021-2022
Summary of Scholarly Activities
Department of Family Medicine

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Brandt HM, Kepka D, Kirchhoff AC, Daniel CL, Bhatt NS. Human papillomavirus (HPV) vaccination is cancer prevention for childhood cancer survivors. *Cancer*. 2022 Jan 15;128(2):237-239.

Daniel CL, Williams J, Legg R, McGowen C, Stutzman J. Factors associated with COVID-19 vaccination intentions among adults in the deep South. *Vaccine*. 2022 Feb 7;40(6):841-853.

Eisenman B, Rippey P. Sacking the source of conundrum. *American Medical Society for Sports Medicine Case Study Teaching Tools*; 2022 Apr 7. Available from: https://www.amssm.org/sacking_the_source_of_a_co-csa-969.html?StartPos+0&Part=

Lee Y, Luo Y, Daniel C, Wang K, Ikenberg C. Is HPV vaccine awareness associated with HPV knowledge level? Findings from HINTS data across racial/ethnic groups in the US. *Ethn Health*. 2022 Jul;25(5):1166-1177.

Perkins RA, Payne-Johnson A, Jefferson R. Essential strategies and tactics for managing sickle cell disease. *J Fam Pract*. 2022 Jul;71(6):254-261.

Perkins A, Trimmier M, Liu G. Selected disorders of the nervous system. In: Paulman PM, Taylor RB, Paulman AA, Nasir LS, editors. *Family medicine: principles and practice*. 8th ed. Cham, Switzerland: Springer; 2022. Chapter 72, p. 951-964.

Rocque GB, Dionne-Odom JN, Stover AM, Daniel CL, Azuero A, Huang CS, Ingram SA, Franks JA, Caston NE, Dent DN, Basch EM, Jackson BE, Howell D, Weiner BJ, Pierce JY. Evaluating the implementation and impact of navigator-supported remote system monitoring and management: a protocol for a hybrid type 2 clinical trial. *BMC Health Serv Res*. 2022 Apr 22;22(1):538.

II. PUBLISHED ABSTRACTS

Daniel CL, Vansant M, Bouslog S, Pardo Granados JJ, Tucker MM, Wright AR, Sullivan G, Green CL, James JM. Vaccination intentions among patients positive for COVID-19. *Ann Behav Med*. 2022 Apr;56(Suppl 1):S220.

Hunter E, Daniel CL, Jackson B, Granger H, Fillingim S. Characteristics of post-acute sequelae of SARS-CoV-2 (PASC) among patients in a South Alabama health system and associated variables. *Medical Association of the State of Alabama 2022 Poster Symposium*; 2022 Apr 8-9; Montgomery, AL. Abstract no. 22-23.

Rippey P, Bowen T. Pain in a surgically repaired tibial stress fracture. American Medical Society for Sports Medicine Annual Meeting; 2022 Apr 8-13; Austin, TX.

Rippey P, Eisenman B. Hypertension: sacking the source. American Medical Society for Sports Medicine Annual Meeting; 2022 Apr 8-13; Austin, TX.

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

V. NATIONAL PROFESSIONAL RECOGNITION

Allen Perkins was named Board Chair of the Association of Departments of Family Medicine. He has continued to serve as a member of the Family Medicine Leadership Council and the Academic Family Medicine Residency Education.

Ehab Molokhia serves on the Board of Directors for the Family Physicians Inquiries Network and serves as a member of the National Board of Medical Examiners Behavioral Health Test Material Development Committee. He was named to the Step 3 CS IRC Committee. In addition, he is part of the Association of Department of Family Medicine Leadership Education for Academic Development and Success Fellowship Program.

VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS

The department received federal funding to initiate an OB Fellowship and inducted the inaugural class of Fellows in July. The Primary Care Pathway track has continued, enrolling the second class of students. The department continued to be clinically productive and continued striving to deliver highly reliable care. Dr. Casey Daniel was promoted to Associate Professor with Tenure.

2021-2022
Summary of Scholarly Activities
Department of Internal Medicine

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Ahmed N, Omar B. The EMPEROR-preserved trial: SGLT2-inhibitor success in HFPEF! Cardiofellows Newsletter. 2021 Dec;4(12):35–38. Available from: <https://cardiofellows.com/newsletter-dec-2021.html>

Bokhari A, Tyler S. Antiretroviral therapy in treatment-naïve patients with HIV infection [Internet]. Medscape. [updated 2022 Jul 6]. Available from: <https://emedicine.medscape.com/article/2041458-overview>

Cancel M, Omar B. The DOREMI trial: milrinone – dobutamine match in cardiogenic shock! Cardiofellows Newsletter 2021 Nov;4(11):32–34. Available from: <https://cardiofellows.com/newsletter-nov-2021.html>

Iragavarapu S, Mulyala R, Patel M, Sarwar U, Bardia N, Shah N, Awan GM, Malozzi C, Omar B. Pericardial calcification: armored heart sign of constrictive pericarditis! Cardiofellows Newsletter. 2022 May; 5(5):16–18. Available from: <https://cardiofellows.com/newsletter-may-2022.html>

Iragavarapu S, Patel M, Mulyala R, Awan GM, Malozzi C, Omar B. Large pericardial cyst: impressive & compressive! Cardiofellows Newsletter. 2022 Feb;5(2):4–7. Available from: <https://cardiofellows.com/newsletter-feb-2022.html>

Kar J, Cohen MV, McQuiston SA, Poorsala T, Malozzi CM. Direct left-ventricular global longitudinal strain (GLS) computation with a fully convolutional network. J Biomech. 2022 Jan;130:110878.

Lee JY, Stevens RP, Kash M, Alexeyev MF, Balczon R, Zhou C, Renema P, Koloteva A, Kozhukhar N, Pastukh V, Gwin MS, Voth S, deWeever A, Wagener BM, Pittet JF, Eslaamizaad Y, Siddiqui W, Nawaz T, Clarke C, Fouty BW, Audia JP, Alvarez DF, Stevens T. Carbonic anhydrase IX and hypoxia promote rat pulmonary endothelial cell survival during infection. Am J Respir Cell Mol Biol. 2021 Dec;65(6):630-645.

Parks A, Bardia N, Malozzi C, Omar B. Persistent left superior vena cava: a left-sided short circuit! Cardiofellows Newsletter. 2022 Jan;5(1):1–3. Available from: <https://cardiofellows.com/newsletter-jan-2022.html>

Parks A, Mulyala R, Shah N, Bardia N, Sarwar U, Patel M, Awan G, Malozzi C, Omar B. Aortic valve papillary fibroelastoma: source of embolic angina! Cardiofellows Newsletter. 2022 Apr;5(4):12–15. Available from: <https://cardiofellows.com/newsletter-april-2022.html>

Parks A, Shah N, Bardia N, Chiranjeevi S, Omar B. McGinn-White sign.. S1Q3T3 ECG pattern of acute pulmonary embolism! *Cardiofellows Newsletter*. 2021 Oct;4(10):29-31. Available from: <https://cardiofellows.com/newsletter-oct-2021.html>

Pierluissi RV, Omar B. Left main to pulmonary artery coronary fistula: surgical closure! *Cardiofellows Newsletter*. 2022 Mar;5(3):8–11. Available from: <https://cardiofellows.com/newsletter-march-2022.html>

Rahman MU, Amritphale A, Kumar S, Trice C, Awan GM, Omar BA. Assessment of independent clinical predictors of early readmission after percutaneous endoluminal left atrial appendage closure with the Watchman device using National Readmission Database. *Int J Cardiol*. 2021 Nov 15;343:21-26.

Saiyasit N, Butlig ER, Chaney SD, Traylor MK, Hawley NA, Randall RB, Bobinger HV, Frizell CA, Trimm F, Crook ED, Lin M, Hill BD, Keller JL, Nelson AR. Neurovascular dysfunction in diverse communities with health disparities - contributions to dementia and Alzheimer's disease. *Front Neurosci*. 2022 Jun 29;16:915405.

Sarwar U, Bardia N, Patel M, Omar B, Malozzi C, Amritphale A, Awan G. Treatment of inferior vena cava thrombosis by endovascular stenting: a case report. *Cureus*. 2021 Nov 15;13(11):e19612.

Trived HD, Suri J, Oh D, Schwartz J, Goyes D, Idriss R, Curry MP, Lai M. The presence of diabetes impacts liver fibrosis and steatosis by transient elastography in a primary care population. *Ann Hepatol*. 2021 Sep-Oct;24:100336.

II. PUBLISHED ABSTRACTS

Awan S, Malozzi C, Omar B, Poosarla T. Assessment of cardiovascular disease risk factor control in triple negative breast cancer patients. *J Am Coll Cardiol CardioOnc*. 2022 Mar;4 (1 Suppl): S13.

Bardia N, Sarwar U, Patel M, Shah N, Chiranjeevi S, Chowdhuri N, Malozzi CM, Rahimi F, Awan GM, Amritphale A, Omar BA. Inter-pacemaker crosstalk - a cause for CRT failure. *J Am Coll Cardiol*. 2022 Mar 8;79(9 Suppl): 2438.

Clementi J, Sarwar U, Malozzi C, Omar B. Pancreatic cancer with metastasis, lymphangitic carcinomatosis and pulmonary vein invasion - when it rains it pours! *J Am Coll Cardiol CardioOnc*. 2022 Mar;4(1 Suppl): S3–S4.

Crook C, Crook E, Parker LL, Arrieta MI. Health fatalism in diabetes within populations of Mobile, AL. *J Investig Med*. 2022;70(2):741. Abstract no. 582.

Freed CR, Hanks R, Lio S, Parker LL, Carter MD, Arrieta M. Confronting health-related challenges associated with the COVID-19 pandemic: agency and collective resiliency in a

local area with high health disparities. Southern Sociological Society 85th Annual Meeting; 2022 Apr 6-9; Birmingham, AL. Abstract no. 51.

Green A, Hanjar A, Marshall MC, Sonnier WP. Full of hot air: a rare complication of COVID-19. *Gastrointest Endosc.* 2022;95(6 Suppl): AB34.

Hickman K, Jordan R, Sonnier W. Combination biologic and small molecule therapy for refractory ulcerative colitis. *Inflamm Bowel Dis.* 2022;28: S103.

Parks A, Chiranjeevi S, Malozzi C, Awan M, Omar B. Palliative resection of a cardiac sarcoma. *J Am Coll Cardiol CardioOnc.* 2022 Mar;4(1 Suppl): S9.

Sarwar U, Bardia N, Patel M, Chiranjeevi S, Chowdhuri N, Shah N, Malozzi CM, Rahimi E, Awan GM, Amritphale A, Omar B. CHF following CRT - BIV riddle with a twiddle. *J Am Coll Cardiol.* 2022 Mar;4(1 Suppl): S9.

Tran M, Green J, Spencer C, Bellamkonda V, Patil P, Knowles K, Sonnier WP. Ampullary mixed adenocarcinoma surprising as abdominal pain. *Am J Gastroenterol.* 2021 Oct; 116: S1249. Abstract no. S3020.

Tran M, Marshall MC, Sonnier WP. Sudden dysphagia after total laryngopharyngectomy. *Am J Gastroenterol.* 2021 Oct;116: S892. Abstract no. S2062.

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

Crook ED. Invited speaker. The march towards health equity: understanding and addressing health disparities [virtual presentation]. South Baldwin (Alabama) Regional Medical Center Family Medicine Residency Conference; 2021 Oct 12; Foley, AL.

Crook ED. Invited speaker. Importance of health equity, diversity and human rights [virtual presentation]. Mobile County Health Department 2021 Annual Winter Training and Observance of Human Rights Day; 2021 Dec 10; Mobile, AL.

Crook ED. Invited speaker. The social determinants of health: a focus on poverty [virtual presentation]. University of Nebraska Medical Center, Department of Internal Medicine Grand Rounds; 2021 Dec 17; Omaha, NE.

Crook ED. Invited speaker. Characteristics of patients with CKD in obesity, T2D, and fatty liver. The National Diabetes and Obesity Research Institute (NDORI) VJ Canizaro, MD Health Summit; 2022 Mar 11; Biloxi, MS.

Crook ED. Invited speaker. Be a thought leader. Abeneefoo Kuo Honor Society; 2022 Feb 11; Athens, GA.

Crook ED. Invited speaker. Being the bell cow(s) in bringing the university to the community. University South Alabama Black Faculty and Staff Annual Reception; 2022 Feb 16; Mobile, AL.

Crook ED. Invited speaker. Kidney disease and therapeutics: a focus on diabetic kidney disease. Mississippi Academy of Sciences Population Health Symposium II; 2022 Apr 1; Biloxi, MS.

Crook ED. Invited speaker. Achieving health equity: a focus on poverty. Here's 2 Life Celebrate Life Project and Tour Mini-Conference; 2022 Apr 27; Birmingham, AL.

Crook ED. Invited speaker. Achieving health equity: a focus on poverty and opportunities for the faith-based community [virtual presentation]. Foundation of Life Church; 2022 Apr 30; Bessemer, AL.

Crook ED. Invited speaker. The All of Us Research Program: moving toward precision medicine and health equity. Precision Medicine Traveling Exhibit, University of South Alabama Charles M. Baugh Biomedical Library; 2022 Aug 23; Mobile, AL.

V. NATIONAL PROFESSIONAL RECOGNITION

Crook ED: Keynote speaker for Mobile County Health Department 2021 Annual Winter Training and Observance of Human Rights Day.

DiPalma J: Editorial Advisory Board, Gastroenterology and Hepatology; Editorial Board, BMJ Open Gastroenterology Online; Editorial Board, Practical Gastroenterology; Past President, American College of Gastroenterology; Reviewer, American Journal of Gastroenterology; Reviewer, Southern Medical Journal; Reviewer, Global Faculty, *GastroHep.co*; Delegate, United States Pharmacopeial Convention, USA College of Medicine; Finance Committee, Member, World Gastroenterology Organization, Train-the-Trainer Faculty and Program Committee; Foundation Board Member, 2015-Present; Secretary/Treasurer, World Gastroenterology Organization, 2011-2021.

Fagan K. Co-Moderator – USA case presentations. 51st Annual Tri-State Thoracic Conference – Virtual. 2022 Mar.

Fagan K. Moderator, Poster Discussion Session: Observational studies and clinical trials in pulmonary hypertension. American Thoracic Society Internal Conference. 2022 May.

Fagan K. Session Chair and Speaker. Pulmonary Hypertension Scientific Sessions and International Conference. “Returning to In-Person Care”. June 2022.

Fagan K: American Thoracic Society; Society Representative – American College of Physician’s Council of Subspecialty Societies; President, Association of Pulmonary, Critical Care and Sleep division Directors; Facilitator/moderator – Intern, Conference; Annual Meeting Organizing Committee, Tri-State Chapters of ATS (AL, MS, LA); PH

clinicians and Researchers member, Research Committee, Pulmonary Hypertension Association; Speaker, Facilitator International Committee, Pulmonary Hypertension Committee.

Fagan K: Editorial Board, Pulmonary Circulation, 2014-Present.

Fagan K: NHLBI Program Project Review Committee (HLBP) – Institute wide committee to evaluate and recommend funding of multi-investigator program project grant applications.

Fagan K: NIH/NHLBI – PHANTOM – Pulmonary Hypertension and Anastrozole Trial, Member, 2017-Present; NIH/NHLBI – EDIPHY – DHEA in Pulmonary Arterial Hypertension Member, 2018-Present; NIH/NHLBI – REHAB-PH-H2 Blockade in Pulmonary Arterial Hypertension, Chair 2018-Present.

Fagan K: Advisor/Approval Committee, ABIM Pulmonary Longitudinal Knowledge Assessment, 2019-Present.

Crook ED. NCI Special Emphasis Panel, L60 Loan Repayment Program (ZCA/PCRB-W (A2)), Health Disparity Research.

Crook ED. NIMHD Special Emphasis Panel: Centers for Multiple Chronic Diseases Associated with Health Disparities: Prevention, Treatment, Management (P50 Clinical Trial Required) (ZMD1 MLS (A1)).

VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS

The department had a year of responding to growth. USA Health and the department experienced growth in clinical activities, number of residents and fellows, and hospital beds. The department responded collectively to develop and maintain safe and efficient clinical practices in all patient care arenas. During the year, we were able to return to nearly exclusively in person teaching activities with students and residents. Enrollment into clinical research projects increased over the last academic year with better control of COVID-19. The department has continued to lead in USA Health's response to surges in patient care needs, such as experienced during peak due to the Omicron variant last winter.

Education

The department has continued to receive excellent evaluations from medical students and residents for its educational activities. Several of the department's faculty were recognized with the Red Sash Award for their educational efforts. Department members continue to contribute significantly to the medical school curriculum over all four years. Several departmental members serve as co-directors for the modules for the first- and second-year COM classes. The module voted as best in the first 2 years by the Class of 2021 was the Respiratory Disease module, co-led by Dr. Brian Fouty, a Professor in the Department. Our courses for COM 4th year students remain popular with the Acting

Internship in inpatient medicine and the MICU rotation receiving high praise. Dr. Phillip Henderson was selected to give the address at the White Coat Ceremony this past summer.

Our faculty also make important contributions to the education of students in Allied Health and Nursing. For example, Dr. Shannon Tyler serves as the Medical Director for the Department of Physician Assistant Studies in the College of Allied Health Professions, where she plays a large role in the education of the PA students. Several of the PA students take clinical rotations in general internal medicine and all of our subspecialty areas. Students pursuing the Nurse Practitioner degree often spend time with members of the department on their clinical rotations.

Scholarly Efforts

The department has continued to be productive in scholarly achievements. The Divisions of Gastroenterology, Pulmonary and Critical Care, and Cardiology continue to have robust clinical studies portfolios. The Division of Cardiology had an excellent year, as can be seen in the list of publications from the department. These publications are the efforts of several years of work with multidisciplinary collaborators. GI continues to involve its fellows, internal medicine residents and medical students in its research efforts, with several of these trainees presenting their work at regional and national meetings.

The Division of Pulmonary – Critical Care has continued its partnership with the Center for Lung Biology and has continued clinical, basic and translational studies in pulmonary hypertension. Dr. Brian Fouty has continued in his work around COVID-19 genetics and pathophysiology. Infectious disease continues its efforts in care of HIV patients through a grant funded by the Health Resources and Services Administration (HRSA). Members of the Division of General Internal Medicine led patient safety and quality projects. Dr. Johnson Haynes has continued his efforts in leadership of the Comprehensive Sickle Cell Center. The Center is collaborator on a PCORI grant focused on advancing care of patients with sickle cell disease through the transition period of adolescence to adulthood.

Service

The Department continues to deliver excellent clinical service. The Department has grown along with the growth of USA Health. Once again, the department has seen its highest levels of clinical billing in its history. USA Health University Hospital opened several new beds during the last year. The department's inpatient hospitalist service, MICU service, and all subspecialty consultation services met the increased clinical demand and maintained high quality care. While the number of inpatients with severe illness due to COVID-19 has decreased substantially, those with severe illness due to COVID-19 continue to be cared for by the academic internal medicine hospitalist and MICU teams.

Departmental faculty continue to serve on editorial boards, as journal reviewers, on advisory boards, and on grant review panels. Several faculty play key roles in their subspecialty societies. Dr. Karen Fagan, Professor in the Division of Pulmonary and Critical Care, has notable leadership roles with the American Thoracic Society and the Pulmonary Hypertension Association (see National Professional Recognition above).

Several Department of Medicine faculty are on key committees within USA Health. In addition, our faculty has contributed significantly to the University as a whole and the Greater Mobile Community. Our faculty serve on several school-related, community-based, philanthropic, and service organizations in the region. In these roles they proudly represent the University of South Alabama and USA Health.

2021-2022
Summary of Scholarly Activities
Department of Microbiology & Immunology

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Bourchookarn A, Paddock CD, Macaluso KR, Bourchookarn W. Association between growth rate and pathogenicity of spotted fever group *Rickettsia*. J Pure Appl Microbiol. 2022 Mar;16(1): 374-383.

Fongsaran C, Jirakanwisal K, Tongluan N, Latour A, Healy S, Christofferson RC, Macaluso KR. The roles of cofeeding arthropods in the transmission of *Rickettsia felis*. PLoS Negl Trop Dis. 2022 Jun 27;16(6): e0010576.

Hardy KS, Tessmer MH, Frank DW, Audia JP. Perspectives on the *Pseudomonas aeruginosa* type III secretion system effector ExoU and its subversion of the host innate immune response to infection. Toxins (Basel). 2021 Dec 9;13(12): 880.

Hardy KS, Tuckey AN, Housley NA, Andrews J, Patel M, Al-Mehdi AB, Barrington RA, Cassel SL, Sutterwala FS, Audia JP. The *Pseudomonas aeruginosa* type III secretion system exoenzyme effector ExoU induces mitochondrial damage in a murine bone marrow-derived macrophage infection model. Infect Immun. 2022 Mar 17;90(3): e0047021.

Hardy KS, Tuckey AN, Renema P, Patel M, Al-Mehdi AB, Spadafora D, Schlumpf CA, Barrington RA, Alexeyev MF, Stevens T, Pittet JF, Wagener BM, Simmons JD, Alvarez DF, Audia JP. ExoU induces lung endothelial cell damage and activates pro-inflammatory Caspase-1 during *Pseudomonas aeruginosa* infection. Toxins (Basel). 2022 Feb 18;14(2): 152.

Kerr SM, Rayner JO, Wood RR, Schultze S, McCreadie J. Ticks of Alabama: the fauna and spatial distribution of medically important species across the state. J Vector Ecol. 2022 Mar;47(1): 38-50.

Kim JH, Bryant H, Fiedler E, Cao T, Rayner JO. Real-time tracking of bioluminescent influenza A virus infection in mice. Sci Rep. 2022 Feb 24;12(1): 3152.

Lee JY, Stevens RP, Kash M, Alexeyev MF, Balczon R, Zhou C, Renema P, Koloteva A, Kozhukhar N, Pastukh V, Gwin MS, Voth S, deWeever A, Wagener BM, Pittet JF, Eslaamizaad Y, Siddiqui W, Nawaz T, Clarke C, Fouty BW, Audia JP, Alvarez DF, Stevens T. Carbonic anhydrase IX and hypoxia promote rat pulmonary endothelial cell survival during infection. Am J Respir Cell Mol Biol. 2021 Dec;65(6): 630-645.

Raney WR, Herslebs EJ, Langhor IM, Stone MC, Hermance ME. Horizontal and vertical transmission of Powassan virus by the invasive Asian longhorned tick, *Haemaphysalis*

longicornis, under laboratory conditions. Front Cell Infect Microbiol. 2022 Jul 1;12: 923914.

Raney WR, Perry JB, Hermance ME. Transovarial transmission of Heartland virus by invasive Asian longhorned ticks under laboratory conditions. Emerg Infect Dis. 2022 Mar;28(3):726-729.

Santos RI, Hermance ME, Reynolds ES, Thangamani S. Salivary gland extract from the deer tick, *Ixodes scapularis*, facilitates neuroinvasion by Powassan virus in BALB/c mice. Sci Rep. 2021 Oct 22;11(1): 20873.

Tongluan N, Shelton LT, Collins JH, Ingraffia P, McCormick G, Pena M, Sharma R, Lahiri R, Adams LB, Truman RW, Macaluso KR. *Mycobacterium leprae* infection in ticks and tick-derived cells. Front Microbiol. 2021 Oct 27;12: 761420.

II. PUBLISHED ABSTRACTS

Boyd A, Saleh LA, Aragon I, Fiedler E, Irelan D, Spadafora D, Barrington R, King J, Richter W. Ablation of PDE4A exacerbates *Pseudomonas aeruginosa*-induced acute lung injury in mice. FASEB J. 2022 May 13;36(S1): R4152. Available from: <https://faseb.onlinelibrary.wiley.com/doi/10.1096/fasebj.2022.36.S1.R4152>

Buckley CT, Lee YL, Schuler AM, Langley RJ, Kutcher ME, Barrington R, Audia JP, Simmons JD. Deleterious effects of plasma-derived cellular debris in a porcine model of hemorrhagic shock. American Association for Surgery of Trauma Annual Meeting; 2021 Sep 29-Oct 2; Atlanta, GA. Abstract no. Quickshot 10.

Danchenko M, Jirakanwisal K, Suwanbongkot C, Macaluso KR. Functional characterization of a cat flea salivary antigen. American Society for Rickettsiology 31st Meeting; 2022 Jun 25-28; Greenville, SC. Abstract no. 113.

Hermance ME, Raney WR, Perry JB. Vector competence of the invasive Asian longhorned tick, *Haemaphysalis longicornis*, for Heartland virus under laboratory conditions. American Society for Tropical Medicine and Hygiene 2021 Annual Meeting [virtual meeting]; 2021 Nov 17-21; Arlington, VA. p. 277. Abstract no. 0866.

Jirakanwisal K, Fongsaran C, Tongluan N, Macaluso KR. An investigation of relationship between *Wolbachia* endosymbionts and *Rickettsia felis* in the cat fleas, *Ctenocephalides felis*. American Society for Rickettsiology 31st Meeting; 2022 Jun 25-28; Greenville, SC. Abstract no. 122.

Laukaitis HJ, Kurtti TJ, Munderloh UG, Macaluso KR. Determining transmission determinants of an emerging flea-borne rickettsiosis. American Society for Rickettsiology 31st Meeting; 2022 Jun 25-28; Greenville, SC. Abstract no. 124.

Laukaitis HJ, Macaluso KR. Cat flea coinfection with *Rickettsia felis* and *Rickettsia typhi*. American Society for Rickettsiology 31st Meeting; 2022 Jun 25-28; Greenville, SC. Abstract no. 229.

Raney WR, Hermance ME. Vector competence of the invasive Asian longhorned tick, *Haemaphysalis longicornis*, in transmitting Heartland virus under laboratory conditions. Entomology 2021; 2021 Oct 31-Nov 3; Denver, CO.

Rayner JO. Prevalence of tick-borne infectious disease pathogens associated with ticks in Alabama. 32nd Annual Alabama Vector Management Society Meeting and Workshop; 2022 Mar 10-11; Orange Beach, AL.

Suwanbongkot C, Jirakanwisal K, Langohr I, Lamason RL, Macaluso K. Role of *Sca4* in the dissemination and transmission of *Rickettsia parkeri* in *Amblyomma maculatum*. American Society for Rickettsiology 31st Meeting; 2022 Jun 25-28; Greenville, SC. Abstract no. 150.

Tongluan N, Engström P, Jirakanwisal K, Langhor I, Macaluso KR. Roles of rickettsial outer membrane protein B (OmpB) in tick vector infections. American Society for Rickettsiology 31st Meeting; 2022 Jun 25-28; Greenville, SC. Abstract no. 154.

Voth SB, Choi CS, Morrow KA, Gwin MS, Knighten J, Francis CM, Lin MT, Gautam S, Frank DW, Audia JP, Stevens T, Sharma L, Cruz CD. Amyloid-beta precursor protein: essential to lung capillary barrier defense during acute infection. FASEB J. 2022 May 13; 36(S1):R5635. Available from: <https://faseb.onlinelibrary.wiley.com/doi/10.1096/fasebj.2022.36.S1.R5635>

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

Barrington RA. Invited speaker. Mechanisms of autoimmune disease and the rationale for studying rare disorders. Center for Molecular and Cellular Biosciences Fall 2021 Speaker Series; 2021 Oct 13; Hattiesburg, MS.

Barrington RA. Invited speaker. Pre-clinical studies on HK-X peptides for Hyper-IgE syndrome. Marx Trust LLC Quarterly Meeting; 2022 Mar 4; Mobile, AL.

Barrington RA. Invited speaker. Update on progress to understand vaccine targets in Herpes Stromal Keratitis. Lions Eye Research Foundation Quarterly Meeting; 2022 May 18; Mobile, AL.

Hermance ME. Invited speaker. Laboratory induced Heartland virus from Asian longhorn ticks [podcast]. Center for Disease Control and Prevention Emerging Infectious Diseases

Podcast; 2022 Mar 29; Atlanta, GA. Available from: <https://tools.cdc.gov/medialibrary/index.aspx#/media/id/726549>

Hermance ME. Invited speaker. Powassan virus-tick-host- interactions: a dynamic trio. Southeastern Branch American Society for Microbiology Fall 2021 Virtual Meeting; 2021 Nov 17.

Hermance ME. Invited speaker. The invasive Asian longhorned tick, *Haemphysalis longicornis*: a potential threat to humans and livestock. American Society for Microbiology Microbe 2022; 2022 Jun 10; Washington, D.C.

Macaluso KR. Invited speaker. Control of ticks and tick-borne diseases [virtual presentation]. Johns Hopkins University Bloomberg School of Public Health, Department of Molecular Microbiology and Immunology 2022 Vector Borne Disease Control Graduate Course; 2022 May 12; Baltimore, MD.

Macaluso KR. Invited speaker. Welcome & introductions. American Society for Rickettsiology 31st Meeting; 2022 Jun 25; Greenville, SC.

Macaluso KR. Invited speaker. Tick-and rickettsial-derived factors contributing to transmission by vectors. American Society for Microbiology Microbe 2022; 2022 Jun 12; Washington, D.C.

Rayner JO. Invited speaker. Immunocompetent mouse models of chikungunya virus infection for preclinical drug and vaccine evaluation. Diagnostic Medicine/Pathobiology Seminar; 2021 Oct 14; Manhattan, KS.

Rayner JO. Invited speaker. Sex as a biological variable in Chikungunya virus infection and implications for drug and vaccine development. Tulane University School of Public Health and Tropical Medicine Seminar Series; 2022 Mar 25; New Orleans, LA.

V. NATIONAL PROFESSIONAL RECOGNITION

Audia JP: Grant Reviewer, National Institutes of Health/National Institute of Allergies and Infectious Diseases ZAI1 MFH-D-M2 NIH support for conferences and scientific meetings study section, U.S. Army Medical Research and Development Command, Congressionally directed medical research programs, Peer Reviewed Medical Research Program (PRMRP). Review Editor, *Frontiers in Cellular and Infection Microbiology*. Peer Reviewer, *Clinica Chimica Acta*, *Biology*, *Antibiotics*, *Microorganisms*.

Barrington RA: Grant Reviewer, Member, Immunology BSc study section for AHA. Associate Editor, *The Journal of Immunology*. Review Editor, *Frontiers in B Cell Biology*. Peer Reviewer, *Journal of Experimental Medicine*, *Nature*, *European Journal of Immunology*, *AJP-Lung Cellular and Molecular Physiology*, *Cytometry*, *PLoS One*, *The Oschner Journal*, *Journal of DNA and Cell Biology*, *Journal of Thoracic Disease*,

ImmunoHorizons. Member, American Association of Immunologists, Association for Research in Vision and Ophthalmology.

Hermance ME: Invited Reviewer, National Institutes of Health/National Institute of Allergies and Infectious Diseases vector biology study section. Review Editor, “Parasite and Host” section, *Frontiers in Cellular and Infection Microbiology*. Peer Reviewer, *Emerging Infectious Diseases*, *Vector-borne and Zoonotic Diseases*; *American Journal of Tropical Medicine and Hygiene*; *PLoSOne*. Committee Member, American Society of Tropical Medicine and Hygiene American Committee on Arthropod-borne and Zoonotic Viruses and American Society of Tropical Medicine and Hygiene American Committee of Medical Entomology.

Macaluso KR: Reviewer, National Institutes of Health//OD ZRG1 MOSS-R (70) R-RFA-RM 19006: NIH Director’s New Innovator Award (DP2). Reviewer, Chair, Department of Defense—Tick-borne Disease Research Program. Subject Editor, *Journal of Medical Entomology*. Peer Reviewer, *PLoS Pathogens*, *PLoS Neglected Tropical Diseases*, *PLoS ONE*, *Journal of Medical Entomology*, *ASM –Infection and Immunity*, *American Journal of Tropical Medicine and Hygiene*, *Cellular Microbiology*, *Tick & Tick-borne Diseases*, *Pathogens*, *Frontiers Microbiology*, *Scientific Reports*, *CDC Emerging Infectious Diseases*, *Nature Communications*, *mBio*, *Cell*. Program Reviewer, CDC and TTU HSC. President, American Society for Rickettsiology. Member, Scientific Programming American Society for Tropical Medicine and Hygiene, Association of Medical School Microbiology and Immunology Chairs.

Rayner JO: Journal Editor, Board Member, *Vaccines*. Peer Reviewer, *Heliyon*, *The FASEB Journal*, *Viruses*, *PLOS-Pathogens*, *PLOS-Neglected Pathogens*, *Nature Communications*, *Science Translational Medicine*, *Emerging Infectious Diseases*, *The American Journal of Tropical Medicine and Hygiene*, *Antiviral Research*. Member, American Committee on Arthropod-borne Viruses.

VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS

The 2021-2022 academic year for the Department of Microbiology and Immunology was vibrant. The Department remains highly active in the education, research, and service missions of the Frederick P. Whiddon College of Medicine. Dr. Audia continued to oversee graduate student teaching by coordinating the Infectious Diseases and Host Defense Track (IDHD). The Department now has ten graduate trainees in the IDHD track, and faculty mentor graduate students across all tracks in the College of Medicine. Dr. Macaluso graduated two predoctoral trainees. Hanna Laukaitis went on to a postdoctoral fellowship at the University of Maryland School of Medicine, and Krit Jirakanwisal went on to a postdoctoral fellowship at the University of Texas Medical Branch, Galveston. Faculty in the Department also mentor several trainees in the Medical School Summer Scholars program and the South Alabama Undergraduate Research program. Dr. Audia continues to serve as the Module Director for the Principles of Infection and Immunity (PII) course and, once again, he received the Scarlet Sash in recognition of his efforts to the medical education experience. The faculty saw an increase in activity in research and scholarship

with twelve peer-reviewed papers published and eleven invited presentations. Additionally, faculty were invited to review grant proposals and papers in their fields, signifying recognition of their expertise in research. Faculty in the Department also received awards for fourteen percent of the applications submitted for extramural research support from state/federal agencies and industry. Dr. Hermance was awarded her second NIH award—now two awards in a little more than two years after joining our faculty. Dr. Macaluso renewed his NIH award on flea-borne bacterial pathogens. It was also a busy year associated with guests visiting the Department. We hosted a Distinguished Scientist Seminar (DSS) speaker, Dr. Jere McBride from the University of Texas Medical Branch, Galveston, in the spring. Additionally, we invited five faculty candidates to campus this year to give scientific presentations and meet with faculty in the College of Medicine. We had strong interest from several candidates, and we were able to secure our top recruit who will join the faculty in early 2023. The faculty remain active in service at the University, College, and community levels. Dr. Barrington continues to oversee the flow cytometry core facility, with laboratories located in MSB and at the MCI. The faculty regularly lead and serve on committees (e.g., IACUC and IBC) and organizations (Faculty Senate). The faculty continued with community outreach, and Dr. Barrington remains actively involved with the Lions Club, which supports components of his research program. These activities are considered essential to our service mission.

2021 - 2022
Summary of Scholarly Activities
Department of Neurology

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Bassam BA, Bertorini TE. Neuromuscular manifestations of acquired endocrine and metabolic disorders. In: Bertorini TE, editor. Neuromuscular disorders: treatment and management. 2nd ed. St Louis: Elsevier; 2022. Chapter 21, p. 528-553.

Bertorini TE, Finder JD, Bassam BA. Perioperative management of patients with neuromuscular disorders. In: Bertorini TE, editor. Neuromuscular disorders: treatment and management. 2nd ed. St. Louis: Elsevier; 2022. Chapter 1, p. 206-224.

Darbin O, Hatanaka N, Takara S, Kaneko N, Chiken S, Naritoku D, Martino A, Nambu A. Subthalamic nucleus deep brain stimulation driven by primary motor cortex $\gamma 2$ activity in parkinsonian monkeys. Sci Rep. 2022 Apr 20;12(1):6493.

Darbin O, Montgomery EB Jr. Challenges for future theories of Parkinson pathophysiology. Neurosci Res. 2022 Apr;177:1-7.

Sanchez JA, Traub R, Trau SP, Howard JF Jr. Electrodiagnostic findings in riboflavin transporter deficiency type 2. J Clin Neuromuscul Dis. 2022 Jun 1;23(4):205-209.

Sharma K, Singhapakdi K, Maertens P. Echoencephalography of encephalopathy due to congenital lymphocytic choriomeningitis virus. J Neuroimaging. 2022 May;32(3):412-419.

II. PUBLISHED ABSTRACTS

Cabrera PR, Maertens P. Aseptic meningitis with acute transverse myelitis as an initial manifestation of pediatric neuromyelitis optica. J Investig Med. 2022 Feb;70(2):682. Abstract no. 469.

Gurung A, Cabrera PR, Shama KP, Sehgal M, Dolma K, Maertens P. A case with short chain enoyl coenzyme a hydratase 1 deficiency presenting with progressive encephalomyelopathy and cardiac arrest secondary to severe left ventricular outflow obstruction. J Investig Med. 2022 Feb;70(2):683. Abstract no. 471.

Gurung A, Ramakrishnan R, Dolma K, Maertens P, Marri P, Vamesu BM. Juvenile Myelomonocytic Leukemia associated with Noonan Syndrome. J Investig Med. 2022 Feb;70(2):469. Abstract no. 28.

Ochoa JG, Yuliati A. Predictive value of ictal onset and initial propagation pattern using scalp electroencephalography source imaging analysis compared to intracranial EEG findings in patient with temporal lobe epilepsy. American Epilepsy Society Meeting; 2021

Dec 3-7; Chicago, IL. Abstract no. 3.184. Available from: <https://cms.aesnet.org/abstractsliging/predictive-value-of-ctal-onset-and-initial-progagation-pattern-usingi-scalp-electroencephalogrphahy-source-imaaging-analysis-compared- to-intracranial-eeg-findings-in-patient-with-temporal-lobe=epilepsy>

Rawhani R, Maertens P. Methotrexate and the ischemia hypothesis in Mobius syndrome: a report of two cases. J Investig Med. 2022 Feb;70(2):580-581. Abstract no. 267.

Shaik S, Maertens P, Gulati R. Cranial ultrasound: a bed side diagnostic modality for Edwards Syndrome. J Investig Med. 2022 Feb;70(2):581. Abstract no. 268.

Sheikh A, Maertens P, Sharna KP. Use of neuro-sonography in the evaluation of brain death: a novel approach to the diagnosis. J Investig Med. 2022 Feb;70(2):681. Abstract no. 466.

Soh P, Bassam BA. Diabetic dysautonomia. American Association of Neuromuscular & Electrodiagnostic Medicine 2022 Annual Meeting; 2022 Sep 21-24; Nashville, TN. Abstract no. 112.

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

Bassam B. Invited speaker. NCS Pitfalls. American Association of Neuromuscular & Electrodiagnostic Medicine 2021 Annual Meeting; 2021 Oct 13; Aurora, CO.

Dees D. Invited speaker. Levodopa induced dyskinesias in Parkinson's disease. 7th Annual University of South Alabama Health Neuroscience Symposium; 2022 Apr 24; Pensacola, FL.

Kilgo W. Invited speaker. MS controversies roundtable. 7th Annual University of South Alabama Health Neuroscience Symposium; 2022 Apr 23; Pensacola, FL.

Naritoku D. Invited speaker. New anti-seizure medications and formulations. 7th Annual University of South Alabama Health Neuroscience Symposium; 2022 Apr 22; Pensacola, FL.

Ochoa J. Invited speaker. Refractory status epilepticus. 7th Annual University of South Alabama Health Neuroscience Symposium; 2022 Apr 24; Pensacola, FL.

Sanchez J. Invited speaker. Utilizing ultrasound in neuromuscular medicine. 7th Annual University of South Alabama Health Neuroscience Symposium; 2022 Apr 23; Pensacola, FL.

Sugg R. Invited speaker. Early intervention in ischemic stroke. 7th Annual University of South Alabama Health Neuroscience Symposium; 2022 Apr 23; Pensacola, FL.

Yuliati A. Invited speaker. Identification of rare treatable epilepsies. 7th Annual University of South Alabama Health Neuroscience Symposium; 2022 Apr 24; Pensacola, FL.

V. NATIONAL PROFESSIONAL RECOGNITION

Bassam B. Received USA-Health Neurology Outstanding Resident Teaching Award 2021-2022.

Dees D. Huntington's Disease Society of America Center of Excellence, Site Director, which includes collaboration with UAB Movement Disorders to obtain a level 1 certification from the HDSA

Kilgo W. "Red Sash" award given by USACOM c/o 2022

VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS

2021-2022
Summary of Scholarly Activities
Department of Neurosurgery

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Darbin O, Hatanaka N, Takara S, Kaneko N, Chiken S, Naritoku D, Martino A, Nambu A. Subthalamic nucleus deep brain stimulation driven by primary motor cortex $\gamma 2$ activity in parkinsonian monkeys. *Sci Rep*. 2022 Apr 20;12(1):6493.

Kim D, Viswanathan VK, Menger RP. C1 fractures. [Updated 2022 Mar 3]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2022 Jan-. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK534091/>

LeFever D, Menger RP. Infantile and juvenile scoliosis. [Updated 2022 Jul 18]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2022 Jan-. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK519498/>

LeFever D, Whipple SG, Menger RP. Hangman's fractures. [Updated 2022 Jan 24]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2022 Jan-. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK519496/>

Mallari RJ, Thakur JD, Barkhoudarian G, Eisenberg A, Rodriguez A, Rettinger S, Cohan P, Nieman L, Kelly DF. Diagnostic pitfalls in Cushing disease: surgical remission rates, test thresholds, and lessons learned in 105 patients. *J Clin Endocrinol Metab*. 2022 Jan 1;107(1):205-218.

Menger RP, Davis DD, Bryant JH. Spinal Osteotomy. [Updated 2022 Jun 21]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2022 Jan-. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK499872/>

Menger RP, Rayi A, Notarianni C. Klippel Feil Syndrome. [Updated 2022 May 15]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2022 Jan-. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK499872/>

Menger RP, Sin AH. Adolescent and idiopathic scoliosis. [Updated 2022 Apr 9]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2022 Jan-. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK499908/>

Singer J, Menger R. America's failed opioid policy drove the Tulsa shooter to violence [Internet]. Washington DC: Cato Institute; 2022 Jun 7. Available from: <https://policycommons.net/artifacts/2470657/americas-failed-opioid-policy-drove-the-tulsa-shooter-to-violence/3492666/>

Thakur JD, Corlin A, Mallari RJ, Yawitz S, Eisenberg A, Sivakumar W, Griffiths C, Carrau RL, Rettinger S, Cohan P, Krauss H, Araque KA, Barkhoudarian G, Kelly DF.

Complication avoidance protocols in endoscopic pituitary adenoma surgery: a retrospective cohort study in 514 patients. *Pituitary*. 2021 Dec;24(6):930-942.

Thakur JD, Mallari RJ, Corlin A, Yawitz S, Eisenberg A, Rhee J, Sivakumar W, Krauss H, Martin N, Griffiths C, Barkhoudarian G, Kelly DF. Critical appraisal of minimally invasive keyhole surgery for intracranial meningioma in a large case series. *PLoS One*. 2022 Jul 28;17(7):e0264053.

II. PUBLISHED ABSTRACTS

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

Menger R. Invited speaker. Complex spinal surgery. University of South Alabama Seventh Annual Neuroscience Symposium; 2022 Apr 24, Pensacola, FL.

V. NATIONAL PROFESSIONAL RECOGNITION

Dr. Anthony M. Martino: Chair, Department of Neurosurgery, University Hospital Medical Executive Committee, Clinical Chairs Committee, Operations Committee, Infectious Control Committee, Student Promotion and Evaluation Committee, Surgery Committee, Charis Dyad Strategic Leader Development, Congress of Neurological Surgeons, and American Association of Neurological Surgeons.

Dr. Richard Menger: North American Spine Society Political Engagement Committee, North American Spine Society Section of Spinal Deformity, Candidate Member Scoliosis Research Society, Council of State Neurosurgical Societies Medical Director Committee and Vice Chair of CEC, Member American Association of Neurological Surgeons, Congress of Neurological Surgeons, and Association of Military Surgeons of the United States.

Dr. Jai Deep Thakur: Congress of Neurological Surgeons, North American Skull Base Society, and University Hospital Red Book Physicians Committee.

Dr. Matthew Pearson: American Association of Neurological Surgeons, Congress of Neurological Surgeons, and Children's Oncology Group.

VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS

The Department of Neurosurgery has seen several changes this year. First and foremost, we lost one of our senior partners unexpectedly. Dr. W. George Rusyniak was with us for the past 13 years supporting our trauma service and growing the Epilepsy Surgery program. We will miss his partnership and friendship. Dr. Menger and Thakur's practices continue

to grow. Dr. Menger continued the development of the Spine Institute. There has been continued clinical growth, with substantial quality data being generated. We are recruiting both an additional neurosurgeon and an orthopedic spine surgeon to support this growth. Dr. Thakur has established himself as regional referral source for Cranial Surgery. His practice of minimally invasive neurosurgery continues to grow in volume. We successfully recruited Dr. Matthew Pearson to join us. His practice is focused on Pediatric Neurosurgery. With the increase in volume and diversity of surgical cases, we have started the process to apply for a Neurosurgical Residency. We are hopeful that the application will be completed by the end of the next academic year.

2021-2022
Summary of Scholarly Activities
Department of Obstetrics & Gynecology

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Brocato B, Lewis D, Eyal F, Baker S, Armistead C, Kaye AD, Cornett EM, Whitehurst RM Jr. The impact of a prenatal education program for opioid-dependent mothers on breastfeeding rates of infants at risk for neonatal abstinence syndrome. *Adv Ther*. 2022 Jul;39(7):3104-3111.

Oben A, Perez W, Jauk VC, Boggess K, Clark E, Saade G, Esplin MS, Longo S, Cleary KL, Wapner R, Blackwell SC, Owens MY, Ambalavanan N, Szychowski JM, Tita A. Timing of maternal discharge after cesarean delivery and risk of maternal readmission. *Am J Perinatol*. 2022 Jul;39(10):1042-1047.

Omere C, Goncharov DA, Pedroza C, La Rosa M, Munn M, Chiossi G, Longo M, Saad AF. Randomized trial of fundal height vs point-of-care ultrasound during routine antenatal visits. *Am J Obstet Gynecol MFM*. 2022 Mar;4(2):100563.

Perez W, Luedecke A, Becker D, Cribbs M, Subramaniam A, Sinkey R. Increased nuchal translucency in fetus with neonatal dilated cardiomyopathy and MAP3K7 genetic variant. *Ultrasound Obstet Gynecol*. 2022 Jul;60(1):141-142.

Tita AT, Szychowski JM, Boggess K, Dugoff L, Sibai B, Lawrence K, Hughes BL, Bell J, Aagaard K, Edwards RK, Gibson K, Haas DM, Plante L, Metz T, Casey B, Esplin S, Longo S, Hoffman M, Saade GR, Hoppe KK, Foroutan J, Tuuli M, Owens MY, Simhan HN, Frey H, Rosen T, Palatnik A, Baker S, August P, Reddy UM, Kinzler W, Su E, Krishna I, Nguyen N, Norton ME, Skupski D, El-Sayed YY, Ogunyemi D, Galis ZS, Harper L, Ambalavanan N, Geller NL, Oparil S, Cutter GR, Andrews WW; Chronic Hypertension and Pregnancy (CHAP) Trial Consortium. Treatment for mild chronic hypertension during pregnancy. *N Engl J Med*. 2022 May 12;386(19):1781-1792.

II. PUBLISHED ABSTRACTS

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

Holiday NP. Invited speaker. Interesting cases in OB/GYN. 29th Annual University of South Alabama Obstetrics and Gynecology Conference; 2021 Oct 15; Mobile, AL.

Munn M, Scalici JM, Estrada B. Invited speakers. Making sense of medical headlines. 29th Annual University of South Alabama Obstetrics and Gynecology Conference; 2021 Oct 15; Mobile, AL.

Munn M. Invited speaker. Maternal early warning systems. South Central Obstetrical & Gynecological Society; 2022 Apr 25; Biloxi, MS.

Winkler C. Invited speaker. Opioid use disorder: an update. 29th Annual University of South Alabama Obstetrics and Gynecology Conference; 2021 Oct 14; Mobile, AL.

Winkler C. Invited speaker. Combining ultrasound & serum screening. 29th Annual University of South Alabama Obstetrics and Gynecology Conference; 2021 Oct 14; Mobile, AL.

V. NATIONAL PROFESSIONAL RECOGNITION

Roth T. Faculty Facilitator for LARC Workshop, *Invi Pl Phase 3 randomized, double blinded placebo controlled trial to evaluate efficacy and safety of RSV PreF subunit vaccine in infants born to women vaccinated in pregnancy*. CREOG & APGO Annual Meeting; Mar 3-9; Orlando, FL.

VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS

1. Recruitment of 2 OBGYN Generalists
2. Recruitment of 1 MFM Specialist
3. Recruitment of 5 APPs
4. Recruitment of 1 Genetics Counselor
5. Recruitment of 1 Social Worker
6. Opening of the Spanish Fort Clinic on 9/6/22
7. Opening of the Mapps Clinic on 11/1/22
8. Dr. Amelia Hewes named Family Practice Fellowship OB Director
9. Dr. Candice Holliday involved in research project involving teen pregnancy rates pre and post-COVID
10. Drs. Candice and Nicolette Holliday involved in Spinning Class for breeched babies which can decrease need for emergency C-sections, etc.
11. Car Seat Program for expectant mothers
12. Stop the Stigma Summit for proper care and treatment of patients with addictions
13. Spanish Clinic implemented into practice + Spanish Community Outreach Day
14. Sports Physical Day for community high schools
15. Saturday clinic implemented into the practice to create more opportunities for patients to receive care
16. Drs. William Perez and Candice Holliday Participated in SASGOG PROGRESS
17. Drs. Perez and Baker participated in the USA COM Medical Student Research Forum

2021-2022
Summary of Scholarly Activities
Department of Orthopaedic Surgery

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Clanton TO, Mullens J, Backus J, Waldrop N III, Robinson A. Ankle sprains, ankle instability, and syndesmosis injuries. In: Porter DA, Schon LC, editors. *Baxter's the Foot and Ankle in Sport*. 3rd ed. Philadelphia: Elsevier; 2021. Chapter 15, p. 255-274.

Clanton TO, Mullens J, Schon LC, Tartaglione JP. Achilles tendon disorders including tendinopathies and ruptures. In: Porter DA, Schon LC, editors. *Baxter's the Foot and Ankle in Sport*. 3rd ed. Philadelphia: Elsevier; 2021. Chapter 9, p. 163-205.

MARS Group, Bigouette JP, Owen EC, Lantz BBA, Hoellrich RG, Wright RW, Huston LJ, Haas AK, Allen CR, Cooper DE, DeBerardino TM, Dunn WR, Spindler KP, Stuart MJ, Albright JP, Amendola AN, Annunziata CC, Arciero RA, Bach BR Jr, Baker CL 3rd, Bartolozzi AR, Baumgarten KM, Bechler JR, Berg JH, Bernas GA, Brockmeier SF, Brophy RH, Bush-Joseph CA, Butler JB, Carey JL, Carpenter JE, Cole BJ, Cooper JM, Cox CL, Alexander CR, David TS, Flanigan DC, Frederick RW, Ganley TJ, Garofoli EA, Gatt CJ Jr, Gecha SR, Robert Giffin J, Hame SL, Hannafin JA, Harner CD, Harris NL Jr, Hechtman KS, Hershman EB, Johnson DC, Johnson TS, Jones MH, Kaeding CC, Kamath GV, Klootwyk TE, Levy BA, Benjamin MC, Maiers GP 2nd, Marx RG, Matava MJ, Mathien GM, McAllister DR, McCarty EC, McCormack RG, Miller BS, Nissen CW, O'Neill DF, Owens BD, Parker RD, Purnell ML, Ramappa AJ, Rauh MA, Rettig AC, Sekiya JK, Shea KG, Sherman OH, Slauterbeck JR, Smith MV, Spang JT, Steven J, Svoboda L, Taft TN, Tenuta JJ, Tingstad EM, Vidal AF, Viskontas DG, White RA, Williams JS Jr, Wolcott ML, Wolf BR, York JJ. Returning to activity after anterior cruciate ligament revision surgery: an analysis of the Multicenter Anterior Cruciate Ligament Revision Study (MARS) cohort at 2 years postoperative. *Am J Sports Med*. 2022 Jun;50(7): 1788-1797.

MARS Group, DeFroda SF, Owens BD, Wright RW, Huston LJ, Pennings JS, Haas AK, Allen CR, Cooper DE, DeBerardino TM, Dunn WR, Lantz BBA, Spindler KP, Stuart MJ, Albright JP, Amendola AN, Annunziata CC, Arciero RA, Bach BR Jr, Baker CL 3rd, Bartolozzi AR, Baumgarten KM, Bechler JR, Berg JH, Bernas GA, Brockmeier SF, Brophy RH, Bush-Joseph CA, Butler JB 5th, Carey JL, Carpenter JE, Cole BJ, Cooper JM, Cox CL, Creighton RA, David TS, Flanigan DC, Frederick RW, Ganley TJ, Garofoli EA, Gatt CJ Jr, Gecha SR, Giffin JR, Hame SL, Hannafin JA, Harner CD, Harris NL Jr, Hechtman KS, Hershman EB, Hoellrich RG, Johnson DC, Johnson TS, Jones MH, Kaeding CC, Kamath GV, Klootwyk TE, Levy BA, Ma CB, Maiers GP 2nd, Marx RG, Matava MJ, Mathien GM, McAllister DR, McCarty EC, McCormack RG, Miller BS, Nissen CW, O'Neill DF, Parker RD, Purnell ML, Ramappa AJ, Rauh MA, Rettig AC, Sekiya JK, Shea KG, Sherman OH, Slauterbeck JR, Smith MV, Spang JT, Svoboda SJ, Taft TN, Tenuta JJ, Tingstad EM, Vidal AF, Viskontas DG, White RA, Williams JS Jr, Wolcott ML, Wolf BR, York JJ. Descriptive characteristics and outcomes of patients

undergoing revision anterior cruciate ligament reconstruction with and without tunnel bone grafting. *Am J Sports Med.* 2022 Jul;50(9): 2397-2409.

McDonald TC, Gnam A, Weaver KJ, Webb K, Bhanat E, Sukkarieh H, Wright PB, Brooks JT. Does obesity affect preoperative shoulder balance in adolescent idiopathic scoliosis? *Pediatr Neurosurg.* 2022;57(1): 35-39.

McDonald TC, Heffernan MJ, Ramo B, Haber L, Sheffer B, Murphy J, Murphy R, Fletcher N, Coyne K, Lubicky J, Bumpass DB, Crawford C 3rd, Carreon L, Toner S, Stafford WH, Poppino K, Adams T, Song BM, Gidwani S, Taillac H, Cornaghie M, Sukkarieh H, Wright PB, Conklin M, Gilbert S, Thimothée J, Bhanat E, Brooks JT; Pediatric Orthopaedic Obesity Research Consortium. Surgical outcomes of obese patients with adolescent idiopathic scoliosis from endemic areas of obesity in the United States. *J Pediatr Orthop.* 2021 Nov-Dec 01;41(10): e865-e870.

McDonald TC, Shah SA, Hargiss JB, Varghese J, Boeyer ME, Pompliano M, Neal K, Lonner BS, Larson AN, Yaszay B, Newton PO, Hoernschemeyer DG; Harms Nonfusion Study Group. When successful, anterior vertebral body tethering (VBT) induces differential segmental growth of vertebrae: an in vivo study of 51 patients and 764 vertebrae. *Spine Deform.* 2022 Jul;10(4): 791-797.

Imerci A, McDonald TC, Rogers KJ, Thacker MM, Atanda A Jr. Outcomes of medial patellofemoral ligament reconstruction and tibial tubercle osteotomy in syndromic adolescents with patellar dislocation. *J Clin Orthop Trauma.* 2022 Jan 14;25: 101770.

Krug MI, Vacek PM, Choquette R, Beynnon BD, Slauterbeck JR. Compliance and fidelity with an injury prevention exercise program in high school athletics. *Sports Health.* 2022 Jul-Aug;14(4): 483-489.

Pius AK, Beynnon BD, Fiorentino N, Gardner-Morse M, Vacek PM, DeSarno M, Failla M, Slauterbeck JR, Sturnick DR, Argentieri EC, Tourville TW. Articular cartilage thickness changes differ between males and females 4 years following anterior cruciate ligament reconstruction. *J Orthop Res.* 2022 Jan;40(1): 65-73.

Tourville TW, Voigt TB, Choquette RH, Failla MJ, Endres NK, Slauterbeck JR, Beynnon BD, Toth MJ. Skeletal muscle cellular contractile dysfunction after anterior cruciate ligament reconstruction contributes to quadriceps weakness at 6-month follow-up. *J Orthop Res.* 2022 Mar;40(3): 727-737.

II. PUBLISHED ABSTRACTS

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

Mullens J. Invited speaker. Bunions. University of South Alabama Department of Orthopaedic Surgery Lecture Series; 2022 Jun 9; Mobile, AL.

Mullens J. Invited speaker. Innovative techniques in foot and ankle trauma and fusions. Southern Orthopaedics Association, SEC Conference; 2022 May 26; Birmingham, AL.

Mullens J. Invited speaker. Adult acquired flatfoot deformity. University of South Alabama Department of Orthopaedic Surgery Lecture Series; 2022 May 12; Mobile, AL.

Mullens J. Invited speaker. Practice efficiency. Alabama Orthopaedic Society Orthopaedic Foot & Ankle Society Annual Meeting; 2021 Nov 12; Point Clear, AL.

Mullens J. Invited speaker. Syndesmosis injuries. 32nd Annual Southeastern Orthopaedic Foot Club; 2022 May 19; Point Clear, AL.

Slauterbeck J. Invited speaker. Pro football ACL injury. WNSP Sports Radio; 2022 Feb 16; Mobile, AL.

Slauterbeck J. Invited speaker. Meniscus transplant. WKRG News Radio; 2022 Jun 10; Mobile, AL.

V. NATIONAL PROFESSIONAL RECOGNITION

Dr. Slauterbeck serves as a journal peer reviewer for the *American Journal of Sports Medicine* and the *Journal of Bone and Joint Surgery*. He is a member of the Board of Directors for the Alabama Orthopaedic Society and the American Orthopaedic Society for Sports Medicine.

VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS

Brewer, Jeffrey. Dr. Brewer serves as Director of the University of South Alabama Orthopaedic Surgery Residency Program. Dr. Brewer is a member of the University of South Frederick P. Whiddon College of Medicine Graduate Medical Education Committee. Dr. Brewer coordinated and participated in numerous research projects with Orthopaedic Surgery residents and University of South Alabama College of Medicine residents and students. Dr. Brewer coordinated weekly Orthopaedic Surgery resident conferences and grand rounds. Dr. Brewer presented grand rounds lectures regarding orthopaedic trauma surgical conditions and procedures for the University of South Alabama Department of Orthopaedic Surgery Residency Program. Additionally, he served on the Burn/Trauma Operational Committee and Peer Review Committee at University Hospital.

Clay, Terry Bradley. Dr. Clay presented several Grand Rounds lectures regarding orthopaedic surgical techniques and sports injury-related orthopaedic medical conditions for the University of South Alabama Orthopaedic Surgery Residents. Dr. Clay provides

orthopaedic medical services for University of South Alabama athletes and sports teams, and serves as a team physician for University of South Alabama Athletics Department. Additionally, Dr. Clay taught the OPD 444 Acting Internship in Sports Medicine, and OPD 450 Acting Internship in Orthopaedic Surgery. Dr. Clay continued his efforts toward development of three new clerkship modules for medical students (Sports Medicine, Trauma and Pediatric). Dr. Clay is a reviewer for *The American Journal of Sports Medicine*.

Madison, Randall Drew. Dr. Madison presented Grand Rounds lectures regarding orthopaedic trauma surgical conditions and procedures for the University of South Alabama Department of Orthopaedic Surgery Residency Program. Dr. Madison's area of interest includes contemporary complication prevention strategies for pilon fractures, as well as masquetelet modification of extracorporeal fabrication of a PMMA spacer.

McDonald, Tyler C. Dr. McDonald joined the faculty in the Orthopaedic Surgery department in September 2021. He provides pediatric orthopaedic diagnosis, treatment, and surgery for orthopaedic patients in the community. Additionally, he is working with Dr. Nimityongskul to provide services to children in other counties in the area. Dr. McDonald participated in publishing several research-related articles in 2021 and continues those efforts in 2022. His areas of interest include a longitudinal study of pediatric patients where, when successful, anterior vertebral body tethering (VBT) induces differential segmental growth of vertebra. The *in vivo* study included 51 patients and 764 vertebrae. Dr. McDonald has studied the effect of obesity as related to preoperative shoulder balance in adolescent idiopathic scoliosis. He has produced several articles and participated in numerous research studies including pediatric musculoskeletal tumors. Dr. McDonald presented an electronic poster presentation on segmental spinal growth modulation at the Pediatric Orthopaedic Society of North America (POSNA) Annual Meeting, May 2021. Dr. McDonald serves as a reviewer for the Clinical Orthopaedics and Related Research Journal. Dr. McDonald is a committee member on the POSNA Public Education and Media Relations Committee and Publications Committee. He is member of the American Orthopaedic Association Emerging Leader Program.

Mullens, Jess H. Dr. Jess Mullens, a graduate of the University of South Alabama College of Medicine, Department of Orthopaedic Surgery, completed his Fellowship at the Steadman Clinic focusing on foot and ankle orthopaedics under the direction of Dr. Thomas Clanton, M.D. Dr. Mullens joined the Department of Orthopaedic Surgery in November 2021. He currently serves as the Assistant Director of the Orthopaedic Surgery Residency Program. Dr. Mullens serves on several orthopaedic surgical societies, including the Orthopaedic Foot and Ankle Society and the American Academy of Orthopaedic Surgeons. His published interests include the relationship between tibiotalar joint space and ankle function following ankle surgery and dislocated posterior tibial tendon treatment with plate buttress fixation. Dr. Mullens has written books chapters for Baxter's *The Foot and Ankle in Sport* published by Elsevier in 2021. Dr. Mullen's research interests include syndesmosis injuries, ankle sprains, and risk factors for readmission following reverse and total shoulder arthroplasty. Dr. Mullens presented a lecture on diabetic foot infections at the Department of Orthopaedic Surgery Grand Rounds, as well

as other topics, including bunions, innovative techniques for foot and ankle trauma and fusions, adult flat foot deformity and syndesmosis injuries.

Nimityongskul, Prasit. Dr. Nimityongskul presented and moderated several Grand Rounds lectures regarding pediatric orthopaedic conditions and anomalies for the University of South Alabama Orthopaedic Surgery Residency program. Dr. Nimityongskul provides pediatric orthopaedic services once monthly at clinics in Brewton, Alabama. Dr. Nimityongskul has participated in research studies with previous and current residents in the University of South Alabama Department of Orthopaedic Surgery Residency Program.

Slauterbeck, James. Dr. Slauterbeck joined the Department of Orthopaedic Surgery in January 2021. His accomplishments include the interviewing, vetting, and hiring of three new faculty who will be joining the department between September 2022 and September 2023. He was successful in recruiting accomplished physicians in the following specialties: pediatric orthopedic surgery, orthopaedic trauma surgery, orthopaedic foot and ankle surgery and orthopaedic total joint surgery. Dr. Slauterbeck has met and negotiated with division and program leaders and clinical department chairmen to improve the overall status of the orthopaedic surgery department and continues to help improve the quality of health care provided by the department.

Dr. Slauterbeck negotiated with community physicians and orthopaedic groups to enlist expertise for treatment of orthopaedic sports injuries and increase pediatric access to orthopaedic care. Previously, Dr. Slauterbeck coordinated with community leaders and USA Sports to bring to fruition the inaugural MCPSS High School Sports Physicals Day held at the Mitchell Center, wherein Mobile County Public School high school athletes were screened for health and wellness to clear them to participate in high school team sports. In 2022, this program has expanded greatly and now includes several major high schools in Mobile County. Orthopaedic Surgery department physicians and residents along with Sports Medicine physicians and staff members all participated in the process. Also participating were physical and sports injury therapists from a local provider.

Dr. Slauterbeck has two research projects underway and is working with department faculty to increase the number of cases to contribute to the studies. Topics for the studies are hip fracture management and diabetic foot management.

Dr. Slauterbeck wrote and submitted two AAOS IDEA grants in 2022. If funded, the activity will be aimed at increasing underserved and underrepresented populations in the academic setting and giving disproportionately represented students increased access to orthopaedic medicine programs. Dr. Slauterbeck organized a monthly research seminar with invited researchers and physicians from the College of Medicine to initialize the process for shared research studies and projects. He is including faculty as well as residents in the research process. Twelve orthopaedic residents presented research proceedings at the 2022 USA Resident and Fellow Scholarship Exposition held in June 2022. Additionally, Dr. Slauterbeck served on the UH Search Committee to recruit an Anesthesiology Department Chair. Dr. Slauterbeck continued the process of meeting with

University Hospital and Children's Women's Perioperative Coordinators to maximize efficiency of the operating rooms and health care staff for surgical procedures.

2021-2022
Summary of Scholarly Activities
Department of Pathology

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Castro-Gil MP, Torres-Mena JE, Salgado RM, Muñoz-Montero SA, Martínez-Garcés JM, López-Torres CD, Mendoza-Vargas A, Gabiño-López NB, Villa-Treviño S, del Pozo-Yauner L, Arellanes-Robledo J, Kröttsch E, Pérez-Carreón JI. The transcriptome of early GGT/KRT19-positive hepatocellular carcinoma reveals a downregulated gene expression profile associated with fatty acid metabolism. *Genomics*. 2022 Jan;114(1):72-83.

Darabi S, Elliott A, Braxton DR, Zeng J, Hodges K, Poorman K, Swensen J, Shanthappa BU, Hinton JP, Gibney GT, Moser J, Phung T, Atkins MB, In GK, Korn WM, Eisenberg BL, Demeure MJ. Transcriptional profiling of malignant melanoma reveals novel and potentially targetable gene fusions. *Cancers (Basel)*. 2022 Mar 15;14(6):1505.

del Pozo-Yauner L, Turbat-Herrera EA, Pérez-Carreón JI, Herrera GA. From the light chain sequence to the tissue microenvironment: contribution of the mesangial cells to glomerular amyloidosis. *Hemato*. 2022;3(1):232-267.

El Bairi K, Singh S, Le Page C. Revisiting platinum-resistant ovarian cancer: advances in therapy, molecular biomarkers, and clinical outcomes. *Semin Cancer Biol*. 2021 Dec;77:1-2.

Guerrero-Escalera D, Alarcón-Sánchez BR, Arellanes-Robledo J, Cruz-Rangel A, del Pozo-Yauner L, Chagoya de Sánchez V, Resendis-Antonio O, Villa-Treviño S, Torres-Mena JI. Comparative subcellular localization of NRF2 and KEAP1 during the hepatocellular carcinoma development in vivo. *Biochim Biophys Acta Mol Cell Res*. 2022 May;1869(5):119222.

Herrera GA, del Pozo-Yauner L, Aufman JJ, Turbat-Herrera EA. Pathogenesis: structural changes in the kidneys in type 1 and type 2 diabetes. In: Lerma EV, Batuman V, editors. *Diabetes and kidney disease*. 2nd ed. Cham, Switzerland: Springer Nature; 2022. Chapter 6, p. 105-154.

Jeong K, Murphy JM, Kim JH, Campbell PM, Park H, Rodriguez YAR, Choi CS, Kim JS, Park S, Kim HJ, Scammell JG, Weber DS, Honkanen RE, Schlaepfer DD, Ahn EY, Lim ST. FAK activation promotes SMC dedifferentiation via increased DNA methylation in contractile genes. *Circ Res*. 2021 Dec 3;129(12):e215–e233.

Khan MA, Anand S, Deshmukh SK, Singh S, Singh AP. Determining the size distribution and integrity of extracellular vesicles by dynamic light scattering. *Methods Mol Biol*. 2022;2413:165-175.

Khan MA, Vikramdeo KS, Sudan SK, Singh S, Wilhite A, Dasgupta S, Rocconi RP, Singh AP. Platinum-resistant ovarian cancer: from drug resistance mechanisms to liquid biopsy-based biomarkers for disease management. *Semin Cancer Biol.* 2021 Dec;77:99-109.

Manci EA, Dolma K, Manjunath C, Liu SS, Galliani CA, Bhat R. Neonatal myocardial ischemia-reperfusion injury: a proposed pathogenic sequence in the context of maternal/fetal vascular malperfusion and paradoxical embolism. *Pediatr Dev Pathol.* 2022 Mar-Apr;25(2):162-167.

Mao A, Reno A, Galliani CA, Alemayehu H, Bhat R. Preterm infant of diabetic mother with a retrorectal mass: a troubling tail tale. *Neoreviews.* 2022 Feb 1;23(2):e117-e120.

Nguyen A, Battle K, Paudel SS, Xu N, Bell J, Ayers L, Chapman C, Singh AP, Palanki S, Rich T, Alvarez DF, Stevens T, Tambe DT. Integrative toolkit to analyze cellular signals: forces, motion, morphology, and fluorescence [additional video content]. *J Vis Exp.* 2022 Mar 5;(181). Available from: <https://www.jove.com/t/63095/integrative-toolkit-to-analyze-cellular-signals-forces-motion>

O'Connor M, Phillis C, Pardo J, Madelaire C, Terry W Jr. A unique presentation of a rare renal cancer: appearance of bone metaplasia in tubulocystic renal cell carcinoma. *Urol Case Rep.* 2021 Jul 3;39:101767. Available from: <https://www.clinicalkey.com/service/content/pdf/watermarked/1-s2.0-S221444021002072.pdf>

Saranyutanon S, Acharya S, Deshmukh SK, Khan MA, Singh S, Singh AP. Nicotine causes alternative polarization of macrophages via Src-mediated STAT3 activation: potential pathobiological implications. *J Cell Physiol.* 2022 Feb;237(2):1486-1497.

Sarkar C, Chakroborty D, Goswami S, Fan H, Mo X, Basu S. VEGF-A controls the expression of its regulator of angiogenic functions, dopamine D2 receptor, on endothelial cells. *J Cell Sci.* 2022 Jun 1;135(11):jcs259617.

Shackelford RE, Ozluk E, Abdulsattar J, Lairmore TC, Chu Q, Wei EX. A rare case of pure primary large cell neuroendocrine carcinoma of the gallbladder. *Case Rep Oncol Med.* 2022 May 21;2022:6956046.

Srivastava SK, Khan MA, Anand S, Zubair H, Deshmukh SK, Patel GK, Singh S, Andrews J, Wang B, Carter JE, Singh AP. MYB interacts with androgen receptor, sustains its ligand-independent activation and promotes castration resistance in prostate cancer. *Br J Cancer.* 2022 May;126(8):1205-1214.

Zubair H, Khan MA, Anand S, Srivastava SK, Singh S, Singh AP. Modulation of the tumor microenvironment by natural agents: implications for cancer prevention and therapy. *Semin Cancer Biol.* 2022 May;80:237-255.

II. PUBLISHED ABSTRACTS

Acharya S, Anand S, Khan MA, Zubair H, Srivastava SK, Singh S, Singh AP. Biphasic regulation of MYB expression by androgen signaling mediates its growth-promoting and –repressing effects in prostate cancer cells. *Cancer Res.* 2022 Jun 15;82(12):2353. Abstract no. 2353.

Amin K, Patil P, Galliani C. Study of inflammatory bowel disease in ethnic groups and the impact of the COVID-19 pandemic. *Mod Pathol.* 2022;35(2 Suppl):412-413. Abstract no. 379.

Anand S, Khan MA, Zubair H, Sudan SK, Vikramdeo KS, Deshmukh SK, Azim S, Srivastava SK, Singh S, Singh AP. MYB plays an essential role in the hypoxic survival of pancreatic cancer cells via its impact on metabolic reprogramming. *Cancer Res.* 2022 Jun 15;82(12 Suppl):2351. Abstract no. 2351.

Brown A, Phung T. Clinical utility of clinical, radiologic and histologic assessment of verrucous venous malformation. International Society for the Study of Vascular Anomalies World Congress; 2022 May 10-13; Vancouver, Canada. p.16.

Dabrowski DS, Afude J, Wei E. Four PAX5 negative nodular sclerosing Hodgkin's lymphoma case series. *Am J Clin Pathol.* 2021 Oct 28;156(Suppl 1):S94-S95.

Dabrowski DS, Wei E. Blinatumomab resistant clone presenting as mixed phenotype myeloid sarcoma causing cord compression. *Am J Clin Pathol.* 2021 Oct 28;156(Suppl 1):S99-S100.

Goswami S, Sarkar C, Frankel WL, Basu S, Chakroborty D. Loss of Krüppel-like factor 4 facilitates disruption of epithelial barrier function in gastric cancer and promotes metastasis. *Cancer Res.* 2022 Jun 15;82(12 Suppl):2415. Abstract no. 2415.

Haleema S, Mneimneh W, Elkadi O. C4d immunohistochemistry in immune mediated myopathies and correlation with ultrastructural findings. *J Neuropathol Exp Neurol.* 2022 Jun;81(6):443. Abstract no. 22.

Hernandez-Aya LF, Rodriguez E, Nallagangula A, Yin J, Walker P, Xiu J, Moser J, In GK, Spetzler D, Gibney GT, Oberley M, Phung T, Atkins M, Hoon DS, Korn WM, Lutzky J, Lopes G. Molecular and immunologic characterization of *HRAS* mutations in a cohort of 6,329 patients with cutaneous melanoma. *Cancer Res.* 2022 Jun 15;82(12 Suppl):5625. Abstract no. 5625.

Hertweck KL, Persing B, Proddaturvar P, Singh S, Singh A, Dasgupta S. Frequent alteration of mitochondria functional pathways in lung cancer. *Cancer Res.* 2022 Jun 15;82(12 Suppl):3776. Abstract no. 3776.

Khan MA, Acharya S, Anand S, Sameeta, Carter JE, Semmes OJ, Troyer DA, Singh S, Dasgupta S, Singh AP. MYB exhibits racially disparate overexpression and

clinicopathologic association in prostate cancer: significance as a predictor of biochemical recurrence. *Cancer Res.* 2022 Jun 15;82(12 Suppl):520. Abstract no. 520.

Masoud MA, Wei E. Sporadic uterine cervical angiomyolipoma with concurrent endometrial adenocarcinoma. *Am J Clin Pathol.* 2021 Oct 28;156(Suppl 1):S75-S76.

McCann M, Cho A, Pardo CA, Phung T, Hammell A, Comi AM. Phosphorylated-S6 expression in Sturge-Weber syndrome brain tissue. International Society for the Study of Vascular Anomalies World Congress; 2022 May 10-13; Vancouver, Canada. p.14.

Parajuli M, Shaban M, Phung TL. Efficient identification of melanocytic nuclei in pathology images for melanoma diagnosis using a weakly-supervised deep learning framework. *SoutheastCon 2022*; 2022 Mar 26-Apr 3; Mobile, AL. p. 255-260. Available from: <https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=9764004>

Sharma A, Vikramdeo KS, Sudan SK, Deshmukh SK, Singh AP, Singh S. Cortisol induces the expression of miR-143-3p/miR-145 cluster in macrophages to affect macrophage polarization via reprogramming of glucose metabolism. *Cancer Res.* 2022 Jun 15;82(12 Suppl):1546. Abstract no. 1546.

Singh S, Dasgupta S, Turbat-Herrera EA, Singh S, Singh AP. Differential expression of angiogenesis-associated genes in smoker and non-smoker lung adenocarcinoma patients. *Cancer Res.* 2022 Jun 15;82(12 Suppl):3204. Abstract no. 3204.

Sudan SK, Vikramdeo KS, Sharma A, Deshmukh SK, Srivastava SK, Poosarla T, Holliday NP, Dyess DL, Singh AP, Singh S. Racially disparate serum levels of inflammatory cytokines, satiety and stress hormones, and exosomal microRNAs in women with or without a breast cancer diagnosis. *Cancer Res.* 2022 Jun 15;82(12 Suppl):2212. Abstract no. 2212.

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

Chakroborty D. Invited speaker. Neuromodulators and tumor vascular remodeling: new opportunities in cancer treatment. University of Nebraska Department of Biochemistry and Molecular Biology; 2022 Mar 14; Omaha, NE.

Dasgupta S. Invited speaker. Mitochondrial journey of human cancer. Deciphering bioregulatory mechanisms in health and disease using ‘omics’ approaches. 2nd Regulatory Mechanisms Underlying Behaviour, Physiology and Development International Colloquium. 2022 Feb 24; Delhi, India.

Herrera E. Invited speaker. Electron microscopy enhances the ability to make more precise diagnoses on peripheral lung nodules evaluated by ROSE with the Monarch Robot [virtual presentation]. Ultrapath 2022 Conference; 2022 Jun 8; Amsterdam, the Netherlands.

Herrera G. Invited speaker. Understanding fibrillogenesis in renal AL-amyloidosis: transmission and scanning electron microscopy to the rescue [virtual presentation]. Ultrapath 2022 Conference; 2022 Jun 8; Amsterdam, the Netherlands.

Herrera G. Invited speaker. The value of electron microscopy in the diagnosis and evaluation of monoclonal gammopathies of renal significance [virtual presentation]. Ultrapath 2022 Conference; 2022 Jun 8; Amsterdam, the Netherlands.

Herrera G. Invited speaker. Tubulointerstitial nephropathy associated with monoclonal immunoglobulins [virtual presentation]. GlomCon LA; 2022 Apr 30; Mexico City, Mexico.

Herrera G. Invited speaker. Fibril generation in amyloidosis: potential for therapeutic interruption [virtual presentation]. Kidney Week 2021; 2021 Nov 6; San Diego, CA.

Herrera G. Invited speaker. Acute kidney injury associated with multiple myeloma [virtual presentation]. 4th International Nephropathology Forum; 2021 Dec 10; Guadalajara, Mexico.

Herrera G. Invited speaker. Amyloidosis: pathogenesis [virtual presentation]. 4th International Nephropathology Forum; 2021 Dec 10; Guadalajara, Mexico.

Herrera G. Invited speaker. Ultrastructural evaluation of immune mediated renal injury. United States-Canadian Academy of Pathology Meeting; 2022 Mar 20; Los Angeles, CA.

Herrera G. Invited speaker. Challenges in monoclonal gammopathy of renal significance. Meeting of the International Society of Amyloidosis; 2022 Sep 5; Heidelberg, Germany.

Phung T. Invited speaker. Spitzoid neoplasms in children and their histopathologic and molecular characteristics [virtual presentation]. Asian Society of Dermatopathology Annual Meeting; 2022 Oct 24; Singapore.

Phung T. Invited speaker. Identification of novel genomic structural variations in angiosarcoma by optical genome mapping [virtual presentation]. Cancer Genomics Consortium Annual Meeting 2022; 2022 Aug 1; St. Louis, MO.

Phung T. Invited speaker. Establishing an in-house molecular profiling program for cancer treatment selection [virtual presentation]. Association for Molecular Pathology (AMP) 2021 Annual Meeting Workshop; 2021 Nov 23; Rockville, MD.

Phung T. Invited speaker. Establishing molecular testing in communities. Precision Medicine World Conference 2022; 2022 Jun 30; Silicon Valley, CA.

Singh A. Invited speaker. Expanding its territories: emerging new roles of MYB in solid malignancies. Kansas City VA Life Science Seminar Series, Kansas City VA Medical Center; 2022 Mar 24; Kansas City, KS.

V. NATIONAL PROFESSIONAL RECOGNITION

Ajay Singh: **Editorial Board Membership** - Journal of Steroids and Hormonal Science, Journal of Integrative Oncology, Oncology, Gastroenterology, Hepatology Reports, Pancreatic Disorders and Therapy, Cancer Medicine (Clinical Cancer Research section), John Wiley & Sons, Frontiers in Bioscience, Cancers, Special Issue on 'Prostate Cancer: Pathology, Pathobiology and Therapy. **Associate Editor** - American Journal of Clinical and Experimental Urology, Journal of Ovarian research, Cancer Medicine (Cancer Biology Section), John Wiley & Sons. **Academic Editor** - PLoS ONE. **Guest Editor** - Cancer Letters, Special Issue on 'Exosomes' Reviewer, Cancers, Special Issue on 'Inflammatory cytokines and Chemokines, Frontiers in Oncology, Special Issue "Immune Microenvironment in Pancreatic Cancer. **Reviewer**- Veteran Affairs Research, Louis Stokes Cleveland VA Medical Center, Veteran Affairs Research, Louis Stokes Cleveland VA Medical Center. **Scientist Reviewer** - Vidi Programme, The Netherlands Organisation for Scientific Research (NOW/ZonMw). **Judging Committee** - Poster Presentations, USA Resident and Fellow Scholarship Exposition. **Member Review Panel** - Dean's Pre-doctoral Fellowships, College of Medicine. **Journal Reviewer** – Clinical Cancer, Cancer Lett, Life Science, BBA Review in Cancer, Molecular Cancer, Ultrastructural Pathology, etc.

Debanjan Chakroborty: **Editorial Board Member** - Scientific Reports, Journal of Pathology Clinical & Medical Research, Annals of Clinical and Medical Microbiology. Peer Reviewer - Scientific reports, Cancer Medicine, PLoS ONE, Seminars in Cancer Biology, FASEB, Aging, Cancers, International Journal of Molecular Sciences.

Chandrani Sarkar: **Editorial Board Member** - Cancer Medicine, Journal of Pathology Clinical & Medical Research, Scientific Reports. **Peer Reviewer** - Cancer Medicine.

Santanu Dasgupta- **Editor**- Scientific Reports, BMC Cancer, International Journal of Molecular Sciences Annals of Translational Medicine. **Peer Reviewer** - Scientific Reports, Cancer Letters, Oncotarget, Head & Neck, Cancer Biomarkers, Journal of Human Lactation, Current Molecular medicine, Cellular Physiology and Biochemistry, Cancer Management and Research, Cells, Antioxidants, Mitochondrion, Technology in Cancer Research and Treatment, The Journal of Thoracic Disease, Chemosensors, Molecules, International Journal of Molecular Sciences, Frontier Oncology, Experimental and Molecular Pathology, Journal of Ovarian research, Aging, Cancers, Marine Drugs, Biomedicines, Cancer Medicines, BMC Cancer. Cancer Health Disparity, Journal of Cancer Research and Clinical Oncology.

Luis del Pozo-Yauner: **Journal Peer Reviewer** – Hemato, BBA Molecular Cell Research, Ultrastructural Pathology, Amyloid, JCI-Insight, Institute of Protein Biochemistry.

Osama Elkadi: **Journal Peer Reviewer** - Ultrastructural Pathology.

Guillermo Herrera: **Editor in Chief** - Ultrastructural Pathology. **Panel Member** – Amyloidosis member, College of American Pathology Advisory Group, VA National Electron Microscopy Committee. **Society Member** - The International Kidney and Monoclonal Gammopathy Research Group- President, Society of Ultrastructural Pathology-Senior Advisor.

Elizabeth Mancini: **Journal Peer Review** - Fetal and Pediatric Pathology. **Counsellor** - District One College of Counsellors for the Medical Association of the State of Alabama. **Pathology Investigator** - USA Pediatric Oncology Service. **President** - Medical Society of Mobile County.

Pam Moore-Campbell: Society Committee – American Society for Clinical Pathology member, National Society for Histotechnology.

Thuy Phung: **Committees** - Cancer Genomics Consortium (CGC) Annual Meeting Program Committee, St. Louis, MO (invited to join a 22-member committee to organize the Annual Meeting -Scientific Committee, ISSVA (International Society for the Study of Vascular Anomalies) (the Committee consists of 10 international experts in the field who drives the organization's scientific initiatives and oversees the Scientific Program at ISSVA World Congress in 2022). **Professional Leadership** – Treasurer Asian Society of Dermatopathology. **Reviewer** - College of American Pathologists (CAP) Case Reports In Molecular Pathology, Department of Defense Congressionally-Directed Medical Research Programs (CDMRP) Rare Cancers Research Program (RCRP). **Committee Member** - Cancer Genomics Consortium (CGC) Annual Meeting Program Committee, St. Louis, MO (invited to join a 22-member committee to organize the Annual Meeting) 2022 Cancer Genomics Consortium Annual Meeting, St. Louis, MO, August 2022. Abstract reviewer, Cancer Genomics Consortium (CGC) Program Committee, Virtual Annual Meeting, August 2021 (invited to join a 12-member committee to organize the Annual Meeting, Invited member, Gene Product Nomenclature Consortium (GPNC), whose goal is to standardize protein nomenclature in medical and scientific community, Cancer Genomics Consortium (CGC) Program Committee (invited to join the committee to organize CGC Annual Meetings in 2021 and 2022), Cancer Genomics Consortium (CGC) Program Committee (invited to join the committee to organize CGC Annual Meetings in 2021 and 2022), Cancer Genomics Consortium (CGC) Annual Meeting, Roundtable Discussion Group moderator, Cancer Genomics Consortium (CGC) Annual Meeting, Scientific Session moderator, Executive Committee Member, Asian Society of Dermatopathology, Association for Molecular Pathology (AMP) Publications Committee, which serves an advisory role to AMP's Board and ASIP's Council regarding Journal of Molecular Diagnostics policy issues, scope statement, business success, publisher Request for Proposal and selection, selection of Editors and Editorial Board members and performance expectations for Editor.

Jacek Polski: **Editorial Board** - Scientific Reports, BMC Cancer, International Journal of Molecular Sciences, Annals of Translational Medicine. **Journal Peer Review** - Scientific Reports, Cancer Letters, Oncotarget, Head & Neck, Cancer Biomarkers, Journal of Human Lactation, Current Molecular medicine, Cellular Physiology and Biochemistry, Cancer Management and Research, Cells, Antioxidants, Mitochondrion, Technology in Cancer Research and Treatment, The Journal of Thoracic Disease, Chemosensors, Molecules, International Journal of Molecular Sciences, Frontier Oncology, Experimental and Molecular Pathology, Journal of Ovarian research, Aging, Cancers, Marine Drugs, Biomedicines, Cancer Medicines, BMC Cancer.

Seema Singh: Panel Member - **Panel Member** (Scientist Reviewer) Melanoma Research Program (MRP), 2022 Panel Member (Scientist Reviewer): Breast Cancer Research Program (PRCRP), 2021. **Thesis Reviewer** - Effect of Kaempferol on the neurotoxicity induced by the expression of alpha synuclein in transgenic Drosophila model of Parkinson's Disease by Mr. Rahul, Aligarh M University, Aligarh UP, India. **Editorial Board Member**- Cancers, Seminars in Cancer Biology, Cancer Letters, Scientific Reports, Frontiers in Oncology, Biomedicine, Breast Cancer, PLOS ONE, Cancer Management and Research, Journal of Ovarian Research. **Journal Peer Review** - Acta Biochimica et Biophysica Sinica, Biomaterials, BBA-Biomembrane, Biological Trace Element Research, Breast Cancer: Targets and Therapy, Cancer Letter, Cancer Medicine ,Cancer Research, Cancers, Cancer Immunology, Immunotherapy, Current Analytical Chemistry, Cell Cycle, DNA Repair, Expert Opinion on Therapeutic Targets, Gut, Gastroenterology Research and Practice, GENE, Gastrointestinal Cancer: Targets and Therapy, International Journal of Breast Cancer, International Journal of Nanomedicine, International Journal of Environmental Research and Public Health, International Journal of Molecular Sciences, Integrative Molecular Medicine, Journal of Cellular Biochemistry, Journal of Clinical Medicine, Journal of Hematology & Oncology, Journal of Ovarian Research, Journal of Occupational Medicine and Toxicology, Molecules, Molecular Cancer, Molecular Cancer Research, Molecular and Cellular Pharmacology, Molecular Medicine, Medical Science Monitor, Mutation Research-Genetic Toxicology and Environmental Mutagenesis, Nanomaterials, Nanoscale Research Letters, Neoplasia, OncoTarget, OncoTargets and Therapy, PLOS ONE, Photochemistry and Photobiology, Progress in Health Sciences, Pancreas, Phytomedicine, Science Signaling, Scientific Reports, Toxicology and Applied Pharmacology, Tumor Biology, Theranostics, World Journal of Gastrointestinal Oncology. **Professional Society**- Women in Cancer Research- South Asian: Founder and committee member. **Professional Committees** - American Association for Cancer Research (AACR), Tumor Microenvironment (TME) working group, Women's In Cancer Research, Society of Women's In Cancer Research South Asian, Society of American Asian Scientists in Cancer Research (SAASCR), American Association of Indian Scientists in Cancer Research (AAISCR), American Society for Clinical Oncology (ASCO), Mitchell Cancer Institute, Biochemistry and Molecular Biology, COM, Graduate Faculty, Bio-medical Sciences, USA.

Jiamin Teng: **Journal Peer Reviewer** - Ultrastructural Pathology, Molecular Therapy Methods and Clinical Development Cancer Medicine, Zygote, Regenerate Medicine.

VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS

The Department of Pathology continually strives to our mission of education, research, and service.

Four residents completed the residency program this year. Dr. Sara Avalos entered a Breast Fellowship at Stony Brook University in New York. Dr. Shou-Shawn Liu entered a Dermopathology Fellowship at Larkin Hospital in Miami. Dr. Jordan Lowery entered a Forensic fellowship at Office of Chief Medical Examiner of the City of New York. Dr. Sameeta entered a Dermopathology Fellowship at MD Anderson in Houston.

Once again, the department had a successful residency recruiting year with three new residents. Dr. Rosetta Campbell from Sidney Kimmel Medical College at Thomas Jefferson University in the USA, Dr. Xuebao Zhang from the Shihezi University School of Medicine in China, and Dr. Jawaria Rahman from the Jinnah Sindh Medical University in Pakistan.

The department also added a new Renal fellowship program. Dr. Rodney Shackelford from Louisiana State University has been a great addition to the department.

The Pathology Resident program has remained to be productive in not only patient care, but in professionalism. The program is led by Director Dr. Jacek Polski, Associate Director Dr. Osama Elkadi, program coordinator Bettina Kelson and the appointed Chiefs of Residents Dr. Zan Ahmed and Dr. Lingling Xian.

The department also welcomed two research faculty members. Dr. Debanjan Chakroborty from the Mayo Clinic, Rochester, MN to work as an Assistant Professor in the Research Division. He is a highly accomplished researcher, investigating the critical and interactions between neuro immune modulators and stromal cells in the tumor microenvironment. Dr. Chandrani Sarkar obtained a Research Fellowship from the Council of Scientific and Industrial Research in India to work as an Assistant Professor in the Department of Pathology Research Division. She is also a highly accomplished researcher. Her main area of research is identifying molecular alterations in the tumor microenvironment, with special emphasis on immune effector cells. Their collaboration will enhance the prestige and funding in the Research Division of the Department of Pathology and the University as a whole.

As the department continues to grow, we have also had key faculty and staff retire. Dr. Gary E. Carnahan served the Department of Pathology for 27 years as an Associate Professor in Blood Banking & Transfusion Medicine. Rashmi Dhawan served as a Cytogenetic Technologist in the Genetics lab of the Pathology Department and worked with USA for 34 years. Allen Lee also served as a Cytogenetic Technologist in the Genetics lab of the Pathology Department she has worked with USA for over 28 years. Debra “Debbie” Buck served the Histology laboratory of the Pathology Department as a Medical

Technician for 36 years. They all will be truly missed, and the department wishes them the best on their next chapter.

2021-2022
Summary of Scholarly Activities
Department of Pediatrics

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Amritphale N, Amritphale A, Vasireddy D, Batra M, Sehgal M, Gremse D. Age- and diagnosis-based trends for unplanned pediatric rehospitalizations in the United States. *Cureus*. 2021 Dec 5;13(12):e20181.

Brocato B, Lewis D, Eyal F, Baker S, Armistead C, Kaye AD, Cornett EM, Whitehurst RM Jr. The impact of a prenatal education program for opioid-dependent mothers on breastfeeding rates of infants at risk for neonatal abstinence syndrome. *Adv Ther*. 2022 Jul;39(7):3104-3111

Estrada B, Kimberlin D. It is our time to shine. *Alabama Pediatrician*. 2021;2021 (4th Quarter):3. Available from: <https://static1.squarespace.com/static/562e7aaae4b07a09bd62c597/t/61b3974781066a3c2f1a58c3/1639159625121/AAP+Newsletter+2021-04.pdf>

Elhenawy Y, Adhami S, Abdelmeguid Y, Ahmad PO, Chinchilla P, Cody D, Grundman J, Mandilou SVM, Ng M, Orozco JA, Perez-Garcia M, Dovic K, Ehtisham S. ISPAD Annual Conference 2021 highlights from the ISPAD roving reporters team. *Pediatr Diabetes*. 2022 Jun;23(4):427-432

Gremse D. The debate over masks in schools. *Alabama Pediatrician*. 2021;2021 (3rd Quarter);12-13. Available from: <https://static1.squarespace.com/static/562e7aaae4b07a09bd62c597/t/613b87203e8fb75ffe319b93/1631291169945/AAP+Newsletter+2021-03.pdf>

Gremse D. Faculty mentorship program leads the way towards re-engagement. *Alabama Pediatrician*. 2021;2021 (4th Quarter):9. Available from: <https://static1.squarespace.com/static/562e7aaae4b07a09bd62c597/t/61b3974781066a3c2f1a58c3/1639159625121/AAP+Newsletter+2021-04.pdf>

Gremse D. USA Pediatric residents and medical students volunteer in community outreach event. *Alabama Pediatrician*. 2022;2022 (1st Quarter):10-11. Available from: <https://static1.squarespace.com/static/562e7aaae4b07a09bd62c597/t/6245ceeaea907e0383018baf/1648742126651/1st+Qtr+2022+newsletter.pdf>

Gremse D. USA Pediatrics: congratulations to our 2022 Nappie nominees. *Alabama Pediatrician*. 2022;2022 (2nd Quarter):10,12. Available from: <https://static1.squarespace.com/static/562e7aaae4b07a09bd62c597/t/62a118de05dc802ad92bba1c/1654724833462/107657-1+AAP-final+web.pdf>

Manci EA, Dolma K, Manjunath C, Liu SS, Galliani CA, Bhat R. Neonatal myocardial ischemia-reperfusion injury: a proposed pathogenic sequence in the context of maternal/fetal vascular malperfusion and paradoxical embolism. *Pediatr Dev Pathol*. 2022 Mar-Apr;25(2):162-167.

Roberson-Trammell K. Addressing adolescent health through a collaborative school nurse and pediatrician approach in Alabama. *Alabama Pediatrician*. 2021;2021 (3rd Quarter):3,5. Available from: <https://static1.squarespace.com/static/562e7aaae4b07a09bd62c597/t/613b87203e8fb75ffe319b93/1631291169945/AAP+Newsletter+2021-03.pdf>

Perez-Garcia EM, Whalen P, Gurtunca N. Novel inactivating homozygous *PAPSS2* mutation in two siblings with disproportionate short stature. *AACE Clin Case Rep*. 2021 Nov 24;8(2):89-92

Sehgal M, Amritphale A, Vadayla S, Mulekar M, Batra M, Amritphale N, Batten LA, Vidal R. Demographics and risk factors of pediatric pulmonary hypertension readmissions. *Cureus*. 2021 Oct 23;13(10):e18994.

Sehgal M, Batra M, Jha P, Sanchez O. Risk factors and laboratory findings associated with diabetic ketoacidosis in hospitalized pediatric patients. *Cureus*. 2022 May 27;14(5):e25410.

Sharma K, Singhapakdi K, Maertens P. Echoencephalography of encephalopathy due to congenital lymphocytic choriomeningitis virus. *J Neuroimaging*. 2022 May;32(3):412-419.

Singh M, Sehgal M, Yacoub M, Greenberg J, Dugan M, Chen C, Simmont A, Jha P. Severe liver dysfunction in a toddler receiving nonprescription phytocannabinoid. *J Am Pharm Assoc (2003)*. 2022 Jul-Aug;62(4):1438-1440.

Travers C, Gentle S, Banks AE, Nichols K, Shukla VV, Purvis D, Dolma K, Winter L, Ambalavanan N, Carlo WA, Lal CV. A quality improvement bundle to improve outcomes in extremely preterm infants in the first week. *Pediatrics*. 2022 Feb 1;149(2):e2020037341.

Vasireddy D, Sehgal M, Amritphale A. Risk factors, trends, and preventive measures for 30-day unplanned diabetic ketoacidosis readmissions in the pediatric population. *Cureus*. 2021 Nov 2;13(11):e19205.

II. PUBLISHED ABSTRACTS

Golani K, Roca Garcia MR. Decoding the shock: stop Addison's disease from advancing into adrenal crisis. *J Investig Med*. 2022 Feb;70(2):593. Abstract no. 295.

Gurung A, Zayek M, Eyal F, Dolma K. Intratracheal instillation of budesonide-surfactant for prevention of bronchopulmonary dysplasia in extremely premature infants. J Investig Med. 2022 Feb;70(2):593. Abstract no. 610.

Gurung A, Eyal F, Dolma K. *Escherichia coli*- infected cephalohematoma: a case report. J Investig Med. 2022 Feb;70(2):577. Abstract no. 260.

Gurung A, Dolma K, Sharma K. A case with short-chain enoyl coenzyme A hydratase 1 deficiency presenting with progressive encephalomyelopathy and cardiac arrest secondary to severe left ventricular outflow obstruction. J Investig Med. 2022 Feb;70(2):683. Abstract no. 471.

John S, Gulati R, Dolma K. Effect of severe acute respiratory syndrome Coronavirus 2 (SARS-COV-2) Delta variant (B.1.617.2) on maternal and neonatal outcomes. Pediatric Academic Societies Meeting 2022; 2022 Apr 21-25; Denver, CO. Abstract no. 281.

Leon Paredes S, Sanchez O. Warm hemolytic anemia and Hodgkin lymphoma. J Investig Med. 2022 Feb;70(2):555. Abstract no. 212.

Manjunath C, Eyal F, Zayek M, Dolma K. Perinatal risk factors for lenticulostriate vasculopathy in extremely preterm population. J Investig Med. 2022 Feb;70(2):612. Abstract no. 333.

Nair A, Cabrera PR. Fatal COVID-19 fetal myocarditis. J Am Soc Echocardiogr. 2022 Jul;35(7):e81. Abstract no. PS-01.

Available from: https://els-jbs-prod-cdn.jbs.elsevierhealth.com/pb-assets/Health%20Advance/journals/ymje/YMJE_2022_ASE_Abstracts-1654699807693.pdf

Putzeys CC, Marri P, Madhuri M, Gremse D, Imran H. Spectrum of gastrointestinal adverse events in children undergoing chemotherapy. J Pediatr Gastroenterol Nutr. 2021 Nov;73(Suppl 1):S492. Abstract no. 679.

Ramakrishnan R, Carlisle N, Custodio H. Endocarditis caused by *Neisseria elongata* in a pediatric patient. J Investig Med. 2022 Feb;70(2):719. Abstract no. 542.

Sehgal M, Vadyala S, Amritphale A. Pediatric pulmonary hypertension readmissions prediction model using artificial intelligence. Crit Care Med. 2022 Jan;50(1 Suppl):234. Abstract no. 486.

Sehgal M, Sharma K, Amritphale A, Keshavamurthy PRS, Jha P. Factors associated with agitation and use of physical restraints in hospitalized children. Crit Care Med. 2022 Jan;50(1 Suppl):392. Abstract no. 796.

Shaik SN, Maertens P, Gulati R. Cranial ultrasound: a bed side diagnostic modality for Edwards syndrome. J Investig Med. 2022 Feb;70(2):581. Abstract no. 268.

Tantivit N, Lim W. Leydig cell tumor leading to peripheral precocious puberty in a 6-year-old boy. J Investig Med. 2022 Feb;70(2):520. Abstract no. 136.

Tantivit N, Preud'Homme D, Mulekar M, Nasomyont N. Influence of sex, ethnicity, socioeconomic status and breastfeeding status on development of childhood obesity. J Investig Med. 2022 Feb;70(2):485-486. Abstract no. 61.

Tantivit N, Preud'Homme D, Mulekar M, Nasomyont N. Weight-for-length percentile, weight-for-age percentile, and BMI in children younger than 2 years of age in predicting the development of overweight and obesity in children. J Investig Med. 2022 Feb;70(2):650-651. Abstract no. 407.

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

Rashid M, Bogues L, Neeley M, Batten L Smith-Phillips M, Burrows H, Orlov N, Fealy J, Fenick A, Krishnamoorthy P, Kileny S. Invited speakers. Finding joy throughout your medical career. Council on Medical Student Education in Pediatrics 2022 Annual Meeting Preconference Workshop; 2022 Mar 29; Cincinnati, OH.

Batten L, Rashid M, Paul C, Tenney-Soeiro R, Young K, Wallace C. Invited speakers. Pipeline construction and management - towards a more supportive pathway. Council on Medical Student Education in Pediatrics Workshop; 2022 Mar 31; Cincinnati, OH.

Kaulfers AM. Invited speaker. Pediatric update of type 1 diabetes. Emerald Coast Medical Association 2022 CME Beach Retreat; 2022 Jun 9; Destin, FL.

Nair A. Invited speaker. Assessment and management of pediatric obesity and hypertension. Gulf Coast TotalCare; 2022 Jun 9; Mobile, AL.

Roca Garcia MR. Invited speaker. Supporting foreign born domestic violence survivors. American Academy of Pediatrics Alabama Chapter Webinar; 2022 Jun 7; Montgomery, AL.

V. NATIONAL PROFESSIONAL RECOGNITION

Ibrahim Ahmed: Member, Alabama Chapter American Academy of Pediatrics; Member, American Academy of Pediatrics; Member, Mobile Pediatric Society.

Osman Altun: Fellow, American Academy of Pediatrics; Member, Alabama Chapter American Academy of Pediatrics; Member, American Medical Association; Member, Mobile Pediatric Society.

Nupur Amritphale: Fellow, American Academy of Pediatrics; Member, Alabama Chapter American Academy of Pediatrics; Member, Mobile Pediatric Society. Assistant Clerkship Director, Mobile Representative for Child Death Review. Reviewer; *Pediatrics, Iranian Journal of Neonatology*.

Stephanie Anderson: Member, AAP Council on Children with Disabilities & Section on Developmental and Behavioral Pediatrics; Member, Alabama Chapter American Academy of Pediatrics; Member, Alabama Interagency Autism Coordinating Council (AIACC) Standards of Practice Committee, Diagnostics and Health Work Group; Member, American Academy of Pediatrics; Member, Mobile Pediatric Society; Member, Society for Developmental and Behavioral Pediatrics, Education Committee.

Mansi Batra: Member, American Academy of Pediatrics.

Lynn Batten: Fellow, American College of Cardiology; Fellow, American Academy of Pediatrics; Member, Alabama Chapter American Academy of Pediatrics; Member, Alpha Omega Alpha Medical Honor Society; Member, American Heart Association; Member, Council on Medical Student Education in Pediatrics (COMSEP); Member, Gold Humanism Honor Society. Reviewer: *MedEd Portal*.

Kari Bradham: Member, American Academy of Pediatrics; Member, Alabama Chapter American Academy of Pediatrics; Alabama Early Hearing Detection Intervention Champion; Member, Children with Medical Complexity Collaborative Improvement and Innovation Network (CMC CoIIN), Member, Mobile Pediatric Society.

Jennifer Cole: Fellow, American Academy of Pediatrics; Member, Alabama Chapter American Academy of Pediatrics; Member, Medical Association of the State of Alabama; Member, Mobile Pediatric Society.

LaDonna Crews: Member, Academy of Breastfeeding Medicine; Member, Academic Pediatric Association; Fellow, American Academy of Pediatrics; Board, Alabama Chapter American Academy of Pediatrics; Member, American Medical Association; Member, Medical Association of the State of Alabama; Member, Mobile Pediatric Society; Member, Regional Perinatal Advisory Committee; Member, Society for Adolescent Medicine; Member, Children with Medical Complexity Collaborative Improvement and Innovation Network (CMC CoIIN).

Haidee Custodio: Cohort, 10 member, Association of Pediatric Program Directors Leadership in Educational Academic Development Program; Continuing Medical Education Chair, Alabama Chapter, American Academy of Pediatrics; Faculty Mentor: AAP Mentorship Program; Faculty Mentor, AAP Section on International Medical Graduate; Fellow, American Academy of Pediatrics; Member, Infectious Diseases Society of America; Member, Pediatric Infectious Diseases Society; Member, Association of Pediatric Program Directors; Member, Mobile Pediatric Society. Reviewer: *Academic Medicine; American Academy of Pediatrics National Conference and Exhibit, Abstract Peer Reviewer; Association of Pediatric Program Directors (APPD) Research and*

Scholarship Learning Community, Proposal Reviewer; Clinical Pediatrics; Global Pediatric Health; MedEd Portal; Pediatric Academic Societies (PAS) Meeting, Maintenance of Certification (MOC) Reviewer.

Nita Davis: Fellow, American Academy of Pediatrics; Member, Alabama Chapter American Academy of Pediatrics; Member, Mobile Pediatric Society.

Kalsang Dolma: Fellow, American Academy of Pediatrics; Member, Alabama Chapter American Academy of Pediatrics; Member, American Medical Association; Member, American Thoracic Society; Member, Indian Academy of Pediatrics; Member, Trainees and Early Career Neonatologist; Member, Vermont Oxford Network Data Base.

Eliane F. Eakin: Charter Member, American College of Pediatricians; Fellow, American Academy of Pediatrics; Fellow, American College of Chest Physicians; Fellow, American Thoracic Society; Member, Alabama Chapter American Academy of Pediatrics; Member, Brazilian Society of Pediatrics; Member, Christian Medical and Dental Society; Member, Mobile Pediatric Society.

Benjamin Estrada: Fellow, American Academy of Pediatrics (AAP); Fellow, Pediatric Infectious Diseases Society (PIDS); Institutional Representative, Southern Society for Pediatric Research (SSPR); Member, Alabama Chapter American Academy of Pediatrics; Member, Alpha Omega Alpha Medical Honor Society; Member, Association of American Medical Colleges (AAMC); Member, Gold Humanism Honor Society; Member, Infectious Diseases Society of America (IDSA); Member, South Bell Conference COVID-19 Committee; Member, Society for Healthcare Epidemiology of America (SHEA); Member, Team-Based Learning Collaborative. Reviewer: *Infectious Diseases in Clinical Practice*.

Fabien Eyal: Member, Alabama Committee on the Fetus and Newborn; Member, Alabama Society of Neonatology; Member, Alpha Omega Alpha Medical Honor Society; Member, American Academy of Pediatrics, Member, American Medical Association; Clinical Champion, Coordinator of Neonatal Monitoring, Office of Rural Health; Member, Southern Society for Pediatric Research; Member, Southeastern Association of Neonatologists; Member, Vermont Oxford National Data Base.

Sheryl Falkos: Fellow, American Academy of Pediatrics; Member, Alabama Chapter American Academy of Pediatrics; Member, Critical Care Section, Society of Critical Care Medicine; Member, Mobile Pediatric Society.

Cristina Gavrilita: Fellow, American Academy of Pediatrics; Member, Alabama Chapter American Academy of Pediatrics; Member, Board of Directors, Ronald McDonald House; Member, Society of Critical Care Medicine; Member and Past President, Mobile Pediatric Society.

Sophia Goslings: Member, Alabama Chapter American Academy of Pediatrics; Member, American Academy of Pediatrics, AAP Section on Hospital Medicine; Member, Association of Pediatric Program Directors; Member, Mobile Pediatric Society; Workshop

Co-Leader: Beyond Tell Me About Yourself – Using Multiple Mini Interviews to Overcome Interview and Selection Challenges; ACGME Annual Education Conference; Workshop Co-Leader: Changing Resident Assessment Experiences Implementing the Pediatric Milestones Assessment Collaborative.

David Gremse: Executive Board, American Academy of Pediatrics, Alabama Chapter; Member, American Board of Pediatrics (ABP); Medical Editor, ABP Subboard of Pediatric Gastroenterology Exam Committee; Member, ABP Long-Term Investment Committee; Member, ABP Credentials Committee; Fellow of the American College of Gastroenterology; Member, ACG Pediatric Gastroenterology Committee; Member, American Gastroenterological Association; Member, American Medical Association; Member, American Pediatric Society; Member, Association of Medical School Pediatric Department Chairs (AMSPDC); President, Gulf Coast Total Care; Member, Mobile Pediatric Society; Member, North American Society of Pediatric Gastroenterology, Hepatology, and Nutrition (NASPGHAN); Member, Society for Pediatric Research; Member, The Gold Humanism Honor Society; Member, Alpha Omega Alpha Medical Honor Society; Editorial Board, *Pediatric Drugs*; Reviewer: *Pediatric Drugs*; *Digestive Diseases and Sciences*; *Pediatrics*; *Journal of Pediatric Gastroenterology and Nutrition*, *Clinical Pediatrics*.

Rashmi Gulati: Fellow, American Academy of Pediatrics; Member, Alabama Chapter American Academy of Pediatrics; Member, American Medical Association; Member: QI/Research subcommittee TECaN; Member: Indian Academy of Pediatrics; Member, Vermont Oxford National Data Base; Member, Society for Pediatric Research; Member, Regional perinatal advisory council and State Perinatal Advisory Council, Alabama Department of Public Health. Abstract Reviewer: *2019 Eastern Society of Pediatrics Research Meeting*. Reviewer: *Journal of Neonatology and Clinical Pediatrics*, *PLOS ONE*, *BMC Pediatrics*.

Charles Miles Harmon: Fellow, American Academy of Pediatrics; Member, Alabama Chapter American Academy of Pediatrics; Member, American Academy of Pediatrics Section on Perinatal Pediatrics; Member, Association Pediatric Program Directors; Member, Vermont Oxford National Data Base.

Linda Hassouneh: Member, Alabama Chapter American Academy of Pediatrics; Member, American Academy of Pediatrics; Member, Pediatric Infectious Diseases Society; Member, Infectious Diseases Society of America; Member, Mobile Pediatrics Society.

Hamayun Imran: Fellow, American Academy of Pediatrics; Member, Alabama Chapter American Academy of Pediatrics; Member, American Society of Hematology; Member, American Society of Pediatric Hematology-Oncology; Member and Local Principal Investigator, Children's Oncology Group; Member, Mobile Pediatric Society.

Anne-Marie Kaulfers: Fellow, American Academy of Pediatrics; Member, Alabama Chapter American Academy of Pediatrics; Member, American Diabetes Association; Member, The Endocrine Society; Member, The Lawson Wilkins Pediatric Endocrine

Society; Member, Mobile Pediatric Society.

Whei Ying Lim: Fellow, American Academy of Pediatrics (AAP); Member, Alabama Chapter American Academy of Pediatrics; Member, Alpha Omega Alpha Medical Honor Society; Member, Mobile Pediatric Society; Member, The Endocrine Society; Member, The Lawson Wilkins Pediatric Endocrine Society.

Sara McConnell: Member, Alabama Chapter American Academy of Pediatrics; Member American Academy of Pediatrics; Member, American College of Physicians; Member, American Medical Association; Member, American Osteopathic Association; Member, Mobile Pediatric Society.

Myria Mack-Williams: Fellow, American Academy of Pediatrics; Member, Alabama Chapter American Academy of Pediatrics; Member, Mobile Pediatric Society; Member, Association of Pediatric Program Directors; Member, Mobile Pediatric Society.

Preethi Marri: Fellow, American Academy of Pediatrics; Member Section on Hematology/Oncology; Member, Alabama Chapter American Academy of Pediatrics; Member, American Society of Pediatric Hematology-Oncology; Member, American Society of Clinical Oncology; Member and Co-PI, Children's Oncology Group; Member, Mobile Pediatric Society.

Brandy Merritt: Member, Alabama Chapter American Academy of Pediatrics; Member, American Academy of Pediatrics; Member, Mobile Pediatric Society; Member, Society of Critical Care Medicine.

Brittany Mock: Member, Alabama Chapter American Association of Pediatrics; Member, American Association of Pediatrics; Member, American College of Physicians; Member, American Medical Association; Member, American Osteopathic Association; Member, Mobile Pediatric Society.

Dunya Mohammad: Fellow, American Academy of Pediatrics (AAP); Member, Alabama Chapter American Academy of Pediatrics; Member, American Society of Pediatric Nephrology; Member, American Society of Transplantation; Member, Mobile Pediatrics Society.

Athira Nair: Fellow, American Academy of Pediatrics; Member, American College of Cardiology; Member, Alabama Chapter American Academy of Pediatrics; Member, American Society for Echocardiogram; Member, Mobile Pediatric Society.

Uzoma Obiaka: Member, Alabama Chapter American Academy of Pediatrics; Member, American Heart Association; Member, American Academy of Pediatrics; Member, American College of Cardiology; Member, Mobile Pediatric Society.

Karen Parsell: Member, Alabama Chapter American Academy of Pediatrics; Member, American Academy of Pediatrics; Member, Medical Society of Mobile County; Member,

Medical Association of the State of Alabama; Member, Mobile Pediatric Society; Section Member, Hospital Medical and LGBTQ+ Health for American Academy of Pediatrics.

Keith Peevy: Member, Alabama State Medical Society; Member, Alpha Omega Alpha Medical Honor Society; Affiliate Member, European Society for Pediatric Research; Member, Medical Society of Mobile County; Member, Southern Society for Pediatric Research.

E. Melissa Perez Garcia; Member, Alabama Chapter American Academy of Pediatrics Member, American Academy of Pediatrics; Member, Endocrine Society; Member, Mobile Pediatric Society; Member, Pediatric Endocrine Society.

Melody Petty: Member, Alabama Chapter American Academy of Pediatrics; Member, American Academy of Pediatrics, Member, Advancing Pediatric Educator Excellence (APEX) Teaching Program 2020 Educator Class, Member Section on Pediatric Hospital Medicine, American Academy of Pediatrics; Member, Mobile Pediatric Society.

Ananthasekar Ponnambalam: Continuing Medical Education Reviewer, Journal of Pediatric Gastroenterology and Nutrition; Fellow, American Academy of Pediatrics (FAAP); Member, American College of Gastroenterology (ACG); Member, American Gastroenterological Association (AGA); Member, Mobile Pediatric Society; Member, North American Society for Pediatric Gastroenterology Hepatology and Nutrition (NASPGHAN); Member, Professional Educational Committee, North American Society for Pediatric Gastroenterology Hepatology and Nutrition (NASPGHAN).

Daniel Preud'Homme: Fellow, American Academy of Pediatrics; Member, Alabama Chapter American Academy of Pediatrics; Member, Mobile Pediatric Society; Member, Quality Improvement Coach and Faculty, Alabama Child Health Initiative Alliance (ACHIA); Reviewer: *Clinical Pediatrics*.

Manimaran Ramani: Co-chair the finance committee for the Newborn Brain Society; Member, Alabama Chapter American Academy of Pediatrics; Member, American Academy of Pediatrics; Member, American College of Healthcare Executives; Member, Mobile Pediatric Society; Member, Southern Pediatric Research Society; Member, Society for Neuroscience; Global Network Member; Lectures: Monitoring with NIRS in Neonatology at the Federation of Neonatology of Mexico; Research: Work with the NIH-funded Global Network Team to conduct neurodevelopmental follow-up research; PI for a multinational clinical study. ABC study (the Azithromycin: Brain neuroprotection for Children). The study is conducted in 5 countries: India, Pakistan, Democratic Republic of Congo, Zambia, and Guatemala; Workshop: Led and conducted a multinational workshop on the Bayley Infant Scale of Development at Lusaka, Zambia

Katrina Roberson-Trammell: Fellow, American Academy of Pediatrics; Board, Gulf Regional Early Childhood Services (GRECS); Member Alabama Chapter American Academy of Pediatrics; Member, Medicaid Quality Assurance Committee; Member, Medical Association of State of Alabama; Member, Mobile Bay Area Medical Association;

Member, Mobile Medical Society; Member, Mobile Pediatric Society; Medical Director, Gulf Coast Total Care; Member, Pediatric and Adult Workgroup, Regional Care Organization-Region E; Member, Children with Medical Complexity Collaborative Improvement and Innovation Network (CMC CoIIN)

Renee Roca-Garcia: Member, Alabama Chapter American Academy of Pediatrics; Member, American Academy of Pediatrics, Pediatrics Section on Hospital Medicine; Member, College of Surgeons and Physicians of Guatemala; Member, Mobile Pediatric Society. Participated in panel and offered comments/perspective treating pediatric patients and families from immigrant communities and their challenges navigating the health care system.

Frederick W. Rowell Jr.: Member, Alabama Chapter American Academy of Pediatrics; Member, American Academy of Pediatrics; Member, Mobile Pediatric Society.

Omar Sanchez: Member, Alabama Chapter American Academy of Pediatrics; Member, American Academy of Pediatrics, AAP Section on Critical Care; Member, College of Surgeons and Physicians of Guatemala; Member, Mobile Medical Society; Member, Mobile Pediatric Society; Member, Pediatric Society of Critical Care Medicine; Member, Society of Critical Care Medicine.

Mukul Sehgal: Member at Large, Sigma Xi Research Honor Society; Member, Alabama Chapter American Academy of Pediatrics; Member, American Academy of Pediatrics (AAP); Member, Society of Critical Care Medicine (SCCM); Member, Society of Pediatric Research (SPR); Member, Multi-disciplinary Critical Care Knowledge Assessment Program (MCKKAP) Committee- SCCM; Reviewer: PedsCCM.org, Reviewer: Society of Critical Care Medicine Congress (SCCM), Reviewer: Pediatric Academic Society (PAS); Reviewer: Journal of Medical Internet Research (JMIR); Reviewer: Internal Medicine Journal; Reviewer: Cureus Journal of Medical Science.

Kamal Sharma: Fellow, American Academy of Pediatrics; Member, Alabama Chapter American Academy of Pediatrics; Member, American Thoracic Society; Member, Society of Critical Care Medicine; Member and Past President, Mobile Pediatric Society; Permanent Member, Nepal Medical Association; Abstract reviewer: *SCCM Congress 2020*.

Abdul Hafeez Siddiqui: Member, Alabama Chapter American Academy of Pediatrics; Member, American Academy of Pediatrics; Member, American Society of Hematology; Member, American Society of Pediatric Hematology/Oncology; Member, Children's Oncology Institute; Member, Mobile Pediatric Society; Member, Pakistan Medical and Dental Council (PMDC).

Penny Stewart: Fellow, American Academy of Pediatrics; Member, Alabama Chapter American Academy of Pediatrics; Member, Mobile Pediatric Society.

Supatida Tengsupakul: Member, Alabama Chapter American Academy of Pediatrics;

Member, American Academy of Pediatrics; Member, Mobile Pediatric Society; Member, Pediatric Infectious Diseases Society; Member, Section on Hospital Medicine, American Academy of Pediatrics; Certificate of Knowledge in Clinical Tropical Medicine and Travelers' Health (CTropMed®).

Bianca Vamesu: Junior Member, Society for Pediatric Research; Member, Alabama Chapter American Academy of Pediatrics; Member, American Academy of Pediatrics; Member, Mobile Pediatric Society; Member, Newborn Brain Society.

Rosa Vidal: Member, Alabama Chapter American Academy of Pediatrics; Member, Section on Critical Care, American Academy of Pediatrics; Member, Mobile Pediatric Society; Member, Pediatric Society of Critical Care Medicine; Member, Society of Critical Care Medicine.

Richard Whitehurst: Member, Alabama Chapter American Academy of Pediatrics; Member, Alabama Physicians Wellness Committee; Member, Alabama Society of Neonatology; Member, American Academy of Pediatrics; Member, American Medical Association; Member, Association Pediatric Program Directors; Member, Medical Association of the State of Alabama (MASA); Member, Medical Society of Mobile County; Member, Southeastern Association of Neonatologists, Inc.; Member, Southern Society for Pediatric Research.

Kathryn Williams: Fellow, American Academy of Pediatrics; Member, Alabama Chapter American Academy of Pediatrics; Member, Ohio Chapter American Academy of Pediatrics; Member, Mobile Pediatric Society.

Felicia Wilson: Board Member, Camp Rap-A-Hope; Co-Chair, Hemoglobinopathy Subcommittee, State of Alabama Newborn Screening Advisory Committee; Fellow, American Academy of Pediatrics; Medical Director, Sickle Cell Disease Association of America, Mobile Chapter; Laboratory Member, Southern Society for Pediatric Research; Member, Alabama Chapter American Academy of Pediatrics; Member, Alabama Sickle Cell Oversight and Regulatory Commission; Member, Children's Oncology Group; Member, Prevention, Early Detection Subcommittee; Member, Alabama Comprehensive Cancer Control Coalition; Member, Section on Hematology/Oncology; Member, American Society of Hematology; Member, Medical Association of the State of Alabama; Member, Mobile Pediatric Society; President, Aubreigh's Army Foundation 328 Board of Directors; Speaker's Bureau, Novartis Pharmaceuticals Corporation;

Michael Zayek: Member, Alabama Chapter American Academy of Pediatrics; Member, Alabama Society of Neonatology; Member, American Academy of Pediatrics (AAP); Member, Southeastern Association of Neonatologists, Inc.; Member, Mobile Pediatric Society; Member, Southern Society for Pediatric Research (SSPR).

VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS

The Department of Pediatrics was delighted to welcome new faculty members. Drs. Ahmed, Altun, Batra, Eakin, McConnell, Mohammad, Obiaka, Perez-Garcia, Ramani, Rowell, Siddiqui, Stewart, Vamesu, and Williams.

Dr. Ahmed joined the faculty as Assistant Professor of Pediatrics in the Division of Pediatric Hospital Medicine in August 2022 after moving from New York. Dr. Ahmed received his medical degree from Cairo University School of Medicine in Cairo, Egypt, followed by pediatric residency training at St. Vincent Medical Center in New York, NY.

Dr. Altun joined the faculty as Assistant Professor of Pediatrics in the Division of Pediatric Gastroenterology. He graduated from Windsor University School of Medicine, in Saint Kitts and Nevis, followed by Pediatric Residency training at the Sacred Heart Hospital in Pensacola, FL and a Pediatric Gastroenterology fellowship at Yale University.

Dr. Batra joined the faculty as Assistant Professor of Pediatrics in the Division of General Pediatrics. She graduated from Himalayan Institute of Medical Sciences, Dehradun, India and completed her Pediatric Residency at the University of South Alabama and remained to join the faculty after residency.

Dr. Eakin joined the faculty as Associate Professor of Pediatrics and as Director of the Division of Pediatric Pulmonology. She graduated from Faculty of Medicine of University of Sao Paulo, in Sao Paulo, Brazil, followed by a Pediatric Residency at State University of New York University Hospital and fellowship training in Pediatric Pulmonology at Children's Hospital of Pittsburgh. Previously, she was Chief of Pediatric Pulmonology at the University of Mississippi Medical Center. Her last academic appointment was at Loma Linda University prior to moving to USA.

Dr. McConnell joined the faculty as Assistant Professor of Pediatrics in the Division of General Pediatrics. She graduated from Lake Erie College of Medicine and completed her Internal Medicine/Pediatric Residency at the University of South Alabama and remained to join the faculty after residency.

Dr. Mohammad joined the faculty as Assistant Professor of Pediatrics and Director of the Division of Pediatric Nephrology. She graduated from Lawler Medical College, Erbil, Iraq, followed by Pediatric Residency training at Hurley Medical Center and a Pediatric Nephrology fellowship at Children's Hospital of Michigan in Detroit.

Dr. Obiaka joined the faculty as Assistant Professor of Pediatrics in the Division of Pediatric Cardiology. She graduated from University of Nigeria, followed by Pediatric Residency training at BronxCare Hospital and a Pediatric Cardiology fellowship at Montefiore of Mt. Sinai in New York.

Dr. Perez-Garcia joined the faculty as Assistant Professor of Pediatrics in the Division of Pediatric Endocrinology and was appointed as one of the Associate Program Directors of the Pediatric Residency Program in 2022. She graduated from Universidad de Los Andes Fundacion Santafe de Bogota in Bogota, Colombia followed by Pediatric Residency

training at the University of South Alabama and Pediatric Endocrinology fellowship at Pittsburgh Children's.

Dr. Ramani joined the faculty as the Lenoir Locke Distinguished Professor of Pediatrics, Chief, Division of Neonatology and Medical Director of the Hollis J. Wiseman Neonatal Intensive Care Unit. He graduated from Chennai Medical College in Chennai, India, followed by Pediatric Residency at Texas Tech Health Sciences Center and a Neonatology fellowship at University of Alabama at Birmingham. He was Medical Director of the Neuro NICU at Children's of Alabama and Associate Fellowship Program Director at UAB.

Dr. Rowell joined the faculty as Assistant Professor of Pediatrics in the Division of Pediatric Hospital Medicine. Dr. Rowell is an alumnus of the University of South Alabama College of Medicine and also completed his pediatric residency training at the University of South Alabama. He served as a Pediatric Hospitalist at Ascension Providence Hospital prior to joining the full-time faculty.

Dr. Siddiqui joined the faculty as Professor of Pediatrics in the Division of Pediatric Hematology/Oncology. He graduated from Dow Medical College in Karachi, Pakistan, followed by Pediatric Residency at John H. Stroger Hospital of Cook County, in Chicago, IL and fellowship training in Pediatric Hematology/Oncology at Children's Hospital of Michigan. He was a member of the faculty and served on the medical staff at USA Children's and Women's Hospital before he became Medical Director of Pediatric Hematology/Oncology at American University in Dubai prior to returning to USA.

Dr. Stewart joined the faculty as Assistant Professor of Pediatrics in the Division of General Pediatrics. She graduated from the Alabama College of Osteopathic Medicine in Dothan and completed her Pediatric Residency at the Medical College of Georgia prior to joining the faculty.

Dr. Vamesu joined the faculty as Assistant Professor of Pediatrics in the Division of Neonatology. She graduated from Ovidius University, in Constanta, Romania, followed by Pediatric Residency at Driscoll Children's Hospital in Corpus Christi, TX and a Neonatology fellowship at the University of Alabama in Birmingham.

Dr. Williams joined the faculty as Assistant Professor of Pediatrics in the Division of Pediatric Gastroenterology in 2022. She graduated from the Kirksville School of Osteopathic Medicine and then completed her pediatric residency at Dayton Children's Hospital and Wright State University. She received her fellowship training in Pediatric Gastroenterology at Mott Children's Hospital of the University of Michigan in Ann Arbor, MI. After completing fellowship, she returned to Dayton Children's as Assistant Professor of Pediatrics at Wright State University prior to moving to USA.

The Department of Pediatrics recognized two leaders in the Department for their dedicated service throughout their careers as Dr. Rosa Vidal retired as Medical Director of the Pediatric Intensive Care Unit, and Dr. Cindy Sheets retired after many years of service as Director of the Reach Out and Read Program.

Dr. Melody Petty was recognized by the USACOM Class of 2022 as Distinguished Faculty at the Honors Convocation.

Outstanding Resident Advocate Awards were presented by the Pediatric Residency Class of 2022 to: Karen Parsell, MD; Maria Renee Roca, MD; Myria Mack-Williams, MD; Haidee T. Custodio, MD; Omar Sanchez, MD; Kari Bradham, DO; Latasha Williams, C-TAGME; Rosa Vidal, MD; Ananthasekar Ponnambalam, MD; Lynn Batten, MD; Nita Davis, MD; Kalsang Dolma, MD; Anne-Marie Kaulfers, MD; Hamayun Imran, MD; Preethi Marri, MD; and Mukul Sehgal, MD.

Diversity Coalition Exemplary Leadership Awards were presented to: Maria Renee Roca, MD; LaTasha Williams, C-TAGME; and Linda Hassouneh, MD.

The Robert C. Boerth Award for the Best Attending was presented to: Karen Parsell, MD.

The Award for the Best Resident Educator – Inpatient were presented to: Karen Parsell, MD and Linda Hassouneh, MD.

The Award for the Best Resident Educator – Outpatient were presented to: Kari Bradham, DO and Daniel Preud’Homme, MD.

The twenty-fourth recipient of the Hollis J. Wiseman Award for Excellence in Pediatrics during the Pediatric Clerkship for the Class of 2022 was Elizabeth Hernandez.

Of the pediatric housestaff completing residency training in 2022, one entered private practice, nine entered into fellowship training, and two remained in the department as Pediatric Chief Residents. Two graduating Medicine-Pediatrics residents entered private practice and one entered into fellowship training. Twelve new first year residents entered the pediatric residency program, and three first-year residents entered the combined Medicine-Pediatrics Residency Program.

Drs. J. C. Gonzalez and Aishah Najam completed their terms as Pediatric Chief Residents and Drs. Natalie Carlisle and Dr. Stephanie Leon Paredes took over duties as the Pediatric Chief Residents for the 2022-2023 academic year.

The scholarly activities by the faculty of the Department of Pediatrics this year included 17 original articles, and 16 published abstracts. Departmental faculty were active in mentoring pediatric residents in clinical research. There were 6 poster presentations and 6 oral presentations at the Southern Regional Meeting and 7 presentations at National meetings (PAS, NASPGHAN, ACC) by pediatric residents who were the first authors with senior authorship by members of the pediatric faculty.

The Department of Pediatrics welcomed new leadership in its undergraduate and graduate medical education programs. Dr. Richard Whitehurst completed his second full year as Pediatric Residency Program Director. Drs. Karen Parsell and E. Melissa Perez Garcia

were named Assistant Pediatric Residency Program Directors. Dr. Lynn Batten completed her first full year as Pediatric Clerkship Director. Dr. Rick Rowell was named Assistant Clerkship Director.

The USA Department of Pediatrics is proud to promote the Pediatric Residency Program Diversity Coalition. The coalition publishes the newsletter “Variegated”, which celebrates the diversity that exists within the department. The department derives its strength from its diversity that enriches the skills, characteristics and attributes of our members. The department congratulates Myria Mack-Williams, MD, and Haidee Custodio, MD, both Associate Program Director of the Pediatric Residency are Co-Directors of the Diversity Coalition with the assistance of LaTasha Williams, our Pediatric Residency Program Coordinator. As pediatricians, we see the damaging effects of health disparities on children and their families. For the benefit of all children, the USA Department of Pediatrics pledges to do its part to commit to working with others to eliminate inequities in healthcare. We pledge to do our part to create a society where all children can grow up with the same expectation of safety, health, and opportunity.

Health inequities create barriers to achieving good health. Latinos who are monolingual in Spanish have been reported to experience worse health outcomes than those who are primarily English-speaking or bilingual in English and Spanish. It is these principles that led our pediatric residents and staff to host a Community Health Fair and to create a Spanish Speaking clinic within the USA Health General Pediatrics clinic. All those involved in the Spanish Speaking Clinic are working to identify health disparities that they can address to achieve better health outcomes for all children. The Spanish Speaking Clinic is one example where achieving health equity is incorporated into the care we deliver, with a goal of helping the children and families we serve live healthier lives and to help make the health system work better for everyone.

2021-2022
Summary of Scholarly Activities
Department of Pharmacology

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Annamdevula N, Johnson S, Pleshinger DJ, Castleberry S, Russell W, Britain AL, Francis CM, Rich TC, Leavesley SJ. Hyperspectral imaging and adaptive thresholding to identify agonist-induced cAMP signals in pulmonary microvascular endothelial cells. Proc SPIE Int Soc Opt Eng. 2022 Jan-Feb;11966:1196604.

Arbov E, Tayara A, Wu S, Rich TC, Wagener BM. COVID-19 and long-term outcomes: lessons from other critical care illnesses and potential mechanisms. Am J Respir Cell Mol Biol. 2022 Sep;67(3):275-283.

Belfleur L, Sonavane M, Hernandez A, Gassman NR, Migaud ME. Solution chemistry of dihydroxyacetone and synthesis of monomeric dihydroxyacetone. Chem Res Toxicol. 2022 Apr 18;35(4):616-625.

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Browning CM, Mayes S, Mayes SA, Rich TC, Leavesley SJ. Microscopy is better in color: development of a streamlined spectral light path for real-time multiplex fluorescence microscopy. Biomed Opt Express. 2022 Jul 1;13(7):3751-3772.

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Fujii S, Sobol RW, Fuchs RP. Double-strand breaks: when DNA repair events accidentally meet. *DNA repair (Amst.)*. 2022 Apr;112:103303.

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II. PUBLISHED ABSTRACTS

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Bhadra A, Hewes JL, Zhou C, Lee J, Bauer NN. Cyclic adenosine monophosphate (cAMP) enriched extracellular vesicle signaling as an “extracellular compartment” in pulmonary hypertension. *Am J Respir Crit Care Med*. 2022 May;205:A4428. Available from: https://www.atsjournals.org/doi/epdf/10.1164/ajrccm-conference.2022.205.1_MeetingAbstracts.A4428

Browning CM, Parker M, Rich TC, Leavesley SJ. Hyperspectral endoscope system: an optics upgrade for real-time spectroscopic analysis. SoutheastCon 2022. 2022 Mar 31-Apr 3; Mobile, AL. p. 438-440.

Chand HS, Devadoss D, Manevski M, Moukette B, Kawaguchi S, Sapulveda MN, Barupala NP, Unwalla HJ, Rahman I, Borchert GM, Kim IM. MiR-150-5p modulates pulmonary inflammation and secretory mucin expression associated with cigarette smoke-induced chronic obstructive pulmonary disease. *Am J Respir Crit Care Med*. 2022 May;205:A4653. Available from: https://www.atsjournals.org/doi/epdf/10.1164/ajrccm-conference.2022.205.1_MeetingAbstracts.A4653

Daly GT, Moore J, Pastukh V, Langley RJ, Hartsell E, Lee Y, Simmons J, Kutcher M, Gillespie MN. Transfusion of fresh frozen plasma containing mitochondrial DNA damage associated molecular patterns adversely impacts clinical outcomes in moderately injured human patients. *Am J Respir Crit Care Med*. 2022 May;205:A2448. Available from: https://www.atsjournals.org/doi/epdf/10.1164/ajrccm-conference.2022.205.1_MeetingAbstracts.A2448

Hernandez A, Migaud M. Dihydroxyacetone exposure induces metabolic and mitochondrial crisis in cardiac, H9c2, cells. Southeastern Chapter of the Society of Toxicology [virtual meeting]; 2021 Nov 18-19; Tampa, FL.

Hewes JL, Bhadra A, Zhou C, Lee J, Bauer NN. Gender differences in cytokines in a pulmonary hypertensive model. *Am J Respir Crit Care Med*. 2022 May;205:A3065. Available from: https://www.atsjournals.org/doi/epdf/10.1164/ajrccm-conference.2022.205.1_MeetingAbstracts.A3065

Houserova D, Brown CL, Bauer NR, Huang J, Audia JP, Foster JW, Borchert GM. Salmonella outer membrane vesicles contain tRNA fragments (tRFs) that inhibit bacteriophage P22 infection. RNA Society 27th Annual Meeting; 2022 May 31-Jun 5; Boulder, CO.

Kasukurthi MV, Houserova D, Huang Y, Li S, Li D, Lin J, Yang G, Tan S, Bourrie D, Ma B, Borchert GM. SURFR: A real-time platform for non-coding RNA fragmentation analysis using wavelets. 2021 IEEE International Conference on Bioinformatics and Biomedicine (BIBM); 2021 Dec 9-12; Houston, TX. p. 2720-2727. Available from: <https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=9669696>

Li S, Huang Y, Kasukurthi MV, Yang J, Li D, Yang G, Lin J, Tan S, Bourrie D, Ma B, Borchert GM, Huang J. A new classification algorithm and a new oversampling method of

mapping common data elements to the BRIDG model. 2021 IEEE International Conference on Bioinformatics and Biomedicine (BIBM); 2021 Dec 9-12; Houston, TX. p. 2788-2795. Available from: <https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=9669697>

Manevski M, Devadoss D, Long C, Singh S, Nasser MW, Borchert G, Nair M, Rahman I, Sopori M, Chand H. Primary airway epithelial lncRNAs are upregulated among COPD patients and are implicated in control cigarette smoke-induced inflammation and mucus expression. 2021 IEEE International Conference on Bioinformatics and Biomedicine (BIBM) Workshop on Long Non-Coding RNAs; 2021 Dec 9-12; Houston, TX. Abstract no. S08213.

Pastukh VM, Francis A, Langley RJ, Prey B, Williams J, Daly GT, Reynolds G, Ieronimakis N, Eckert M, Bingham J, Martin M, Gillespie MN. Pharmacologically-enhanced mitochondrial (mt) DNA repair suppresses organ dysfunction in a porcine model of hemorrhage and truncal ischemia-reperfusion injury. Am J Respir Crit Care Med. 2022 May;205:A3808. Available from: https://www.atsjournals.org/doi/epdf/10.1164/ajrccm-conference.2022.205.1_MeetingAbstracts.A3808

Roberts JT, Mallory XF, Bass HW, Daly GT, Houserova D, Langley RJ, Borchert GM, Pastukh VM, Gillespie MN. Alternate splicing in the transcriptional response to hypoxia. Am J Respir Crit Care Med. 2022 May;205:A4617. Available from: https://www.atsjournals.org/doi/epdf/10.1164/ajrccm-conference.2022.205.1_MeetingAbstracts.A4617

Shaw T, Grant K, Gandotra S, Hartsell E, Daly GT, Purcell LD, Hamo M, Gillespie MN, Files DC, Morris PE, Langley RJ. Metabolomic biomarkers measured at patient discharge predict long-term physical function in survivors of acute respiratory failure. Am J Respir Crit Care Med. 2022 May;205:A3814. Available from: https://www.atsjournals.org/doi/epdf/10.1164/ajrccm-conference.2022.205.1_MeetingAbstracts.A3814

Solodushko V, Fouty B. Product development: minimal PiggyBac vector; non-viral vector for gene therapy. BIO Alabama; 2022 Apr 25-26; Mountain Brook, AL.

Yuzefovych L, Pastukh V, Kahn A, Rachek L. Targeting TAT-hOGG1 into mitochondria as a therapeutic strategy for breast cancer progression. Mod Pathol. 2022 Mar;35(2 Suppl):1267. Abstract no. 1169.

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

Bauer N. Invited speaker. So, you want to write a T32? American Thoracic Society 2022 International Conference; 2022 May 17; San Francisco, CA.

Borchert G. Invited speaker. Exosomal tRNA fragments may constitute an innate viral defense against SARS-CoV-2 and other respiratory RNA viruses [virtual presentation]. National Science Foundation RAPID Meeting; 2021 Dec 9; Alexandria, VA.

Dhuguru J, Migaud M. Invited speakers. Deacetylation of nucleosides by lysine-assisted methanolysis of esters and amides. American Chemical Society Fall 2022; 2022 Aug 25; Chicago, IL.

Langley RJ. Invited speaker. Acute and persistent metabolic dysregulation in acute respiratory failure point to novel biomarkers and future therapeutic strategies [virtual presentation]. University of Kentucky Research Alliance for Lung Disease Research Seminar; 2021 Dec 16; Lexington, KY.

Migaud ME. Invited speaker. The NAD(P)(H) metabolome. Children's Nutrition Research Center Seminar Series; 2022 May 12; Baylor, TX.

Migaud ME. Invited speaker. Manipulating and tracing the bioavailability of nutritional vitamin B3 [virtual presentation]. NoAD Oslo Seminar Series; 2022 May 30; Oslo, Norway.
Available from: <https://noage100.files.wordpress.com/2022/06/video1354620197.mp4>

Migaud ME. Invited speaker. The untold story of NAD(P)(H) metabolome. The NAD + Metabolism and Signaling Conference; 2022 Jun 30; Steamboat Springs, CO.

Rich TC. Invited speaker. Systems-level approaches for interrogating GPCR networks. Gordon Research Conference; 2022 Jun 13; Boston, MA.

Sobol RW. Invited speaker. The PARP/NAD⁺/SIRT6 axis modulates the temporal dynamics of base excision / single-strand break repair protein complex assembly and disassembly. Gordon Research Conference, Mammalian DNA Repair; 2021 Nov 4; Ventura, CA.

Sobol RW. Invited speaker. Regulation and dynamics of global and replication associated base excision repair. Massey Cancer Center, Virginia Commonwealth University; 2021 Dec 13; Richmond, VA.

Sobol RW. Invited speaker. Base excision repair mediated regulation of the replication-stress induced intra S-phase checkpoint. Gordon Research Conference, DNA Damage, Mutation and Cancer; 2022 Mar 10; Ventura, CA.

Sobol RW. Invited speaker. Introduction and highlights honoring Sam Wilson. 2nd Southern Genome Maintenance Conference; 2022 June 26; Miami, FL.

V. NATIONAL PROFESSIONAL RECOGNITION

Abu-Bakr Al-Mehdi: Reviewer, USMLE Pharmacology Subject Exam. Member, NBME Test Material Development Committee, Pharmacology & Biochemistry for Step 1, Step 2CK, and Step 3.

Natalie N. Bauer: Standing Member, Respiratory Integrative Biology and Translational Research (RIBT) study section of NHLBI. Journal Reviewer, *Circulation*, *Scientific Reports*, *American Journal of Physiology Lung*, *Science Translational Medicine*, *Respiratory Research*, *Arteriosclerosis, Thrombosis, and Vascular Biology*, *Pulmonary Circulation*, *Cardiovascular Research*. Co-Chair, American Thoracic Society PhD Working Group. Co-Chair, American Thoracic Society Science and Innovation Center basic scientists' reception and breakout room discussion. Member, ATS Pulmonary Circulation Assembly Executive Committee.

Glen M. Borchert: Editor-in-Chief, *Journal of Gene Regulation*. Editorial board member, *PeerJ*. Reviewer, *International Journal of Molecular Sciences*, *RNA Biology*, *DNA Repair*, *Scientific Reports*, *Frontiers in Immunology*. Grant reviewer, NSF Genetic Mechanisms review panel, NSF Graduate Research Fellowships Program review panel, Center for Clinical and Translational Science NIH-style grant ad hoc review, Israel Science Foundation grant ad hoc review.

Jennifer E. Clark: Reviewer, *Cancer Drug Resistance*, *DNA Repair*, *PLOS ONE*, *Scientific Reports*.

Qingming Fang: Reviewer, *Nucleic Acids Research*, *Mutation Research*, *Life Sciences*, *Aging*, *Biomolecules*, *Cells*, *Journal of Neuro-Oncology*, *Cancer Drug Research*, *Libyan Journal of Medical Sciences*.

Mark N. Gillespie: Co-director, UAB Clinical and Translational Sciences Award Executive Committee. Site leader, UAB CTSA sub-award. Member, Alabama Rare Disease Advisory Council. Grant reviewer and member, Center for Clinical and Translational Science, Prevention and Early Treatment of Acute Lung Injury. Reviewer, *Nucleic Acids Research*, *American Journal of Physiology: Lung Cell and Molecular Physiology*, *Science Translational Medicine*.

Christopher A. Koczor: Reviewer, *PLOS ONE*, *DNA Repair*, *Journal of Neuro-Oncology*, *Laboratory Investigation*.

Raymond J. Langley: Reviewer, *Clinical and Translational Medicine*, *Scientific Reports*, *Molecular Omics*, *eBioMedicine*, *Frontiers in Immunology*, *Bioengineered*, *Journal of Advanced Research*, *Journal of Infectious Disease*. Member, American Thoracic Society Critical Care Committee.

Jianfeng Li: Editor, *Medicine*, *Journal of Vaccines*, *Immunology and Immunopathology*. Reviewer, *DNA Repair*, *PLOS ONE*, *Cancers*, *Journal of Personalized Medicine*, *Biomolecules*, *Journal of Clinical Medicine*, *Healthcare*.

Marie E. Migaud: Chair-elect, American Chemical Society local section. Grant reviewer, Small Business Innovation Research and Specialized Programs of Research Excellence (SPORE) ad hoc committees. Reviewer, *Cancer Letters*, *Nutrients*, *Antioxidants*, *Biochemical Journal*, *Journal of Medicinal Chemistry*, *Journal of Biological Chemistry*, *Tetrahedron*, *Organic Letters*, *Journal of Organic Chemistry*, *Chemical Communication*, *Green Chemistry*, *Carbohydrate Research*, *Journal of Pharmacy and Pharmacology*, *Biological and Medicinal Chemistry Letters*, *Organic and Biomolecular Chemistry*, *Journal of Carbohydrate Chemistry*, *Nucleoside, Nucleotide & Nucleic Acids*.

Lyudmila I. Rachek: Grant reviewer, American Heart Association Pre-Post Doctoral Award “Cell Transport & Lipids” study section, American Heart Association Career Development Award “Vascular 1” study section. Topic editor, *Nutrients*. Reviewer, *Antioxidants*, *Nutrients*, *Frontiers in Immunology*, *International Journal of Molecular Sciences*, *Biomolecules*, *Cells*, *Food Science and Human Wellness*, *International Journal of Environmental Research and Public Health*, *Biomedicines*.

Thomas C. Rich: Grant reviewer, NIH ZRG1 CB-T(30) ad hoc review panel, NIH ZMH1 ERB-E(01) ad hoc review panel. Reviewer, *Signal Processing: Image Communication*, *Infrared Physics and Technology*, *Optics and Lasers in Engineering*, *Journal of Photogrammetry and Remote Sensing*, *Spectrochimica Acta Part A*.

Mykhaylo Ruchko: Reviewer, *BMC Immunology*.

Robert W. Sobol: Grant reviewer, NIH ZRG1 CB-L(02)M Special Emphasis Study Section, Dutch Research Council NWO proposal review panel, Israel Science Foundation ad hoc review panel, NIH ZRG1 F09A-R(20)L Special Emphasis Panel/Scientific Review Group. Associate Editor, *DNA Repair*, *NAR Cancer*. Editorial board member, *PLOS ONE*, *Mutation Research – Fundamental and Molecular Mechanisms of Mutagenesis*, *Environmental and Molecular Mutagenesis*. Reviewer, *Biochemistry*, *Biomolecules*, *Cellular and Molecular Life Sciences*, *DNA Repair*, *FASEB J*, *Frontiers in Pharmacology*, *Nature Communications*, *Journal of Chemotherapy*, *Redox Biology*, *NAR Cancer*, *Scientific Reports*, *Science Advances*, *Cell Death & Disease*, *JACS Au*, *PNAS*, *Nucleic Acids Research*, *Seminars in Cell and Developmental Biology*, *eLife*, *PNAS-NEXUS*, *Cell Chemical Biology*. Invited editor, *Frontiers in Cell and Developmental Biology*, *Cancer Drug Resistance*. Board member, Environmental Mutagenesis and Genomics Society Endowment Fund.

Victor Solodushko: Reviewer, *BMC Research Notes*, *BMC Microbiology*, *Molecular Pharmaceutics*, *Nucleic Acids Research*.

VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS

Our Department’s roster decreased by one at the end of this fiscal year. Dr. Robert Sobol accepted an offer from Brown University to fulfill several roles: Associate Director for Basic Research & Co-leader of the Cancer Biology Program, Legorreta Cancer Center at Brown University; Professor, Department of Pathology and Laboratory Medicine, Brown

University Medical School; Associate Director, Joint Program in Cancer Biology, Lifespan Cancer Institute; and Affiliate, Brown Institute for Translational Science.

Advances have been made and accomplishments were recognized along a number of fronts, including continued development of the “omics” research group, continued to assimilate MCI faculty into Department, took advantage of COVID-related and other special funding opportunities, continued efforts directed at IP development (as well as traditional grants), encouraged robust participation by faculty in summer medical student research program, made small but significant strides towards establishing a trauma research center, and assisted faculty members in increasing submission rate of extramural grants.

In terms of our educational mission, Department faculty contributed substantively to medical, graduate, and undergraduate education by serving in important roles, including module directors, thread leaders, lecturers and proctors, and mentors. Student teaching evaluations and subjective assessments are uniformly positive, in some instances placing our faculty among the top educators in the College of Medicine.

The Department’s research programs remained robust and productive, despite the continued interruption and inconveniences of supply shortages. Our funding portfolio is expanding, and we have grown into new areas, including novel strategies to treat COVID-19. Our efforts, inaugurated several years ago, to recruit faculty with expertise in “omics” – e.g., transcriptomics, metabolomics – and the Department’s evolving focus on “translational research” – defined broadly as the goal to advance ideas conceived at the laboratory bench to clinical application – have been important catalysts in the growth of our research programs. Not to be overlooked, however, were the many contributions from our collaborators in other Basic Science and Clinical Departments at USA and clinician-scientists from other institutions. Interested readers are urged to skim the Department’s portfolio of grant support and publication list to get a more complete appreciation for the importance of our research and the productive nature of our collaborations.

Service to the academic and local community remains an important component of the Department’s mission. In this regard, many of our faculty served on prestigious grant review groups. Department faculty also review manuscripts submitted for publication to all notable scientific journals relevant to their areas of expertise.

2021-2022
Summary of Scholarly Activities
Department of Physiology & Cell Biology

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Adams D, Choi CS, Sayner SL. Pulmonary endothelial cells from different vascular segments exhibit unique recovery from acidification and Na⁺/H⁺ exchanger isoform expression. PLoS One. 2022 May 3;17(5):e0266890.

Bhadra A, Scruggs AK, Leavesley SJ, Annamdevula N, George AH, Britain AL, Francis CM, Knighten JM, Rich TC, Bauer NN. Extracellular vesicle-induced cyclic AMP signaling. Cell Signal. 2022 Jul;95:110348.

Choi CS, Gwin M, Voth S, Kolb C, Zhou C, Nelson AR, deWeever A, Koloteva A, Annamdevula NS, Murphy JM, Wagener BM, Pittet JF, Lim SS, Balczon R, Stevens T, Lin MT. Cytotoxic tau released from lung microvascular endothelial cells upon infection with *Pseudomonas Aeruginosa* promotes neuronal tauopathy. J Biol Chem. 2022 Jan;298(1):101482.

Hardy KS, Tuckey AN, Renema P, Patel M, Al-Medhi AB, Spadafora D, Schlumpf CA, Barrington RA, Alexeyev MF, Stevens T, Pittet JF, Wagener BM, Simmons JD, Alvarez DF, Audia JP. ExoU induces lung endothelial cell damage and activates pro-inflammatory Caspase-1 during *Pseudomonas Aeruginosa* infection. Toxins (Basel). 2022 Feb 18;14(2):152.

Jeong K, Murphy JM, Kim JH, Campbell PM, Park H, Rodriguez YAR, Choi CS, Kim JS, Park S, Kim HJ, Scammell JG, Weber DS, Honkanen RE, Schlaepfer DD, Ahn EE, Lim SS. FAK activation promotes SMC dedifferentiation via increased DNA methylation in contractile genes. Circ Res. 2021 Dec 3;129(12):e215-e233.

Johnson S, Pleshinger DJ, Jalkh J, Ijaz Z, Annamdevula N, Britain AL, Francis CM, Desphande D, Leavesley SJ, Rich TC. Measurement of agonist-induced Ca²⁺ signals in human airway smooth muscle cells using excitation scan-based hyperspectral imaging and image analysis approaches. Proc SPIE Int Soc Opt Eng. 2022 Jan-Feb;11964:119640J.

Kar J, Cohen MV, McQuiston SA, Poorsala T, Malozzi CM. Direct left-ventricular global longitudinal strain (GLS) computation with a fully convolutional network. J Biomech. 2022 Jan;130:110878.

Kozhukhar N, Fant A, Alexeyev MF. Quantification of mtDNA content in cultured cells by direct droplet digital PCR. Mitochondrion. 2021 Nov;61:102-113.

Kozhukhar N, Spadafora D, Rodriguez YAR, Alexeyev MF. A method for in situ reverse genetic analysis of proteins involved mtDNA replication. Cells. 2022 Jul 11;11(14):2168.

Lee JY, Stevens RP, Kash M, Alexeyev MF, Balczon R, Zhou C, Renema P, Koloteva A, Kozhukhar N, Pastukh V, Gwin MS, Voth S, deWeever A, Wagener BM, Pittet JF, Eslaamizaad Y, Siddiqui W, Nawaz T, Clarke C, Fouty BW, Audia JP, Alvarez DF, Stevens T. Carbonic anhydrase IX and hypoxia promote rat pulmonary endothelial cell survival during infection. *Am J Respir Cell Mol Biol*. 2021 Dec;65(6):630-645.

Martin TR, Zemans RL, Ware LB, Schmidt EP, Riches DWH, Bastarache L, Calfee CS, Desai TJ, Herold S, Hough CL, Looney MR, Matthay MA, Parikh SM, Stevens T, Thompson BT. New insights into clinical and mechanistic heterogeneity of the acute respiratory distress syndrome: summary of the Aspen Lung Conference 2021. *Am J Respir Cell Mol Biol*. 2022 Jun 9. doi. 10.1165/rcmb.2022-0089WS.

Nguyen A, Battle K, Paudel SS, Xu N, Bell J, Ayers L, Chapman C, Singh AP, Palanki S, Rich T, Alvarez DF, Stevens T, Tambe DT. Integrative toolkit to analyze cellular signals: forces, motion, morphology and fluorescence. *J Vis Exp*. 2022 Mar 5;181:e63095.

Popov SV, Maslov LN, Naryzhnaya NV, Mukhomezyanov AV, Krylatov AV, Tsibulnikov SY, Ryabov VV, Cohen MV, Downey JM. The role of pyroptosis in ischemic and reperfusion injury of the heart. *J Cardiovasc Pharmacol Ther*. 2021 Nov;26(6):562-574.

Rich TC, Xin W, Leavesley SJ, Francis M, Taylor MS. Ion channel-based reporters for cAMP detection. In: Zaccolo M, editor. *cAMP Signaling*. New York: Humana; 2022. Chapter 17, p. 265-279.

Saiyasit N, Butlig ER, Chaney SD, Traylor MK, Hawley NA, Randall RB, Bobinger HV, Frizell CA, Trimm F, Crook ED, Lin M, Hill BD, Keller JL, Nelson AR. Neurovascular dysfunction in diverse communities with health disparities – contributions to dementia and Alzheimer’s disease. *Front Neurosci*. 2022 Jun 29;16:915405.

Shokolenko I, Alexeyev M. Mitochondrial DNA: consensuses and controversies. *DNA*. 2022 Jun 10;2(2):131-148. Available from: <https://www.mdpi.com/2673-8856/2/2/10/html>

Silva NCBS, Bracko O, Nelson AR, de Oliveira FF, Robison LS, Shaaban CE, Hainsworth AH, Price BR. Vascular cognitive impairment and dementia: an early career researcher perspective. *Alzheimers Dement (Amst)*. 2022 Apr 27;14(1):e12310.

Stevens RP, Alexeyev MF, Kozhukhar N, Pastukh V, Paudel SS, Bell J, Tambe DT, Stevens T, Lee JY. Carbonic anhydrase IX proteoglycan-like and intracellular domains mediate pulmonary microvascular endothelial cell repair and angiogenesis. *Am J Physiol Lung Cell Mol Physiol*. 2022 Jul 1;323(1):L48-L57.

Taylor MS, Lowery J, Choi CS, Francis M. Restricted intimal Ca²⁺ signaling associated with cardiovascular disease. *Front Physiol*. 2022 Mar 22;13:848681.

Zak M, Kestler B, Cornwell T, Taylor MS. Augmented $K_{Ca2.3}$ channel feedback regulation of oxytocin stimulated uterine strips from nonpregnant mice. *Int J Mol Sci*. 2021 Dec 18;22(24):13585.

II. PUBLISHED ABSTRACTS

Bauman AJ, Traylor MK, Saiyasit N, Butlig EAR, Chaney SD, Hawley NA, Randall RB, Bobinger HV, Frizell CA, Trimm F, Crook ED, Lin M, Hill BD, Fouty B, Keller JL, Nelson AR. Vascular dysfunction in health disparities – unraveling contributions to dementia and Alzheimer’s disease in South Alabama. 2022 Alzheimer’s Association International Conference; 2022 Jul 31-Aug 4; San Diego, CA. Abstract no. P2-341.

Bhadra A, Hewes JL, Zhou C, Lee Y, Bauer NN. Cyclic adenosine monophosphate (cAMP) enriched extracellular vesicle (EV) signaling as an 'extracellular compartment' in pulmonary hypertension. *Am J Respir Crit Care Med*. 2022 May;205:A4428.
Available from: https://www.atsjournals.org/doi/epdf/10.1164/ajrccm-conference.2022.205.1_MeetingAbstracts.A4428

Bobinger HV, Bauman AJ, Randall RB, Saiyasit N, Nelson AR. $A\beta_{1-42}$ oligomers induce pericyte dysfunction via p75 neurotrophin receptor. 2022 Alzheimer’s Association International Conference; 2022 Jul 31-Aug 4; San Diego, CA. Abstract no. P4-113.

Cohen MV, Yang XM, Tuckey AN, Audia J, Downey JM. Reperfusion injury is reduced by antagonism of NLRP3’s Caspase-1. *Circulation*. 2021 Nov 16;144(Suppl 1):A13089. Abstract no. A13089.

Deweever A, Choi CS, Pastukh V, Gwin MS, Voth SB, Subedi Paudel S, Bauman AJ, Kozhukhar N, Lee JY, Battles K, Francis CM, Leavesley S, Alexeyev M, Nelson A, Lin MT, Balczon R, Stevens T. Autofluorescent detection of cytotoxic tau as a putative point of care method. *Am J Respir Crit Care Med*. 2022 May;205:A5145.
Available from: https://www.atsjournals.org/doi/epdf/10.1164/ajrccm-conference.2022.205.1_MeetingAbstracts.A5145

Garriss S, Choi CS, Taylor MS, Audia JP, Weber DS. A novel method for dual measurements of dynamic calcium and barrier permeability. *Vascular Biology* 2021. 2021 Oct 25-29; Germantown, MD. Abstract no. 723.
Available from: https://academy.navbo.org/navbo/2021/navbo-vascular-biology-2021/344713/sage.garriss.a.novel.method.for.dual.measurements.of.dynamic.calcium.and.html?f=menu%3D6%2Abrowseby%3D8%2Asortby%3D2%2Ace_id%3D2096%2Aot_id%3D26330%2Amarker%3D1565 [Subscription required].

Garriss S, Taylor MS, Audia JP, Weber DS. A novel method for dual measurements of dynamic calcium and barrier permeability. 10th Annual Alabama Advanced Imaging Consortium Virtual/Hybrid Retreat; 2021 Jul 30; Birmingham, AL. Abstract no. 5.

Gwin MS, Geurts A, Zhou C, Lin M, Voth SB, Alexeyev M, Pastukh V, Lee JY, Balczon R, Stevens T. A first-in-kind knockout rat reveals a lung- and brain-protective role for gamma secretase activating protein. *Am J Respir Crit Care Med*. 2022 May;205:A3118. Available from: https://www.atsjournals.org/doi/epdf/10.1164/ajrccm-conference.2022.205.1_MeetingAbstracts.A3118

Hewes JL, Bhadra A, Zhou C, Lee JY, Bauer NN. Gender differences in cytokines in a pulmonary arterial hypertensive model. *Am J Respir Crit Care Med*. 2022 May;205:A3065. Available from: https://www.atsjournals.org/doi/epdf/10.1164/ajrccm-conference.2022.205.1_MeetingAbstracts.A3065

Khan S, Bauman AJ, Benson AJ, ElKadi O, Nelson AR. Identifying matrix- and transporter-type pericytes in human brain. 2022 Alzheimer's Association International Conference; 2022 Jul 31-Aug 4; San Diego, CA. Abstract no. P4-123.

Knighten J, Aziz T, Taylor MS, Francis CM. Design and validation of a parallel plate flow chamber for investigating wall shear stress-induced second messenger signals in the vascular endothelium. *Am J Respir Crit Care Med*. 2022 May;205:A4616. Available from: https://www.atsjournals.org/doi/epdf/10.1164/ajrccm-conference.2022.205.1_MeetingAbstracts.A4616

Lin MT, Choi CS, Gwin M, Voth S, Kolb C, Zhou C, Nelson AR, deWeever A, Koloteva A, Annamdevula NS, Murphy JM, Wagener BM, Pittet JF, Lim SS, Balczon R, Stevens T. Pulmonary endothelial tau aggregation after infection. *FASEB J*. 2022 May;36(S1):R4516. Available from: <https://faseb.onlinelibrary.wiley.com/doi/10.1096/fasebj.2022.36.S1.R4516>

Randall RB, Bauman AJ, Bobinger H, Saiyasit N, Nelson AR. Susceptibility of aged pericytes to A β 1-42 oligomers. 2022 Alzheimer's Association International Conference; 2022 Jul 31-Aug 4; San Diego, CA. Abstract no. P4-121.

Saiyasit N, Jearjaroen P, Bauman AJ, Nelson AR. O-GlcNAcylation modulates GLUT1 levels at the blood-brain barrier. 2022 Alzheimer's Association International Conference; 2022 Jul 31-Aug 4; San Diego, CA. Abstract no. P4-119.

Sayner SL, Choi CS, Adams D. Pulmonary endothelial cells from different vascular compartments exhibit unique recovery from acidification and Na⁺/H⁺ exchanger isoform expression. *FASEB J*. 2022 May;36(S1):R4574. Available from: <https://faseb.onlinelibrary.wiley.com/doi/10.1096/fasebj.2022.36.S1.R4574>

Sen P, Choi CS, Taylor M. Comparison of dynamic calcium signaling profiles on activation of TRPV4 channels and T-type calcium channels in pulmonary microvasculature. *FASEB J*. 2022 May;36(S1):R5749. Available from: <https://faseb.onlinelibrary.wiley.com/doi/10.1096/fasebj.2022.36.S1.R5749>

Sen P, Taylor M. Comparing dynamic Ca²⁺ signaling profiles activated from two different pathways in pulmonary microvascular endothelial cells. *Am J Respir Crit Care Med*. 2022 May;205:A4448. Available from: https://www.atsjournals.org/doi/epdf/10.1164/ajrccm-conference.2022.205.1_MeetingAbstracts.A4448

Stevens RP, Alexeyev M, Kozhukhar N, Pastukh V, Stevens T, Lee J. Acidosis prevents the intracellular domain of carbonic anhydrase IX from activating the PI3K/Akt signaling pathway in pulmonary microvascular endothelial cells. *Am J Respir Crit Care Med*. 2022 May;205:A4444. Available from: https://www.atsjournals.org/doi/epdf/10.1164/ajrccm-conference.2022.205.1_MeetingAbstracts.A4444

Stevens RP, Cancel M, Stevens T, Lee J. PFKFB3 mediates pulmonary microvascular endothelial cell death under a hypoxic and fructose-rich environment. *Am J Respir Crit Care Med*. 2022 May;205:A4447. Available from: https://www.atsjournals.org/doi/epdf/10.1164/ajrccm-conference.2022.205.1_MeetingAbstracts.A4447

Traylor MK, Feldman RI, Overstreet KF, Hill BD, Nelson AR, Keller JL. Weak relationships between measures of vascular and cognitive function in the presence of various sex differences in young, healthy adults. 2022 Southeast American College of Sports Medicine Annual Conference; 2022 Feb 17-19; Greenville, SC. Abstract no. U2.

Voth SB, Choi CS, Morrow KA, Gwin MS, Knighten J, Francis CM, Lin MT, Gautam S, Frank DW, Audia JP, Stevens T, Sharma L, Cruz CD. Amyloid-beta precursor protein: essential to lung capillary barrier defense during acute infection. *FASEB J*. 2022 May;36(S1):R5635. Available from: <https://faseb.onlinelibrary.wiley.com/doi/10.1096/fasebj.2022.36.S1.R5635>

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

Lin MT. Invited speaker. Pulmonary endothelial tau aggregation after infection. *Experimental Biology 2022*; 2022 Apr 4; Philadelphia, PA.

Lin MT. Invited speaker. Lung endothelial cell tau initiates acute and chronic neurocognitive dysfunction. *Integrated Biomedical Science Seminar Series*; 2022 May 19; Loma Linda, CA.

Nelson AR. Invited speaker. Neurovascular dysfunction in dementia and Alzheimer's disease, could the trigger be in the periphery? 4th Retreat of Neuroscience and Disease; 2022 May 23; Coimbra, Portugal.

V. NATIONAL PROFESSIONAL RECOGNITION

Mikhail F. Alexeyev: Member, *Clinical Science*, *PLoS One*, *Biochimica et Biophysica Acta*, *International Journal of Molecular Sciences*, *International Journal of Biochemistry and Cell Biology*, *Genes*. Editorial Board Member, *DNA*, *Genes*. Grant Reviewer, COM Intramural Grant Program, American Federation for Aging Research, National Institutes of Health (NIH/NCI SEP-6, NIH/NIA PPG Review, NIH/NCI ZCA1 SRB-K O2).

Michael V. Cohen: Editorial Board, *Basic Research in Cardiology*. Member, American Heart Association, *New England Journal of Medicine*, International Society for Heart Research (ISHR); Reviewer, *Basic Research in Cardiology*, *Cardiovascular Drugs and Therapy*, *American Journal of Physiology*, *Circulation*, *European Journal of Pharmacology*, *Acta Physiologica*, *Cell Physiology & Biochemistry*, *Journal of Cardiovascular Pharmacology and Therapeutics*.

C. Michael Francis: Member, American Physiological Society, American Thoracic Society. Reviewer, *Journal of Visualized Experiments*.

Ji Young Lee: Member, American Thoracic Society. Reviewer, *American Journal of Respiratory & Critical Care Medicine*, *Pulmonary Circulation*.

Mike T. Lin: Member, American Physiological Society, Society of Neuroscience. Editorial Board Member, *Scientific Reports*. Reviewer, *International Journal of Biological Sciences*, *JOVE*.

Amy R. Nelson: Member, *Frontiers in Aging Neuroscience*; Editorial Board Member, *International Journal of Molecular Sciences*, *Frontiers in Cellular and Molecular Mechanisms of Dementia*, *Frontiers in Neurodegeneration*, *Frontiers in Alzheimer's Disease and Related Dementia*. Reviewer: *Frontiers in Aging Neuroscience*, *Frontiers in Cellular and Molecular Mechanisms of Dementia*, *Frontiers in Neurodegeneration*, NIH-NIA Study Section.

Sarah L. Sayner: Member, American Thoracic Society. Reviewer, *Journal of Vascular Research*, *MDPI Cells*, *MDPI Cancer International Journal of Molecular Sciences*, *PLoS One*, AHA Study Section-Transformational Project Award, Cardiology Peer Review.

Troy Stevens: Member, American Thoracic Society, American Physiological Society. Editorial Board Member, *American Journal of Physiology Lung Cellular and Molecular Physiology*, *Pulmonary Circulation*, *FASEB J*. Ad hoc reviewer, National Institutes of Health, Brown University COBRE External Advisor.

Mark S. Taylor: Member, Gulf Coast Physiological Society, American Heart Association, American Physiological Society. Reviewer, *Journal of Cellular and Molecular Medicine*, *PLoS One*, *International Journal of Molecular Sciences*, NIH-NIDDK, P30 Digestive Diseases Research Core Centers.

David S. Weber: Member, American Physiological Society, American Heart Association. Editorial Board Member, *International Journal of Molecular Sciences*. Reviewer, *Journal of Molecular and Cellular Cardiology*, *Journal of Cardiovascular Pharmacology*, *International Journal of Molecular Sciences*, *Journal of Clinical Medicine*, *International Journal of Environmental Research and Public Health*.

VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS

The department of Physiology & Cell Biology continually strives to contribute to the College of Medicine's mission of education, research and service. The faculty actively submit and receive grants at a nationally competitive level.

Dr. Mikhail Alexeyev received two grants from the Department of Defense to study the replication of mitochondrial DNA. One award is a Research Program Expansion Award entitled "Towards humanized mouse models of mitochondrial disease". The second award is a Research Program Discovery Award entitled "Defining the molecular composition of the interspecies barrier for mitochondrial DNA replication".

Dr. Ji Young Lee received a National Institutes of Health (NIH) grant to study how the lungs handle acid. Critically ill patients with pneumonia often present with excessive acid in their blood. Lee's laboratory is studying the fundamental mechanisms of pH regulation in pulmonary endothelial cells.

Dr. Mike Lin's NIH R01 grant was renewed. The grant is entitled "Nosocomial pneumonias impair cognitive function". Dr. Lin will focus on why many pneumonia patients suffer from cognitive deficits. A major goal is to determine and identify various cytotoxic species that are generated in the lung and distributed from the lung to the brain after infection.

Dr. Mark Taylor was awarded a new R01 grant entitled "Network signature of low flow endothelial dysfunction". This grant focuses on characterizing and correcting the transition of the endothelial cell network to an anomalous signaling signature that promotes progressive and irreversible vascular disease.

Brianne Kestler, Dr. Taylor's graduate student, received her doctorate degree in December 2021. Dr. Kestler is now working in the Medical Education department within the College of Medicine. Also, Griffin Wright, Dr. Gassman and Dr. Schuler's graduate student, received his doctorate degree in May 2022. Dr. Wright is going to Wake Forest Medical Center focusing on translational medicine. Sofia Khan, Dr. Nelson's undergraduate student, completed her thesis entitled "Identifying matrix and transporter type pericytes in the human brain". Sofia has been accepted into medical school at the Alabama School of Osteopathic Medicine.

The department faculty continue to contribute to medical education. Several faculty members served as module/course directors, lecturers, facilitators of active learning sessions and mentors. The faculty significantly contributed to the Cardiovascular and

Urinary modules for M1 students, as well as Respiratory, Digestive, Endocrine/Reproductive, Musculoskeletal and Neuroscience/Behaviors modules for M2 students.

The faculty are actively involved in teaching within the Basic Medical Sciences Graduate Program. Dr. Nelson was course director for PHS 590 – Special Topics in Neurosciences. Dr. Sayner was course director for IDL650 Skills in Lung Biology and Dr. Weber was course director for IDL645 Research in Progress – Vascular Biology. Dr. Weber also received the Red Sash designation at the Honors Convocation held on May 6, 2022.

Dr. Lee's graduate student Reece Stevens received the Dean's Pre-doctoral Fellowship award. Reece is studying how carbonic anhydrase IX (CAIX) signaling protects the pulmonary endothelial barrier.

Dr. Amy Nelson was chosen to serve as an Alzheimer's Ambassador for U.S. Representative Jerry Carl. As part of her ambassadorship through the Alzheimer's Association, she will meet with the Alabama congressman four times a year to discuss important Alzheimer's disease-related policies. Dr. Nelson also serves on the content advisory board for their new educational platform known as HfCUniverse.

The department of Physiology & Cell Biology continues to recruit new faculty and strives to contribute to the College of Medicine's mission of education, research and service.

2021-2022
Summary of Scholarly Activities
Department of Psychiatry

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Alphs L, Fu DJ, Williamson D, Jamieson C, Greist J, Harrington M, Lindenmeyer JP, McCullumsmith C, Sheehan DV, Shelton RC, Wicks P, Canuso CM. SIBAT - a computerized assessment tool for suicide ideation and behavior: development and psychometric properties. *Innov Clin Neurosci*. 2022 Apr-Jun;19(4-6):36-47.

Borentain S, Gogate J, Williamson D, Carmody T, Trivedi M, Jamieson C, Cabrera P, Popova V, Wajs E, DiBernardo A, Daly EJ. Montgomery-Asberg Depression Rating Scale factors in treatment-resistant depression at onset of treatment: derivation, replication, and change over time during treatment with esketamine. *Int J Methods in Psychiatr Res*. 2022 Jun 24; e1927.

Rabinowitz J, Williams JBW, Anderson A, Fu DJ, Hefting N, Kadriu B, Kott A, Mahableshwarker A, Sedway J, Williamson D, Yavorsky C, Schooler NR. Consistency checks to improve measurement with the Hamilton Rating Scale for Depression (HAM-D). *J Affect Disord*. 2022 Apr 1;302:273-279.

Williamson DJ, Gogate JP, Kern Sliwa JK, Manera LS, Preskorn SH, Winokur A, Starr HL, Daly EJ. Longitudinal course of adverse events with esketamine nasal spray: a post hoc analysis of pooled data from phase 3 trials in patients with treatment-resistant depression. *J Clin Psychiatry*. 2022 Sep 19;83(6):21m14318.

Williamson DJ, Nuechterlein KH, Tishler T, Ventura J, Ellingson BM, Turkoz I, Keefe RSE, Alphs L. Dispersion of cognitive performance test scores on the MATRICS Consensus Cognitive Battery: a different perspective. *Schizophr Res Cogn*. 2022 Sep 5;30:100270.

II. PUBLISHED ABSTRACTS

Adams H, Cansler E, Zlomke K. Benefit finding as a moderator for distress and strain in caregivers of children with autism spectrum disorder. Society of Pediatric Psychology Annual Conference 2022; 2022 Apr 7-9; Phoenix, AZ. Abstract no. 1232.

Adams H, Zlmoke K. Parenting in a pandemic: anxiety, depression, and parental self-evaluation during the COVID-19 pandemic. Association for Behavioral and Cognitive Therapies 2021 Annual Convention [virtual meeting]; 2021 Nov 16-21; New York, NY. Abstract no. PS8-D78.

Bignault SE, Hudson A, Narahari P. Evaluation of psychotic symptoms in patient with underlying partial seizures. Southern Psychiatric Association/Alabama Psychiatric

Physicians Association 2021 Virtual Meeting; 2021 Oct 7-8; Montgomery, AL. Abstract no. 21-2-06.

Egbe D, Ghilezan A, Perry CL. A unique presentation of Misidentification Syndrome, a syndrome of subjective doubles. Southern Psychiatric Association/Alabama Psychiatric Physicians Association 2021 Virtual Meeting; 2021 Oct 7-8; Montgomery, AL. Abstract no. 21-2-05.

Hayes H, Zlomke K. Despite high levels of resourcefulness, caregivers of children with autism still face negative psychological outcomes. Society of Pediatric Psychology Annual Conference 2022; 2022 Apr 7-9; Phoenix, AZ. Abstract no. 1472.

Hayes K, Zlomke K. Child behavioral problems on caregiver strain: a moderated moderation model of caregiver resourcefulness and emotional health. Association for Behavioral and Cognitive Therapies 2021 Annual Convention [virtual meeting]; 2021 Nov 16-21; New York, NY. Abstract no. PS2-D81.

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

Engeriser L. Invited speaker. Benzodiazepines and the diagnosis and treatment of anxiety disorders. Intensive Course in Prescribing and Pharmacology of Controlled Drugs: Critical Issues and Common Pitfalls, Medical Association of the State of Alabama Annual Meeting and Business Session; 2021 Nov 20; Birmingham, AL.

Engeriser L. Invited speaker. There and back again: psychedelic drugs in the treatment of substance use disorders. Alabama Society of Addiction Medicine 4th Annual CME Conference and Membership Meeting; 2021 Nov 13; Birmingham, AL.

Engeriser L. Invited speaker. Psychopharmacology. Law Enforcement and Community: Crisis Intervention Team Training, National Alliance on Mental Illness; 2021 Nov 10; Mobile, AL.

Engeriser L. Invited speaker. Current and future medical treatment models in addiction. 37th Annual Gulf Coast Conference on Addiction and Recovery; 2021 Nov 4; Orange Beach, AL.

Engeriser L. Invited speaker. The benefits of service integration in crisis residential care. 2021 Crisis Residential Conference; 2021 Oct 13; Louisville, KY.

Engeriser L, Furr SP, Williams AJ. Invited speakers. Prescribing and pharmacology of controlled drugs: current issues and strategies for successful patient care. Psychiatric Issues in Prescribing, Medical Association of the State of Alabama. 2022 Aug 6; Destin, FL.

Engeriser L, Furr SP, Westfall JM. Invited speakers. Prescribing and pharmacology of controlled drugs: current issues and strategies for successful patient care. Psychiatric Issues in Prescribing, Medical Association of the State of Alabama. 2022 Mar 5; Tuscaloosa, AL.

Engeriser L, Gipson C, Havard LW. Invited speakers. The sweet spot: the intersection of mental health, criminal justice, and addiction. National Association of Drug Court Professionals 2022 RISE Conference; 2022 Jul 26; Nashville, TN.

Finn E. Invited speaker. Resiliency in the classroom. Alabama Association of Elementary School Administrators Fall Instructional Leadership Conference; 2021 Nov 15; Orange Beach, AL.

LePage J. Invited speaker. A practical guide to supporting people with ID/DD and mental illness. Developmental Disability Professionals (DDP) Conference, NAQ 2022; 2022 Aug 2; New Orleans, LA.

Parker S. Invited speaker. Sexual assault. Alabama College of Osteopathic Medicine Sexual Assault Awareness Month Lunch & Learn; 2022 Apr 20; Dothan, AL.

Talerico C. Invited speaker. The effects of THC and CBD on the developing brain. AltaPointe/Baldwin County Community Alliance and Baldwin County Sheriff's Department's School Resource Officer Training; 2022 Jul 15; Robertsdale, AL.

Zlomke K, Stefurak T. Invited speakers. Building better brains: buffering the effects of toxic stress through positive adult connections. Southeastern Psychological Association 68th Annual Meeting; 2022 Mar 26; Hilton Head, SC.

V. NATIONAL PROFESSIONAL RECOGNITION

Zlomke K: Program Co-Chair; Society for Developmental and Developmental Pediatric 2019-current. 2021 Substance Abuse and Mental Health Administrations Services SAMHSA1 H79 SM085165-01. Certified Community Behavioral Health Clinics CCBHs Expansion Grant, Currier Project Director. Amount: \$1,999,617
Role: Key personnel.

VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS

Education

The Department continues with its strong emphasis on education. The third-year clerkship continues to score very well on the NBME subject exams, averaging ~70th percentile when compared to national norms. Likewise, on Step II of the USMLE, the students have consistently scored at 0.2-0.5 S.D. above the national norm in psychiatry and behavioral science over the past six years. The students' satisfaction with the second-year neurobehavioral module and the third-year clerkship continues to be very positive, with the number of students matching in psychiatry residencies exceeding the national average by

two to three-fold. This success is primarily due to the quality of the faculty teaching combined with the students' direct involvement in the treatment of psychiatric patients. The faculty also serve as effective role models and mentors for the students.

Dr. Edgar Finn and The Department of Psychiatry began providing PGY 1 through PGY-4 residents with an experience in Balint Groups, beginning in August 2022. Two groups will meet monthly, one for the PGY 1 and PGY 2 residents, and one for the PGY 3 and PGY 4 residents. These groups will be co-led by Dr. Edgar Finn and Emily Jackson LPC. Balint Groups function to provide many benefits for residents, focusing on the issue of doctor-patient relationships. These groups address many issues faced by resident physicians, including burnout and isolation often experienced by these doctors. Balint Groups address numerous ACGME clinical competency categories, including professionalism, interpersonal skills, communication, and patient care. It is our hope that the residents find these groups to be a significant benefit to their early careers as physicians. Dr. Kevin Putinta has initiated looking to increase patient enrollment in Transcranial Magnetic Stimulation (TMS) to the point that the service would add a neuromodulation component to the medical students' 4th year elective ambulatory rotation during which they would be able to see evaluations and treatments for TMS and ketamine. He hopes to eventually start a local electroconvulsive therapy (ECT) service.

As the newly appointed Medical Student Clerkship Director, Dr. Putinta has been observing and revising the core didactics curriculum to give presentations greater clarity and standardization and to introduce more active learning components. The new Addiction Medicine Fellowship graduated its first fellow, Dr. Bradley Brooks. Dr. Brooks joined the faculty after graduation in July.

Clinical

Our unique model of an academic department of psychiatry integrated within a regional community mental health center (AltaPointe Health) has continued to effectively serve the region with comprehensive, state-of-the-art mental health services to all populations from children through geriatric. This integration has ensured a wealth of teaching patients for the students, residents, and fellows, while also enhancing the recruitment of high-quality clinical faculty, especially among graduates from the psychiatry residency and child and adolescent psychiatry and addiction medicine fellowships. AltaPointe has continued to expand its reach to include other mental health centers in Alabama, thereby bringing comprehensive mental health services to more communities throughout the state.

The residents under faculty supervision by the Chair are now providing psychiatric services to USA students through the campus Student Health Center, and supervisory responsibilities have been assumed by Dr. Hal Veits, an experienced senior psychiatrist. AltaPointe's increasing partnerships with mental health centers from around the state have resulted in expanded use of tele-psychiatry to improve access to psychiatrists in underserved areas, especially rural communities. The COVID-19 pandemic has further expanded these services throughout the region and state-wide, especially for those needing consultations from a child psychiatrist. AltaPointe continues to be one of the first programs

in the country to initiate collaborative care, which is psychiatric services integrated with primary care services on site in the same clinic. Studies have shown improved patient compliance and outcomes using this model, especially for patients suffering from both a chronic medical illness and a psychiatric disorder.

Dr. J. Luke Engeriser is the Medical Director and lead physician of the Behavioral Health Crisis Center (BHCC). The BHCC operates 24 hours a day, seven days a week, and the primary function of the unit is to provide easy access to prompt, targeted psychiatric treatment for people living with serious mental illness. A person can walk in, be brought in by family, AltaPointe's Crisis Response Team, or by law enforcement as a diversion from arrest for petty crimes. In addition to diverting individuals in mental health crises from jail, the unit aims to reduce the number of people with mental illness who seek crisis care from emergency departments. The unit is voluntary and specifically aims to stabilize individuals within 23 hours. If an individual cannot be stabilized, they can be transferred to other levels of care within the AltaPointe continuum, including EastPointe Hospital, Lakefront Crisis Residential Unit, or EastPointe Crisis Residential Unit. The BHCC also houses a Peer Resource Center where people with a serious mental illness can come and meet with a peer in a "living room" environment to assist with psychosocial crises such as family conflict, environmental stressors, or personal issues related to their mental illness. Having the support of someone else with lived experience can prevent escalation of minor crises to a need for more intensive intervention. Additionally, the unit houses all of AltaPointe's adult intensive services such as the Assertive Community Treatment Team (an in-home team consisting of a nurse, therapist, case manager, and prescriber), the Assisted Outpatient Treatment Team (a civil commitment ordered program), the Crisis Response Team, and Justice and Mental Health Programs in an effort to provide continuity of care between the Crisis Diversion Unit and outpatient services. Prompt, time-limited stabilization should increase acceptance of treatment during the present crisis and encourage individuals to return voluntarily on their own in the future, preventing involuntary commitments. The BHCC has been a core education site for residents, medical students, and fellows. The BHCC serves Mobile, Baldwin, Washington, Clarke, Conecuh, Escambia, and Monroe Counties.

Research

Leadership Change

Dr. Sandra Parker, Vice-Chair of the Department was appointed permanent Chair, effective July 1, 2021. She has brought an excellent academic and clinical record of accomplishments to this position. While also serving as the Medical Director of AltaPointe over the last sixteen years, she has initiated and overseen the clinical programs described above, as well as provided oversight to the educational programs for the students, residents, and fellows.

Leadership

Dr. J. Luke Engeriser was elected as President-Elect of the Alabama Society of Addiction Medicine (ALSAM) at the ALSAM Annual Meeting in November 2021. He will start his two-year tenure as President in January 2023. Dr. Engeriser has continued to serve as ALAPAC Regional Board Representative. In November 2021, Dr. Engeriser received the Loren R. Mosher Award for Excellence in Crisis Services from the Crisis Residential Association.

2021-2022
Summary of Scholarly Activities
Department of Radiology

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Brandon TG, Xiao R, Peterson RG, Chauvin NA, Francavilla ML, Biko DM, Rumsey DG, Stoll ML, Weiss PF. Changes over time in inflammatory and structural lesions at the sacroiliac joint in children with spondyloarthritis exposed and unexposed to tumor necrosis factor inhibitor. *Pediatr Rheumatol Online J*. 2021 Dec 2;19(1):167. Available from <https://eds.p.ebscohost.com/eds/pdfviewer/pdfviewer?vid=2&sid=622c9957-66ec-4721-8400-353da78e2ab7%40redis>

Burke B, Abdul-Rahim O, Burke K, Hussain Z. Balloon-assisted inferior vena cava filter retrieval: a novel technique to enhance irretrievable filter extraction. *Am J Interv Radiol* 2021 Nov;5:19.

Eng DK, Khandwala NB, Long J, Fefferman NR, Lala SV, Strubel NA, Milla SS, Filice RW, Sharp SE, Towbin AJ, Francavilla ML, Kaplan SL, Ecklund K, Prabhu SP, Dillon BJ, Everist BM, Anton CG, Bittman ME, Dennis R, Larson DB, Seekins JM, Silva CT, Zandieh AR, Langlotz CP, Lungren MP, Halabi SS. Artificial intelligence algorithm improves radiologist performance in skeletal age assessment: a prospective multicenter randomized controlled trial. *Radiology*. 2021 Dec;301(3):692-699.

Francavilla ML, Serai SD, Brandon TG, Biko DM, Khrichenko D, Nguyen JC, Xiao R, Chauvin NA, Gendler L, Weiss PF. Feasibility of T2 mapping of the sacroiliac joints in healthy control subjects and children and young adults with sacroiliitis. *ACR Open Rheumatol*. 2022 Jan;4(1):74-82.

Kar J, Cohen MV, McQuiston SA, Poorsala T, Malozzi CM. Direct left-ventricular global longitudinal strain (GLS) computation with a fully convolutional network. *J Biomech*. 2022 Jan;130:110878.

Stephenson SG, Knight CT, Rana HN, Standley T, Figarola S. An unfortunate union: a case of multiple magnet ingestion in a pediatric patient. *Cureus*. 2022 Jan 22;14(1):e21490.

II. PUBLISHED ABSTRACTS

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

Gupta S. Invited speaker. MAG-3 renal scintigraphy. University of Mississippi Medical Center; 2022 Feb 20; Jackson, MS.

Gupta S. Invited speaker. Case review - abdomino-pelvic malignancies. University of Mississippi Medical Center; 2022 Feb 20; Jackson, MS.

V. NATIONAL PROFESSIONAL RECOGNITION

Maria Figarola. Manuscript Reviewer, American Journal of Radiology. Advisory Role, Society of Pediatric Radiology online forums Q&A. Reviewer Radiology MOC Questions. Selection Committee Member, Alpha Omega Alpha Medical Honor Society. Member of national discussion platform, Society of Chairs of Academic Radiology Departments. Children's Oncology Group Diagnostic Imaging Committee

Michael Francavilla. Reviewer, *Journal of Digital Imaging*. Reviewer, *Applied Radiology*. Member of Society for Pediatric Radiology Informatics and Public Policy Committee.

Shikha Gupta. Reviewer, *American College of Radiology* for Nuclear Medicine and PET/CT program accreditation. *American College of Radiology* National Committee Member on Nuclear Medicine Accreditation.

Zeiad Hussain. Reviewer, *European Journal of Radiology*.

Rosemary Klecker. Reviewer, *American Journal of Radiology* and *Skeletal Radiology*. Membership Committee Member, *Society of Skeletal Radiology*.

Samuel McQuiston. Question Writer and Reviewer, Rad Exam (*American College of Radiology* in-training exam). Reviewer, *Journal of Radiology Case Reports*, *Cureus* and *RSNA Case Library*. Editorial Manager, *Journal of Radiology Case Reports*. Founding Chair, Affinity Radiology Programs.

Elizabeth Park. Advisory Role, *National Accreditation Programs for Breast Centers*.

VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS

Dr. Gregg Delgado is a fellowship-trained neuroradiologist and musculoskeletal radiologist who has been instrumental in contributing, not only to resident education but for providing subspecialty reads on an ever-growing volume of advanced imaging in both of these areas. Dr. Delgado's service contributions and leadership include becoming the Vice Chair of our departmental Quality Assurance and Performance Improvement committee. He leads a monthly Peer Learning Conference and is our departmental representative for the Clinical Process Council.

Dr. Michael Francavilla is an associate professor with pediatric radiology fellowship training who was recently recruited to our department and began working with us officially on April 1, 2022. His expertise in informatics has resulted in his additional role as new health system CMIO. Multiple areas of improvement include updating IT functions and

creating new templates to increase efficiency in radiology reporting. Dr. Francavilla has also resurrected a regular pediatric/radiology interdepartmental patient review conference.

Dr. Shikha Gupta is an extremely valuable member of our faculty. She is division chief of the nuclear medicine section and excels in providing unique clinical services in advanced imaging, including high-quality PET CT interpretations, as well as expertise in cross-sectional imaging of liver, prostate, and colorectal cancers. She initiated use of F-18 Pylarify PET/CT for staging and management of patients with prostate cancer. Her nuclear medicine conference is approved for a category one CME credit. She is a clerkship director for our UME Ray 480/481 program. Beyond her clinical services, Dr. Gupta's service contributions include committee work for the department, involving the residency program evaluation committee and clinical competency committee. She leads a biweekly colorectal multi-disciplinary tumor board. In addition, she is chair of the USA Health Radiation Safety Committee and a member of the Medical School Admissions Committee. Dr. Gupta also provides imaging guidance for a new Urology Case Conference. Dr. Gupta gave oral presentations on nuclear medicine topics at the University of Mississippi Medical Center, Jackson, MS in February 2022. Nationally, Dr. Gupta is an ACR reviewer for Nuclear Medicine and PET/CT accreditation and a member of the ACR National Committee on Nuclear Medicine Accreditation.

Dr. Zeiad Hussain is the division chief of interventional radiology. Dr. Hussain is a fellowship-trained interventional radiologist who, together with Dr. Brian Wood, has built a thriving and robust IR division. The services provided by Dr. Hussain and his team range from complex minimally invasive therapeutic treatments for cancer such as Y90 chemoembolizations, to life-saving interventions for patients in hepatic failure and high acuity vascular embolizations for our trauma patients, just to name a few. Dr. Hussain also holds multiple additional leadership positions, which include Chair of the IR Quality Assurance and Performance Improvement committee, chief interventionalist of the Early Specialization in Interventional Radiology residency program, and lead interventionalist for the IR simulation center. He is a member of the multidisciplinary hepatobiliary tumor board.

Dr. Rosemary Klecker is an associate professor and the division chief of musculoskeletal radiology. In the time since Dr. Klecker joined our department, she has provided excellent leadership of her section and outstanding efforts in scholarship and resident/student education. As a fellowship trained musculoskeletal radiologist, Dr. Klecker has participated in lectures and grand rounds, not only for radiology, but for orthopedic surgery as well. She provides outstanding subspecialty reads on an ever-growing volume of advanced imaging in her area of expertise. Dr. Klecker has brought much scholarship in clinical practice to our department, including the introduction of MSK ultrasound procedures and muscle core biopsies. Dr. Klecker's service contributions and leadership to the department include serving on the PEC and CCC residency committees. In addition, she has agreed to become associate program director in the coming year.

Dr. Brett Martin is an extremely engaged and productive faculty member who is also section chief of neuroradiology. As a fellowship-trained neuroradiologist, Dr. Martin

provides resident lectures, an updated curriculum and advanced imaging protocols to the department. Dr. Martin has been promoted to Program Director in the coming year. He gives regular lectures on neuroradiology to our residents and leads the multidisciplinary Neuroradiology, Neurology, Neurosurgery and Neurointerventional weekly conference, where he presents advanced imaging to medical students, residents and faculty. Dr. Martin's service contributions and leadership include chair of the Program Evaluation Committee for the residency program and chair of the MRI Safety committee for the department of Radiology. He is a member of the Residency Selection Committee and Clinical Competency Committee for the residency program. He also serves on the trauma and ER peer review committee and the stroke steering committee for the USA Health system.

Dr. Samuel McQuiston, associate professor of radiology, provides invaluable contributions to the education, service and leadership in our department, as well as service and leadership to the College of Medicine. As residency program director for the last academic year, Dr. McQuiston has provided excellent guidance and leadership for the residents, ensuring that the residency program meets all of the ACGME standards required for accreditation. He is also very active in providing lectures and leadership in multiple UME course modules, including the Radiology Selective rotation for the medical students. He is the principal faculty advisor to the medical student Radiology Interest Group. His tireless contributions to education have earned him the Red Sash award, recognizing his outstanding teaching. His scholarly activity includes serving as a Co-PI on two projects, one NIH/JIT grant funded at \$400,000 and a second grant funded at \$5,000 through USA Allied Health. He also has one peer reviewed article in press, a presented or published abstract/poster, and an ACR Case in Point submitted manuscript. Dr. McQuiston founded and leads a multi-institutional bimonthly group meeting with other program directors in the southeast region, bringing shared education and research opportunities to all of the participating programs. Dr. McQuiston is the Chair of the Radiology Quality Assurance Program Improvement committee. Nationally, Dr. McQuiston is question writer and editor for RadExam (an ACR in-training exam) and is a peer reviewer for multiple national radiology journals.

Dr. Margaret Mowry continues to provide strong clinical service to our department at a 0.6 FTE. She provides expertise in interpretation and teaching in several subspecialty areas, including breast imaging, body imaging, prostate MRI and oncology/PET-CT. Mammography requires maintaining additional FDA credentialing and CME. As a body fellowship-trained radiologist, she provides resident lectures in this area. She participates in the oncology tumor board as the radiology representative.

Dr. Elizabeth Park, a fellowship trained breast imager, is section chief of breast imaging and continues to play a key role in the development of our women's imaging center. She is part of the multidisciplinary breast cancer treatment team made up of USA surgeons and oncologists, and is a member of the committee on cancer. She is also a member of the departmental Program Evaluation Committee and Clinical Competency Committee for the residency program. Dr. Park is leading a new clinical service, whole breast ultrasound technology.

Dr. Todd Standley is an outstanding fellowship-trained pediatric radiologist, with an added certificate of additional qualification. As one of the few subspecialty certified pediatric radiologists in the region, Dr. Standley provides higher level interpretations of all pediatric imaging studies performed in the USA Health System. He is the course director over the pediatric radiology clerkship for M3 and M4 medical students and pediatric residents. He is a primary radiology faculty advisor at the monthly pediatric tumor board conference and radiology representative for the monthly Children with Special Needs conference. Dr. Standley has collaborated on several case reports with the radiology residents this past year.

Dr. Brad Steffler, an associate professor, provides excellence in teaching, education and clinical service to the radiology department as the chief of the body imaging section. His background in interventional radiology has provided expertise in overseeing arthrograms and other basic interventional procedures. He is also a key instructor for fluoroscopic procedures and has led efforts to improve the curriculum and services in ultrasound and defacography.

Dr. Brian Wood joined our department last year as an assistant professor in the division of interventional radiology. Following the resignation of the former division chief, Dr. Osama Abdul Rahim, in May 2021, Dr. Wood has been an indispensable member of the IR team providing exceptional IR clinical services, as well as excellent resident education. As a fellowship-trained interventional radiologist, Dr. Wood and Dr. Hussain provide a broad range of complex minimally invasive therapeutic services, including treatments for cancer, life-saving interventions for patients in hepatic failure, as well as high acuity vascular embolizations for bleeding trauma patients, to name a few. In addition, Dr. Wood provides hands-on simulation workshops in ultrasound guided procedures and is a key faculty member in the Early Specialization in Interventional Radiology residency training program. Dr. Wood's service contributions include being an interventional radiology member of the weekly multidisciplinary hepatobiliary tumor board. His goals for the coming year include starting an IR Journal Club and a suturing simulation lab.

Our senior residents matched in prestigious and highly competitive fellowship programs that include UCLA in Los Angeles, Oregon Health and Science University in Portland, New York University, New York, NY, University of Wisconsin in Milwaukee, and Emory University in Atlanta. We have also had great success in our residency recruitment, with four new residents joining us on July 1, 2022, and one resident who will join us on September 21, 2022.

Our five new residents are: Dr. Jessica Cook, who graduated from University of South Alabama Medical School and completed her preliminary year in Internal Medicine at the University of South Alabama; Dr. Kaitlyn Crossan, who graduated from Lake Eira College of Osteopathic Medicine and completed her preliminary year in General Surgery at McLaren Greater Lansing Hospital; Dr. Chase Diard, who graduated from University of South Alabama School of Medicine and completed his transitional year at WellStar Kennestone Regional Medical Center; Dr. Daniel Ledbetter, who graduated from the Edward Via College of Osteopathic Medicine and completed his preliminary year in Internal Medicine at the University of South Alabama; Dr. Jerome A. Ramirez Marquez

who graduated from University of Puerto Rico School of Medicine and completed his transitional year at San Juan City Hospital.

The residency program has had continued success in filling residency slots and obtaining prestigious post residency fellowship positions. We have also maintained resident diversity, with currently 35% females and 45% underrepresented minorities recruited into our program.

The department of radiology has had many additional successes over the last year. We have continued to have unprecedented increases in volumes and charges with departmental revenue up 8% over last year and 20% over fiscal year 2019-20. We are able to provide quality imaging services and manage the markedly increased imaging volumes, with strong support from our full time and adjunct faculty.

Another key accomplishment for our department over the last year has been the further development of a robust Quality Assurance and Performance Improvement plan for both diagnostic and interventional radiology, which includes data on peer review, turnaround times, patient safety events, patient satisfaction, radiation safety, exam appropriateness, and resource utilization. ACGME, ACR, ABR and Joint Commission quality and safety requirements, including those needed for program accreditation, are also covered in this plan.

We have recruited associate professor Dr. Michael Francavilla, a pediatric radiologist and CMIO with Radiology Informatics expertise. He joined our faculty on April 1, 2022. We have also successfully recruited multiple PRN community private practice partners as adjunct faculty.

Other new clinical services provided by the department of radiology include:

- Installed new whole breast ultrasound unit (ABUS) at Strada Breast Imaging Center, providing an additional advanced breast imaging services;
- Began using a new breast localizing device in breast imaging and surgery;
- Strategic upgrades of radiology workstations, PACS, and related clinical applications;
- Updated hospital-based services, including Navigo MRI/US Prostate Fusion Biopsy mapping, providing urologist intraoperative guidance for prostate cancer treatment.
- We are preparing for further growth in the coming year with new imaging services to be provided at the Mapp Eastern Shore Facility;

Implemented new clinical practices/protocols in multiple areas:

- Initiated switch to Cu 64 Dotatate PET at Mitchell Cancer Institute to diagnose and stage neuroendocrine tumor;
- Initiated use of F-18 Pylarify PET/CT for staging and further management of patients with prostate cancer;

- Lower extremity venous therapy (ablation, sclerotherapy, stripping);
- Established the Endovascular AV fistula creation service;
- Peritoneal Catheter Placement and management in collaboration with Nephrology;
- Developed and automated radiology reporting templates to standardize and increase efficiency of the reporting process.

Major goals for the department, many of which are actively underway, include:

- Increasing faculty numbers, particularly in the key areas of breast imaging, neuroradiology and body imaging;
- Implementing strategies to address the increasing volumes to maintain balance between patient care and education, as well as providing protected academic time for residents and faculty;
- Further enhance our faculty development plan;
- Work with hospital administration to renovate IR area for additional recovery rooms and increase IR access with new space in old ER area;
- Complete the hybrid IR/surgery suite in the old ER space;
- Work with administration to create shared agendas and prioritization of upcoming year's goals both clinically and educationally is a main priority for the department. This will be key in staying on pace with volume growth across all modalities and services provided by the department;
- Work with administrative leadership on providing excellent imaging services to the new Mapp Eastern Shore Facility projected to open in the fall/winter of 2022.

We anticipate further faculty recruitment in the coming year and look forward to new opportunities to advance our clinical service, teaching and research missions.

2021-2022
Summary of Scholarly Activities
Department of Surgery

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Baker S, Gleason F, Lovasik B, Sandhu G, Cortez A, Hildreth A, Cooper A, Simmons J, Delman KA, Lindeman B. Relationship between burnout and mistreatment: who plays a role? *Am J Surg.* 2021 Dec;222(6):1060-1065.

Bright AC, Quang CY, Blair SG, Polite NM, Alexander KM, Haiflich A, Butts CC, Lee YL, Kinnard CM, Mbaka MI, Williams AY, Simmons JD. Diencephalic storm in trauma patients; is it really that rare. *Open Journal of Trauma.* 2022 Apr 23;6(1):001-002.

Farley P, Mullen PR, Lee YL, Butts CC, Simmons JD, Brevard SB, Kinnard CM. Intercostal cryoneurolysis after severe chest trauma: a brief report. *Am Surg.* 2022 Jun;88(6):1336-1337.

Farley P, Salisbury D, Murfee JR, Buckley CT, Taylor CN, Doll A, Polite NM, Mbaka MI, Kinnard CM, Butts CC, Simmons JD, Lee YL. The relationship between serum sodium, serum osmolality, and intracranial pressure in patients with traumatic brain injury treated with hyperosmolar therapy. *Am Surg.* 2022 Mar;88(3):380-383.

Hardy KS, Tuckey AN, Renema P, Patel M, Al-Mehdi AB, Spadafora D, Schlumpf CA, Barrington RA, Alexeyev MF, Stevens T, Pittet JF, Wagener BM, Simmons JD, Alvarez DF, Audia JP. ExoU induces lung endothelial cell damage and activates pro-inflammatory caspase-1 during *Pseudomonas aeruginosa* infection. *Toxins (Basel).* 2022 Feb 18;14(2):152.

Hwang ES, Beitsch P, Blumencranz P, Carr D, Chagpar A, Clark L, Dekhne N, Dodge D, Dyess DL, Gold L, Grobmyer S, Hunts K, Karp S, Lesnikoski BA, Wapnir I, Smith BL; INSITE study team. Clinical impact of intraoperative margin assessment in breast-conserving surgery with a novel pegulicianine fluorescence-guided system: a nonrandomized controlled trial. *JAMA Surg.* 2022 Jul 1;157(7):573–580.

Jakub JW, Lowe M, Howard JH, Farma JM, Sarnaik A, Tuttle T, Neuman HB, Ariyan CE, Uppal A, Trocha S, Beasley GM, Wasif N, Bilimoria KY, Thomay AA, Allred JB, Chen L, Terando AM, Wayne JD, Thompson JF, Cochran AJ, Sim MS, Elashoff DE, Delman KA, Faries MB. Oncologic outcomes of multi-institutional minimally invasive inguinal lymph node dissection for melanoma compared with open inguinal dissection in the second multicenter selective lymphadenectomy trial (MSLT-II). *Ann Surg Oncol.* 2022 Sep;29(9):5910-5920.

Mao A, Reno A, Galliani CA, Alemayehu H, Bhat R. Preterm infant of diabetic mother with a retrorectal mass: a troubling tail tale. *Neoreviews.* 2022 Feb 1;23(2):e117-e120.

Miles MVP, Beasley JR, Reed HE, Miles DT, Haiflich A, Beckett AR, Lee YL, Bowden, SE, Panacek EA, Ding L, Brevard SB, Simmons JD, Butts CC. Overutilization of helicopter emergency medical services in Central Gulf Coast Region results in unnecessary expenditure. *J Surg Res*. 2022 May;273:211-217.

Murfee JR, Pardue KE, Farley P, Polite NM, Mbaka MI, Bright AC, Kinnard CM, Simmons JD, Butts CC. Unexpected diaphragmatic hernia among patients undergoing video-assisted thoracic surgery for internal fixation of rib fractures. *Am Surg*. 2022 Apr;88(4):618-622.

Olson CR, Suarez-Kelly LP, Ethun CG, Shelby RD, Yu PY, Hughes TM, Palettas M, Tran TB, Poultside G, Tseng J, Roggin KK, Chouliaras K, Votanopoulos K, Krasnick BA, Fields RC, King DM, Bedi M, Pollock RE, Grignol VP, Cardona K, Howard JH. Resection status does not impact recurrence in well-differentiated liposarcoma of the extremity. *Am Surg*. 2021 Nov;87(11):1752-1759.

Richards WO. For the people and the profession. *Am Surg*. 2022 Mar;88(3):332-338.

Richards WO. Morbid obesity. In: Townsend CM Jr, editor. *Sabiston textbook of surgery: the biological basis of modern surgical practice*. 21st ed. St Louis: Elsevier; 2022. Chapter 48, p. 1167-1195.

Roy JD, Hardy WJ 3rd, Roberts ME, Stahl JE, Butts CC, Simmons JD, Barber WH 4th. Reducing health care burden of emergency general surgery with a 24-hour dedicated emergency general surgery service. *Am Surg*. 2022 May;88(5):922-928.

Saway JP, McCaul M, Mulekar MS, McMahon DP, Richards WO. Review of outcomes of low versus standard pressure pneumoperitoneum in laparoscopic surgery. *Am Surg*. 2022 Aug;88(8):1832-1837.

Squires MH, Ethun CG, Donahue EE, Benbow JH, Anderson CJ, Jagosky MH, Manandhar M, Patt JC, Kneisl JS, Salo JC, Hill JS, Ahrens W, Prabhu RS, Livingston MB, Gower NL, Needham M, Trufan SJ, Fields RC, Krasnick BA, Bedi M, Votanopoulos K, Chouliaras K, Grignol V, Roggin KK, Tseng J, Poultsides G, Tran TB, Cardona K, Howard JH. Extremity soft tissue sarcoma: a multi-institutional validation of prognostic nomograms. *Ann Surg Oncol*. 2022 May;29(5):3291-3301.

Squires MH, Howard JH. ASO author reflections: utility of prognostic nomograms for extremity soft tissue sarcoma. *Ann Surg Oncol*. 2022 May;29(5):3302-3303.

II. PUBLISHED ABSTRACTS

Badami S, Mazloom A, Howard JH, Liles JS, Alkharabsheh O, Persing BE, Cameron D, Huddleson A, Gilbert R, Venkatesh K, Prodduturvar P. Cemiplimab in advanced cutaneous squamous cell carcinoma: a real-world experience of outcomes and safety. *J Clin Oncol*.

2022 Jun 1; 40(16 Suppl):e21545. Abstract no. e21545. Available from: https://ascopubs.org/doi/pdf/10.1200/JCO.2022.40.16_suppl.e21545

Beard TL, Machalsky C, Sridharan K, DeBoer E, Griffith S, Rider P. Potential for reduced postoperative ileus with use of oliceridine, an IV opioid analgesic, in colorectal surgery. *American Dis Colon Rectum*. 2022 May;65(5):186. Abstract no. eP407.

Boudreaux MD, Hensley AM, Liles JS, Howard JH. Melanoma care during the COVID 19 pandemic: perception vs. reality. 17th Annual Academic Surgical Congress; 2022 Feb 1-3; Orlando, FL.

Bouillon V, Khan H, Cherla D, Johnston FM, Fonseca A. Fragmentation of care: effects on receipt of oncologic care in pancreatic cancer. 2022 Southeastern Surgical Congress Annual Meeting; 2022 Feb 5-8; Nashville, TN. p. 170. Abstract no. 70.

Buckley CT, Lee YL, Schuler AM, Langley RJ, Kutcher ME, Barrington R, Audia JP, Simmons JD. Deleterious effects of plasma-derived cellular debris in a porcine model of hemorrhagic shock. American Association for Surgery of Trauma Annual Meeting; 2021 Sep 29-Oct 2; Atlanta, GA. Abstract no. Quickshot 10.

Doll A, Bernard J, Hunter R. Abnormal axillary lymph nodes following COVID vaccination in a breast cancer patient. 2022 Southeastern Surgical Congress Annual Meeting; 2022 Feb 5-8; Nashville, TN. p. 186. Abstract no. P12.

Doolin EJ, Richards WO. Content analysis documents nuanced critical steps in Hirschsprung disease (hd) surgery which prevent disabling incontinence and improve outcomes. *J Am Coll Surg*. 2021 Nov;233(5 Suppl 2):e147.

Farley P, Buckley CT, Mullen PR, Taylor CN, Doll A, Lee YL, Butts CC, Simmons JD, Kinnard CM. Cryoablation for chest wall trauma: a brief report. *Am Surg*. 2022 May;88(5):984-985.

Farley P, Salisbury D, Murfee JR, Buckley CT, Taylor CN, Doll A, Polite NM, Mbaka MI, Kinnard CM, Butts CC, Simmons JD, Lee YLL. The relationship between serum sodium osmolality, and intracranial pressure in patients with traumatic brain injury treated with hyperosmolar therapy. *Am Surg*. 2022 Mar;88(3):380-383.

Ficarino HM, Caposole MZ, Davis NS, Krebsbach MN, McGowin EF, Alexander KM, Kinnard CM, Simmons JD. Neuroleptic malignant syndrome: a potential etiology of multisystem organ failure in a burn patient. *Am Surg*. 2022 Mar;88(3):519-520.

Khan H, Cherla D, Johnston F, Fonseca A. Fragmentation of care in pancreatic cancer: effects on receipt of care and survival. *HPB (Oxford)*. 2022 Jan;24(Suppl 1):S391-S392. Abstract no. EP02D-149.

McCaul M, Mulekar M, Richards WO. Review of outcomes of robot assisted laparoscopic Heller myotomy with dor fundoplication. 2022 Southeastern Surgical Congress Annual Meeting; 2022 Feb 5-8; Nashville, TN. p. 285. Abstract no. P88.

Murfee JR, Pardue KE, Farley P, Polite NM, Mbaka MI, Bright AC, Kinnard CM, Simmons JD, Butts CC. Unexpected diaphragmatic hernia among patients undergoing video-assisted thoracic surgery for internal fixation of rib fractures. *Am Surg*. 2022 Apr;88(4):618-622.

Quang K, Liles S. Management of redundant axillary tissue in mastectomy. American College of Surgeons Alabama and Mississippi Chapters 2022 Annual Conference; 2022 Jul 21-23; Gulf Shores, AL.

Polite NM, McMann AH, Haiflich A, Scruggs K, Butts CC, Lee YL, Mbaka M, Bright AC, Kinnard C, Williams A, Simmons JD. Computed tomography of torso in unnecessary in anti-coagulated patients after ground level fall. 2022 Southeastern Surgical Congress Annual Meeting; 2022 Feb 5-8; Nashville, TN. p. 187. Abstract no. P 13.

Rosser B, Grimm L. Zip code socioeconomic status and population density as predictors of operative outcomes in definitive surgical treatment of rectal cancer. *Dis Colon Rectum*, 2022 May;65(5):177. Abstract no. eP385.

Saway JP, McCaul M, Mulekar M, McMahon D, Richards W. Review of outcomes of low verses standard pressure pneumoperitoneum in laparoscopic colorectal and gastrointestinal surgery. *Am Surg*. 2022 Aug;88(8):1832-1837

Simmons KA, Roberts ME, Ray GJ, Bright AC, Kinnard CM, Lee YL, Mbaka MI, Polite N, Simmons JD, Butts C. Impact of the state-mandated stay-at-home order for the COVID-19 pandemic on an academic level I trauma center with a large rural catchment area. *J Am Coll Surg*. 2021 Nov;233(5 Suppl 2):e281.

Smith B, Doll A, Thornton L, Liles JL. A universal electronic health record directly impacts multidisciplinary patient care in newly diagnosed breast cancer patients. 2022 Southeastern Surgical Congress Annual Meeting; 2022 Feb 5-8; Nashville, TN. p. 46. Abstract no. RF 4.

Smith B, Liles S. Universal electronic health records improve efficiency of multidisciplinary patient care in breast cancer patients. Medical Association of the State of Alabama 2022 Annual Session; 2022 Apr 8-9; Montgomery, AL. Abstract no. 22-28.

Williams A, Butts CC, Mbaka M, Ledbetter K, Huett W, Simmons JD, Bright A. Bromelain based enzymatic debridement followed by application of autologous cell suspension for treatment of burns. *J Burn Care Res*. 2022 Apr;43(Suppl 1):S139. Abstract no. 601.

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

Hunter J. Invited speaker. Robotic innovations in colorectal surgery. American College of Surgeons Alabama and Mississippi Chapters 2022 Annual Conference; 2022 Jul 22; Gulf Shores, AL.

Kinnard C. Invited speaker. Chest wall trauma-surgical and non-surgical options. Mississippi Trauma Symposium; 2022 May 6; Meridian, MS.

Liles JS. Invited speaker. Immunotherapy and the general surgeon-what has changed. American College of Surgeons Alabama and Mississippi Chapters 2022 Annual Conference; 2022 Jul 22; Gulf Shores, AL.

Mbaka M. Invited speaker. Management of intracranial hypertension. 11th Annual Gulf Coast Trauma Symposium; 2022 Mar 24; Mobile, AL.

Polite N. Invited speaker. The management of special populations in trauma. Brookwood Baptist Health, General Surgery Residency Grand Rounds; 2021 Nov 10; Birmingham, AL.

Simmons J. Invited speaker. Optimizing blood transfusions. 11th Annual Gulf Coast Trauma Symposium; 2022 Mar 25; Mobile, AL.

Simmons J. Invited speaker. Welcome. 11th Annual Gulf Coast Trauma Symposium; 2022 Mar 24; Mobile, AL.

Simmons J. Invited speaker. Achieving optimal outcomes in trauma patients. 11th Annual Gulf Coast Trauma Symposium; 2022 Mar 24; Mobile, AL.

Simmons J. Invited speaker. The benefits of benchmarking for improving outcomes. Mississippi Trauma Symposium; 2022 May 4; Meridian, MS.

Simmons J. Invited speaker. Quality-achieving optimal outcomes in trauma patients by creating a culture of quality. Mississippi Trauma Symposium; 2022 May 4; Meridian, MS.

Williams A. Invited speaker. Project inspire. 11th Annual Gulf Coast Trauma Symposium; 2022 Mar 24; Mobile, AL.

Williams A. Invited speaker. Geriatric trauma. 11th Annual Gulf Coast Trauma Symposium; 2022 Mar 24; Mobile, AL.

V. NATIONAL PROFESSIONAL RECOGNITION

Bright A. Member, The Euro-Mediterranean Council for Burns, Fire Disasters.

Bright A. Committee, EAST Burn.

Butts C. Moderator. Difficult Patient Populations in EMS, 11th Annual Gulf Coast Trauma Symposium, 2022 Mar 24, Mobile, AL.

Chang M. Chair of the American College of Surgeons Trauma Quality Improvement Program (TQIP).

Chang M. Member and Secretary of the Mobile County Board of Health.

Dyess L. Board of Governors, Alabama Chapter of the American College of Surgeons.

Dyess L. Member, Executive Council of the Alabama Chapter of the American College of Surgeons.

Dyess L. Member, American College of Surgeons Best Practices Committee – Surgical Site Infections, Anticoagulation Guidelines.

Fonseca A. Member, Program Committee Association for Academic Surgery.

Fonseca A. Member, Outreach Committee Association of Women Surgeons.

Fonseca A. Member, Diversity and Inclusion Liaison Committee of the Society of Surgery of the Alimentary Tract.

Fonseca A. Member, Diversity, Equity, and Inclusion Committee Southeastern Surgical Congress.

Fonseca A. Moderator, Plenary Session 4, Southeastern Surgical Congress Annual Meeting.

Grimm L. Member, General Surgery Editorial Board, Surgical Council on Resident Education (SCORE).

Grimm L. Reviewer, Diseases of the Colon & Rectum.

Grimm L. Secretary, Alabama Chapter of the American College of Surgeons (ACS).

Hartin C. Ad Hoc Journal Peer Review.

Heslin M. Member-at-Large, Executive Council, Alabama Chapter of the American College of Surgeons.

Howard H. Moderator, Society of Surgical Oncology Upper Gastrointestinal Virtual Forum 2021 Mar 22.

Howard H. Ad hoc Reviewer for the Journal of Surgical Research.

Liles S. Treasurer, Alabama Chapter of the American College of Surgeon; July 2020-July 2022.

McMahon D. Principal Investigator of a study to evaluate the effectiveness of allogeneic micronized amniotic membrane product for the treatment of hidradenitis suppurativa.

Polite N. Moderator, Emerging Technologies and Treatment for Prehospital Trauma Management, 11th Annual Gulf Coast Trauma Symposium, 2022 Mar 24, Mobile, AL.

Polite N. Panelist, Difficult Patient Populations in EMS, 11th Annual Gulf Coast Trauma Symposium.

Richards WO. Moderator, Plenary Session 1, Southeastern Surgical Congress 2021 Annual.

Richards WO. Member of the American College of Surgeons Video-Based Education Executive Committee- Subcommittee on “ICONS” in Surgery.

Richards WO. Member-at-Large, Executive Council of the Alabama Chapter of the American College of Surgeons.

Richards WO. President, Southeastern Surgical Congress 2020-2021.

Rider P. Session Moderator, American College of Surgeons Clinical Congress.

Simmons J. Moderator, 11th Annual Gulf Coast Trauma Symposium.

Simmons J. Chair, Alabama Legislative Funding Committee. 2019-present.

Simmons J. Vice Chair, Committee on Trauma (COT) –, State of Alabama. 2016-present.

Simmons J. Member, Alabama Statewide Trauma & Health Systems Advisory Council (STAC). 2018-present.

Simmons J. Member, Alabama State Emergency Medical Control Committee (SMECC). 2015-2022.

Simmons J. Councilor, AOA Medical Honor Society (2016-current).

VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS

Medical Student Education: Students recognized a large number of surgical faculty for Red Sash awards (Lee Grimm, John Hunter, Ron Brooks, Andrew Bright, Hanna Alemayehu, and Caleb Butts) Student evaluations were uniformly positive. The few negatives were largely regarding time and intensity of the faculty, noting the faculty

sometimes seemed hurried and focused on clinical duties. Drs. Butts and Hunter have chosen a new textbook and spread students out over more services so that they can obtain more individualized attention. In addition, we have implemented more simulation and exercises outside of the high stress OR environment. Senior students all matched in a highly competitive general surgery match. This is a testament to our faculty writing letters and calling on the behalf of students to achieve a match during match day. Again, the students are doing extremely well on step 2 exams testing for clinical knowledge and thus are able to match into the highly competitive general surgery residency programs.

Leadership: Faculty provided leadership both nationally and regionally. Leadership in the Alabama Chapter of the American College of Surgeons was prominent, with Dr. Richards and Dr. Heslin serving on the Executive Council, Dr. Lynn Dyess and Dr. Paul Rider serving on the Board of Governors to the national American College of Surgeons. Dr. Paul Rider is past president of the Alabama Chapter of the American College of Surgeons, while Dr. Lee Grimm is the president-elect and Dr. Spencer Liles is the secretary.

Dr. William Richards served as president of the Southeastern Surgical Congress, the largest regional general surgical society in the United States. He gave his presidential address in August 2021 at the annual meeting in Atlanta and is currently serving as past president on the Executive Council.

Dr. Lee Grimm serves on the Executive Committee of the Surgical Council on Resident Education (SCORE). This national resident education group is instrumental in identifying the key learning objectives and knowledge base for surgical residents across North America. The SCORE leadership asked the University of South Alabama Department of Surgery and specifically, Dr. Lee Grimm as PI, to produce a series of training videos that are essential for surgical residents to learn. This contract has been signed and we are actively producing these videos. Drs. John Hunter, Nathan Polite, Harrison Howard, William Richards and Marianne Mbaka comprise the other members of the SCORE video board of directors at USA.

Dr. Paul Rider is the member of the video-based education committee for the American College of Surgeons. He served multiple times as a session moderator at the American College of Surgeons Clinical Congress video education sessions. Dr. Paul Rider serves on the American Society of Colorectal Surgeons' self-assessment committee as a question writer for the self-assessment exams.

Dr. Jon Simmons serves as counselor for the Alpha Omega Alpha Medical Honor Society Beta chapter. Dr. Simmons also is a member of the Alabama State Emergency Medical Control Committee and the Alabama Statewide Trauma and Health Systems Advisory Council and is Chair for the EMS region 6 RAC. Dr. Simmons also serves as the chief of the trauma, surgical critical care, burns and acute care surgery service. He serves as the leader for the quality programs within the division of trauma acute care surgery and burns.

Dr. Polite serves as the advanced trauma life support course director and is the director of the neuroscience ICU. He also serves as the co-director of the surgical ICU and as co-

director of the trauma ICU. He is chair of the multidisciplinary trauma burn peer-review committee.

Dr. Ashley Williams has designed, instituted and continues to run Project Inspire: A comprehensive grass roots intervention for juveniles delinquent of gun crimes.

Dr. Maryann Mbaka serves as a chair of the general surgery program evaluation committee and is also serves on general surgery clinical competency, surgical critical care program evaluation, and the surgical critical care clinical competency committees. She also serves as the advanced trauma life support director for courses offered by the division of trauma.

Dr. Fonseca serves on several national committees, including the Association for Academic Surgery (AAS) as a SSAT program committee member, and is a member of the Association of Women Surgeons Outreach Committee, the Society of Surgery of the Alimentary Tract (SSAT) Diversity and Inclusion Liaison Committee, and the Southeastern Surgical Congress (SESC) Diversity, Equity and Inclusion committee.

Dr. John Hunter has been instrumental in coordinating robotic training and credentialing for new faculty this past year. He serves on the New Technology Committee of the American Society of Colon and Rectal Surgeons. Regionally, he is a musician and fundraiser for the USA Health Doc Rock event.

Dr. Harrison Howard serves as the associate program director for the general surgical residency. He is also Chair of the general surgery residency Clinical Competency Committee (CCC). He has just been named the medical director of clinical trials at the Mitchell Cancer Institute.

Dr. Spencer Liles is serving as the Chief Medical Information Officer for USA Health and is tasked with improving the electronic medical record and supporting hardware/software for clinicians to optimize the ability to care for our patients and grow our practices. He was the chair of the search committee for USA Health/MCI medical oncology section Chief in 2022. He is on the continuing medical education committee for USA and also on the summer medical student research committee as co-chair. Nationally, he is serves as treasurer for the American College of Surgeons Alabama Chapter and he is a member of the Young Surgeons Committee of the Southeastern Surgical Congress .

Dr. Lee Grimm serves as a program director for the general surgery residency program. In addition, he was appointed to and is currently serving on the national education editorial board for the Surgical Council on Resident Education (SCORE), which is the official online educational curriculum for general surgery residents sponsored by the American College of Surgeons, the American Board of Surgery, the ACGME and the APDS. He is the PI for our SCORE video program board.

Dr. Katrina Weaver serves as a co-director of the USA adolescent bariatric metabolic surgery center, which has now been running clinically for one year, with successful completion of 22 surgical procedures. She serves as the director of pediatric burns and

trauma at the Children's and Women's Hospital and as Assistant Professor on the trauma acute care surgery and critical care surgery service. Dr. Weaver serves on the Childhood Obesity committee of APSA.

This past year, we have recruited Dr. Ashley Williams to serve as faculty and Assistant Professor on the trauma acute care surgery and critical care surgery service.

Dr. Chris Kinnard serves as program director of the surgical critical care fellowship, and he is the co-director of the ST ICU and neurosciences ICU. He is a member of the surgical critical care program evaluation committee and the surgical critical care competence committee.

Dr. Caleb Butts serves as a board member for the Christian Medical Ministry of South Alabama. He also serves as Vice Chair for the Alabama Committee on Trauma for the American College of Surgeons. He serves on the Eastern Association for the Surgery of Trauma (EAST) Burn Surgery Committee, the American Burn Association Governmental Affairs Committee, and on the American Association for the Surgery of Trauma (AAST) education and communication committees. Regionally, he served as the co-director of the medical student third year clerkship and serves on the medical student affairs committee, as well as the continuing medical education committee and the student promotions and evaluation committee.

Dr. Rachel Hunter participated as a panelist for the Junior League of Mobile's event "Real Talk for Women", which provided breast cancer awareness education and educational resources. She was also instrumental in organizing a band and participating in the event to raise money for the Mitchell Cancer Institute. In addition, she serves on several regional and local committees, including the Women in Surgery Committee of the Southeastern Surgical Congress, the College of Medicine Continuous Quality Improvement Committee, the USA Health Breast Program Leadership Committee.

Dr. Andrew Bright serves as the director of the burn intensive care unit and as director of the M4 acting internship on burns and as the faculty medical advisor for the military medical interest group. He was instrumental in the mentorship of three junior faculty in burn reconstruction, through over 70 cases with detailed case discussion, review, and proper billing and coding. He has also supervised four advanced practice providers and expanded their supervised practice. He integrated the quality and process improvement review into weekly multidisciplinary conferences, which has been instrumental to improving quality of care. Dr. Bright traveled to four regional hospitals and gave written hospital feedback to referral sources as part of the Burns Outreach program.

Dr. Michael Chang, the Chief Medical Officer for USA Health, serves as Chair of the American College of Surgeons Trauma Quality Improvement Program (TQIP) and has been appointed as the Secretary of the Mobile County Board of Health.

Dr. Marty Heslin, who is Director of the Medical Cancer Institute, serves as a Professor of Surgery in the Surgical Oncology Division.

General Surgery Residency Training: Dr. Lee Grimm serves as the program director for the general surgery residency training program. The residency program is highly sought after and all of the graduating residents this past year have successfully matched into their chosen fields of fellowship, including into cardiac, colorectal, and plastic reconstructive surgery.

Recruitment: This past year we have recruited Dr. Ashley Williams after finishing her fellowship in Surgical Critical Care at the University of Pittsburgh as Assistant Professor on the trauma acute care surgery and critical care surgery service.

General Surgery Residency Training: During the four years that Dr. Grimm has been Program Director of the General Surgery residency training program, we have witnessed advances in academics, ABSITE performance, and educational activities of the Department. The graduating residents continue to match into competitive fellowship programs or successfully transition to private practice in general surgery. In 2020, Dr. Grimm applied to the Residency Review Committee (RRC) to expand the general surgical residency from five categorical residents to six categorical residents per year. In March 2021, we matched six new PGY 1 categorical residents and successfully added residents to fill out the PGY 2nd, 3rd and 4th year classes with six categorical residents. Drs. Hanna Alemayehu and Harrison Howard continued as Associate Program Directors and added immensely to the education of the general surgery residents. Dr. Howard stepped in as the chair of the Clinical Competency Committee of the General Surgery Residency program and Dr. Alemayehu did a formal review of the program, citing the overall excellence of the program but also focusing on areas where we can improve. Dr. Alemayehu left USA in May 2022 and Dr. Maryann Mbaka was named as Associate Program Director in her place.

Tyronda Rogers stepped in to take the position as the General Surgery Residency and Program Coordinator, while we recruited Cynthia Dennis as Assistant Program Coordinator for General Surgery and as the Program Coordinator for the Surgical Critical Care Fellowship Program. Both have done outstanding jobs in running these training programs and fostering a culture of excellence, comradery, inclusion, and success.

Division of Traumatology/Surgical Critical Care/Acute Care Surgery: During the past four years, Dr. Simmons has recruited more faculty to the Division, expanded the number of patients seen through a decrease in diversion time, and expanded into additional critical care coverage in the Neuro ICU. With the addition of Ashley Williams in September 2021, Dr. Nathan Polite in January 2021, and Dr. Maryann Mbaka in 2022, the division has expanded to a total of 10 faculty members. Dr. Sid Brevard retired in June 2022, leaving behind a legacy of excellence in trauma, critical care, and acute care surgery. Dr. Simmons served as vice chair of the Alabama Chapter of the American College of Surgeons Committee on Trauma and is a member of the Alabama Statewide Trauma and Health Systems Advisory Council. In addition, Dr. Simmons is a member of the scholarship committee for the American Association Surgery of Trauma. Dr. Butts and Mbaka directed multiple courses of Advanced Trauma Life Support Training. Dr. Chris Kinnard took over the directorship of the surgical critical care fellowship from Dr Brevard. Dr. Nathan Polite

took over the job of the assistant program director and has been named the director of the Neurosciences ICU.

Burn Surgery: Andrew Bright is in his fourth year as the director of the Arnold Luterman Regional Burn Center and has done a fantastic job continuing the excellence in clinical care. With the help of Caleb Butts, Andrew mentored Drs. Mbaka and Williams in all aspects of burn care. The burn unit continued to grow in number of patients seen and treated, as well as continuing the excellent quality of care as measured by the observed-to-expected mortality (O/E ratio). Seminal studies performed by Dr. Bright in the use of chemical debridement of burn wounds using NexoBrid® have shown dramatic improvement in debridement specificity, mitigation of septic response, and mitigation of blood loss associated with surgical debridement.

Pediatric Surgery: Chip Hartin, M.D. FACS, has been Chief of the Division since July 2016 and he has done a remarkable job recruiting excellent faculty into the division, expanding the number of surgical cases, improving patient care, and improving the educational experience for residents and students. Dr. Alemayehu has been very influential in general surgery residency training through her work on mock orals, improving interviews for prospective residents, and serving as one of the Associate Program Directors in the General Surgery resident training programs. However, Dr. Alemayehu was recruited to Emory University in Atlanta and left USA in May 2022. Dr. Weaver started a pediatric bariatric surgery program and has added greatly to the clinical and academic success of the Division through improvements in pediatric trauma and burn care. Drs. Hartin, Alemayehu, and Weaver have reinvigorated medical student and resident teaching on the pediatric surgery service, achieving high levels of resident and medical student satisfaction with their educational experience. Dr. Weaver trained on the DaVinci robot system and has started a robotic pediatric surgery program.

Colorectal Surgery: Dr. Rider is in his seventh year as the Chief of the Division of Colorectal Surgery, continuing the development of the colorectal surgery division. Dr. Rider also served as President of the Alabama Chapter of the American College of Surgeons this past year. Drs. Grimm and Rider developed the multidisciplinary colorectal cancer multidisciplinary tumor conference (MDT) in collaboration with radiation and medical oncologists in order to provide improved cancer care in the region. Since the establishment of the colorectal cancer MDT in October 2015, this multi-disciplinary team has treated hundreds of patients. The team has just undergone a site visit for recognition as a rectal cancer Center of Excellence. More than half of the patients came to USA from outside Mobile to obtain expert care for their colorectal cancer. John Hunter, MD, continued as the director of the Robotic Surgery at USA and has been instrumental and maintaining the robotic simulation system, as well as training and helping to proctor Drs. Maryann Mbaka at University Hospital and Katrina Weaver at Children's and Women's Hospital.

General Surgery: The Charles and Mary Rodning endowment for the educational activities of our residents has proved to be instrumental in funding travel for surgical residents and faculty to present their scientific work at regional and national meetings. One

of the major improvements in resident autonomy and education was creation of a Chief Resident Clinic, which is run by the PGY 5 Chief Resident with close attending supervision. This allows the chief residents to run their own clinic and increase their decision-making in preparation for complete autonomy. There has been substantial improvement in quality of general surgical services, which includes our Gastrointestinal, Colorectal and Oncologic Surgery Divisions, as measured by the Vizient observed-to-expected mortality, which was substantially better than expected. This better-than-average performance has been an accomplishment made possible through excellence in provision of patients care by all the surgeons, residents, and clinical staff of the DOS.

Breast and Endocrine: Drs. Spencer Liles and Lynne Dyess serve as co-directors of the Breast Cancer Multidisciplinary Conference, and both Drs. Liles and Dyess have moved to the Strada Patient Care center where they have increased their clinical load substantially. Nurse practitioner clinics were added so that they can provide long-term care for breast cancer patients, as well as starting a new thyroid clinic for evaluation and treatment of thyroid lesions. Dr. Rachel Hunter has expanded the availability for surgical consultation for breast cancer and is working through our communications department to expand awareness of breast cancer treatment available at USA Health.

Plastic and Reconstructive Surgery: Ron Brooks, M.D., now in his sixth year as faculty member, has established himself as an expert plastic and reconstructive surgeon who collaborates with many of our faculty in the care of trauma, cancer, and infectious wounds. He has added very valuable expertise in reconstruction after breast cancer, melanoma, and rectal cancer surgery. Dr. Curtis Harris retired in the Spring of 2022 after providing expert care of patients needing plastic and reconstructive surgery for 32 years at USA Health. He was honored at the annual Graduating Chief Resident Banquet in June 2022. Kelsey McKee, MD, has been recruited to join the faculty in plastic/reconstructive surgery in September 2020 and has developed a thriving practice. Active recruitment of another plastic surgeon is ongoing.

Gastrointestinal and Bariatric surgery: The Bariatric surgery program under Dr Richards' direction continues to increase the number of operative cases and has less than 0.1% operative mortality rate, while continuing to operate on patients who have a host of co-morbidities. Complex Bariatric and GI surgical procedures are increasingly being performed using the Da Vinci robotic system. Studies showing improvements in patient outcomes using low pressure pneumoperitoneum and advances in patients' outcomes using the DaVinci robot were presented and published.

Surgical Oncology: Dr. Liles has continued in his role as one of the Chief Medical Information Officers for USA Health. This entailed working with IT to improve the electronic health record (EHR) support of hardware and software to optimize our ability to care for patients. Harrison Howard, MD was appointed Interim Medical Director of Clinical Trials at the MCI.

Marty Heslin, MD, Director of the USA Health Mitchell Cancer Institute, has already made a huge impact within the entire system and continues to provide services as a skilled

surgical oncologist. He has formulated plans to support research fellowships for general surgical residents training at the University of South Alabama.

Humanitarian Efforts: Because of the COVID-19 pandemic, the mission trip to Rwanda in 2021 did not occur. Andrew Bright gave the oath of office for the senior medical students graduating in May 2022 and served as the faculty advisor for the Medical Military Interest Group, which has as its aims to improve awareness, resources, networking, and community service.

Research: Academically, the Department has published an astounding 24 peer-reviewed publications in the medical literature. The faculty have also published 3 book chapters in major textbooks of surgical sciences this past year. Despite the lingering aspects of COVID, the faculty of the Department of Surgery presented 38 abstracts (papers, posters) this past year, demonstrating high level of academic involvement locally, regionally, and nationally.

Grant funding also increased this past year with several new grants being funded. All told, the Department generated \$884,436 in extramural funding and includes five clinical trials, nine endowments, and a pilot award from the Center for Clinical and Translational Science (CCTS). Dr. Fonseca has continued to work on her research program and has submitted several grants and has been awarded as the PI a pilot grant from the CCTS entitled “Patient and stakeholder reported perspectives on barriers and access to oncologic care in pancreatic cancer.” She has applied for many other grants, including a K23 award from the NIH.

The research collaboration between Jon Simmons, MD, and the Chair of Pharmacology Mark Gillespie, PhD., has been very fruitful. Dr. Jon Simmons has completed the 5-year K08 Mentored Clinical Scientist Award from the NIH directed at a surgeon in the early stages of their career who shows promising development as a surgeon scientist. The grant entitled “mtDNA DAMPS: A Pharmacologic Target in Multi-Organ System Failure” explored a potential pharmacologic treatment that addresses the underlying etiology of remote organ failure in trauma and sepsis. Additional grants to fund this research have been submitted.

Dr. Richards has been collaborating with Lyudmila Rachek, PhD, on the project, “Mitochondrial DNA Damage and DAMPs in inflammation and insulin resistance.” A R01 grant application was resubmitted to the NIH.

Our surgical oncologists have been very involved in clinical trials, including Dr. Howard’s participation in SWOG 1801 as institutional PI on “A phase II randomized study of adjuvant versus neoadjuvant MK-3475 (pembrolizumab) for clinically detectable stage III-IV high risk melanoma.” Dr. Howard also serves as institutional PI for MK-3475-630 “A phase III randomized double-blind placebo-controlled study to evaluate Pembrolizumab versus placebo as adjuvant therapy following surgery and radiation of high-risk locally advanced cutaneous squamous cell carcinoma”.

Industry funding for research projects has rebounded after COVID shutdowns occurred. Dr. Bright has shown excellent results using NexoBrid® for chemical debridement of burn wounds, and Dr. Rider has presented the outcomes of Oliceridine and IV opioid analgesic in reducing post-operative ileus based on an industry-sponsored study. Drs. Rider and Grimm were also co-authors for the podium presentation on: “Outcomes of a prospective randomized study of transanal dearterialization verses Ferguson hemorrhoidectomy”. Drs. Richards and McMahon started enrollment in the long-term LINX registry sponsored by Ethicon. This study looks at short and long term (10 year) outcomes post Magnetic Sphincter Augmentation for GERD.

In summary, the Department of Surgery faculty are collaborating with basic scientists at the MCI, the University and with the College of Medicine basic science departments in a wide range of research activities. Multiple grant proposals have been submitted, which has resulted in funding for several projects and with many promising reviews. These research projects, which are primarily clinical translational research, demonstrate the wide range of expertise the faculty in the Department has developed. Increasingly, the Department of Surgery is recognized for expertise in the care of trauma, burns, colorectal cancer, hepatic-pancreatic-biliary cancer, breast cancer, melanoma, and esophageal disorders.

2021-2022
Summary of Activities
USA Center for Lung Biology

General Operations

The CLB's mission is to provide state-of-the-art scientific development in lung biology that advances the understanding of human health and disease, to improve patient care, and to serve as the foundation for outstanding graduate, post-graduate, and fellowship training. More than 40 faculty members and 50 graduate students, postdoctoral fellows, and pulmonary fellows from various departments within the College of Medicine are actively participating in a strong collaborative research environment, a research seminar series and journal club, and graduate, postdoctoral, and fellowship training.

We have continued to update our CLB website along with the College of Medicine. Our administrative offices are located in the Medical Sciences Building in Rooms 3340 on the main University campus. Ms. Jennifer Collins serves as support staff for the CLB and is responsible for clerical duties for the administrative office and research laboratories.

Detailed information about the CLB is available with a click on our homepage (<https://www.southalabama.edu/colleges/com/research/lung-biology/>). The web page is interactive and contains a variety of information including faculty and student bibliographies, recent publications, and information regarding scientific and training programs. Our annual report is available through Ms. Jennifer Collins (460-7086) at the CLB office.

Research Activities

The CLB was well represented at national and international scientific meetings with a number of faculty, postdoctoral fellows, and graduate students presenting their work at multiple forums, including the American Heart Association, Federation of American Societies for Experimental Biology, XXIX Congress of the International Society for Advancement of Cytometry, American Physiological Society, Southern Biomedical Engineering Conference, Gordon Conference, and the International American Thoracic Society.

Our Critical Care Conference series in conjunction with the Pulmonary Division hosted five speakers. This conference focuses on translational research and acute lung injury and is held monthly on Fridays at 2:00 pm. CLB faculty members presented this year's series.

Dr. Troy Stevens, Professor and Chair, Department of Physiology and Cell Biology, presented *Update on Amyloid and Critical Illness*; Dr. Michael Francis, Assistant Professor, Department of Physiology and Cell Biology, presented *Emerging Applications of Virtual Reality in Medicine*; Dr. Amy Nelson, Assistant Professor, Department of Physiology and Cell Biology, presented *The Impact of Amyloids on the Brain-Pneumonia to Dementia*; Dr. Ji Young Lee, Assistant Professor, Departments of Physiology and Cell Biology, Center for Lung Biology, Internal Medicine to Pulmonary/Critical Care Medicine, presented *Acidosis and Lung Endothelium-*

Bedside to Bench; and Dr. Wito Richter, Associate Professor, Department of Biochemistry, Center for Lung Biology, present *PDE4 as a Therapeutic Target*.

Extramural Funding

In the past year, CLB principal investigators submitted 70 grant applications to the American Heart Association (AHA), National Institutes of Health (NIH), and other foundations/industries. To date, nineteen applications from the previous fiscal year were awarded generating over \$7 million in new revenue over the next five years.

Dr. Glen Borchert, Associate Professor, Department of Pharmacology received the following two NSF Awards entitled *Long G4 regions (LG4s) in the human genome constitute functional enhancers that coordinate neighboring gene expressions* and *Salmonella sRNAs drive the decision between active stress resistance and persist cell dormancy*. Jeffrey DeMise, Graduate Student, Department of Pharmacology (Mentor Dr. Glen Borchert) received the following award AL-EPSCoR Fellowship entitled *Graduate Research Scholars Program (GRSP) Awards (Round 17)*. Abigail Boyd, Graduate Student, Department of Biochemistry (Mentor Dr. Wito Richter) received the following CFF Student Fellowship Award entitled *Pseudomonas aeruginosa-derived noncanonical cyclic nucleotides as biomarkers and virulence factors in CF lung disease*. Edward Fiedler, Graduate Student, Department of Biochemistry (Mentor Dr. Wito Richter) received the following CFF Student Fellowship Award entitled *PDE regulation of CFTR activity and bicarbonate secretion in mice*. Dr. Ji Young Lee, Assistant Professor, Department of Physiology and Cell Biology and Internal Medicine received the following NIH R01 Award entitled *Acidosis in pulmonary endothelial injury and repair*. Dr. Lyudmila Rachek, Assistant Professor, Department of Pharmacology received a Breast Cancer Research Foundation of Alabama - BCRFA entitled *Gene expression analysis in mouse breast cancer models with mitochondrial targeted TAT-hOGG1*. Dr. Mike Lin, Associate Professor, Department of Physiology and Cell Biology received a Competitive Renewal on the following NIH R01 Award entitled *Nosocomial pneumonias impair cognitive function*. Dr. Mark Gillespie, Professor and Chair, Department of Pharmacology received the following NIH OTA (subcontract with UAB Dr. Jeanne Marrazzo, and NYU Grossman School of Medicine) entitled *Deep South SARS-CoV-2 Recovery (DSR) Cohort*. Dr. Thomas Rich, Professor, Department of Pharmacology, received the following Competitive Renewal on 2021 AHA IUSF entitled *Undergraduate Summer Research Experience at University of South Alabama*. Santina Johnson, Graduate Student, Department of Pharmacology (Mentor Dr. Thomas Rich) received the following CCTS TL1 Student Fellowship Award entitled *Probing Gq and arrestin mediated regulation of mechanical and chemical signals in human airway smooth muscle cells*.

We had five faculty receive Intramural Research grants through the College of Medicine, Dr. Jin Kim, Assistant Professor, Department of Microbiology and Immunology entitled *Identification of highly selective packaging signal sequences of influenza A virus for developing drug-resistance free therapeutics*; Dr. Jonathan Audia, Professor, Department of Microbiology and Immunology entitled *Request for an Additional Year of Bridge Funding Support*; Dr. Wito Richter, Associate Professor, Department of Biochemistry entitled *Targeting cAMP signaling and PDE4 in metabolic syndromes*; Dr. Natalie Bauer, Associate Professor, Department of Pharmacology entitled *Extracellular Vesicle Signaling in the Pulmonary Circulation*; and Dr.

Viktor Solodushko, Associate Professor, Department of Pharmacology entitled *Testing the efficacy of a novel easily modifiable replication-deficient influenza A*.

Our Murray Bander Faculty Development Award recipients for 2022 are Dr. Natalie Bauer, Associate Professor, Department of Pharmacology entitled "*Extracellular Vesicle Signaling in the Pulmonary Circulation*", Dr. Amy R. Nelson, Assistant Professor, Department of Physiology and Cell Biology entitled "*Understand how pneumonia-induced lung endothelial tau impacts the cerebrovascular system*", and Dr. Sarah Sayner, Associate Professor, Department of Physiology and Cell Biology entitled "*Determine whether cytotoxic prion-like transmissible amyloids and tau variants generated during a P. aeruginosa infection alters cyclic nucleotide signaling in pulmonary microvascular endothelial cells*".

Previous recipients of the Murry Bander award

2021 Dr. Jin Kim, Dr. Jon Audia, Dr. Michael Francis, and Dr. Lyudmila Rachek

2020 Dr. Natalie Gassman, Dr. Sarah Sayner

2019 Dr. Silas Leavesley and Thomas Rich

We had two graduate students receive Intramural Research grants through the College of Medicine, Jenny Hewes, Department of Pharmacology (Mentor Dr. Natalie Bauer) entitled *Inflammation in a PAH model: A Gender and Disease Progressive Study*, and Reece Stevens, Department of Physiology and Cell Biology (Mentors Drs. Ji Young Lee and Ronald Balczon) entitled *Anhydrase IX Signaling Protects the Pulmonary Endothelial Barrier*.

Education

During this academic year, 24 predoctoral fellows trained in the laboratories of CLB faculty and others affiliated with the Lung Biology track in the Basic Medical Sciences Doctoral Program. One Lung Biology trainee completed the requirements for the Ph.D. within this academic year (Abigail Boyd). Abigail Boyd is a Postdoctoral Fellow at the University of South Alabama in the Department of Biochemistry.

Four Lung Biology trainees are supported by individual predoctoral fellowships (Jenny Hewes-COM Intermural Grant, Reece Stevens-COM Intermural Grant, Abigail Boyd-CFF Student Fellowship, and Santana Johnson-CCTS TL1 Predoctoral Fellowship).

2021-2022
Summary of Scholarly Activities
Center for Healthy Communities

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Li j, Beiser A, Dey NB, Takeda S, Saha LK, Hirota K, Parker LL, Carter M, Arrieta MI, Sobol RW. A high-throughput 384-well CometChip platform reveals a role for 3-methyladenine in the cellular response to etoposide-induced DNA damage. *NAR Genom Bioinform.* 2022;4(3):lqac065.

Saiyasit N, Butlig ER, Chaney SD, Traylor MK, Hawley NA, Randall RB, Bobinger HV, Frizell CA, Trimm F, Crook ED, Lin M, Hill BD, Keller JL, Nelson AR. Neurovascular dysfunction in diverse communities with health disparities-contributions to dementia and Alzheimer's disease. *Front Neurosci.* 2022 Jun 29;16:915405.

II. PUBLISHED ABSTRACTS

Crook C, Crook E, Parker LL, Arrieta MI. Health fatalism in diabetes within populations of Mobile, AL. *J Investig Med.* 2022;70:741. Abstract no. 582.

Freed CR, Hanks R, Lio S, Parker LL, Carter MD, Arrieta M. Confronting health-related challenges associated with the COVID-19 pandemic: agency and collective resiliency in a local area with high health disparities. *Southern Sociological Society 85th Annual Meeting*; 2022 Apr 6-9; Birmingham, AL. p. 21.

Hanks RS, Freed CR, Lio S, Arrieta MI. Just another storm: conceptualizing older adults' perceptions of the COVID-19 pandemic. *Innov Aging.* 2021 Dec;5(S1):200.

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

Arrieta MI. Invited speaker. The immortal life of Henrietta Lacks. *Mobile Parks and Recreation Black History Month*; 2022 Feb 15; Mobile, AL.

Arrieta MI. Invited speaker. Community engagement: the genie is out of the bottle. *University of Alabama at Birmingham Center for Clinical and Translational Science Translational Research Summer Series*; 2022 Jun 22; Birmingham, AL.

Crook ED. Invited speaker. The march towards health equity: understanding and addressing health disparities [virtual presentation]. *South Baldwin (Alabama) Regional Medical Center Family Medicine Residency Conference*; 2021 Oct 12; Foley, AL.

Crook ED. Invited speaker. Importance of health equity, diversity and human rights. Mobile County Health Department 2021 Annual Winter Training and Observance of Human Rights Day; 2021 Dec 10; Mobile, AL.

Crook ED. Invited speaker. The social determinants of health: a focus on poverty [virtual presentation]. University of Nebraska Medical Center Department of Internal Medicine Grand Rounds; 2021 Dec 17; Omaha, NE.

Crook ED. Invited speaker. Be a thought leader. Abeneefoo Kuo Honor Society; 2022 Feb 11; Athens, GA.

Crook ED. Invited speaker. Being the bell cow(s) in bringing the university to the community. University of South Alabama Black Faculty and Staff Annual Reception; 2022 Feb 16; Mobile, AL.

Crook ED. Invited speaker. An overview of health disparities: a shocking and inhumane burden on disadvantaged communities. Vigor High School; 2022 Feb 2022; Prichard, AL.

Crook ED. Invited speaker. Characteristics of patients with CKD in obesity, T2D, and fatty liver disease. The National Diabetes and Obesity Research Institute 2nd Annual VJ Canizaro, MD Health Summit; 2022 Mar 11; Biloxi, MS.

Crook ED. Invited speaker. Kidney disease and therapeutics: a focus on diabetic kidney disease. Mississippi Academy of Sciences Population Health Symposium II; 2022 Apr 1; Biloxi, MS.

Crook ED. Invited speaker. Achieving health equity: a focus on poverty. Here's 2 Life Celebrate Life Project and Tour Virtual Mini-Conference; 2022 Apr 27; Birmingham, AL.

Crook ED. Invited speaker. Achieving health equity: a focus on poverty and opportunities for the faith-based community [virtual presentation]. Foundation of Life Church; 2022 Apr 30; Bessemer, AL.

Crook ED. Invited speaker. The All of Us Research Program: moving toward precision medicine and health equity. Precision Medicine Traveling Exhibit, University of South Alabama Charles M. Baugh Biomedical Library; 2022 Aug 23; Mobile, AL.

V. NATIONAL PROFESSIONAL RECOGNITION

Crook ED. Panelist. Health disparities: closing the gap. A Community Conversation. Coastal Conversations; 2021 Oct 19; Mobile, AL.

Crook ED. Keynote speaker for the Abeneefoo Kuo Honor Society in Athens, GA. 11 Feb 2022.

VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS

Led by Dr. Errol Crook, the University of South Alabama Center for Healthy Communities continues to foster partnerships with community and academic partners as well as other stakeholders. The Center's efforts are focused on research and community engagement. We have maintained NIH funding via projects outlined in the Research Core section. We have continued membership in a consortium of similar academic centers in Alabama, Mississippi, and Louisiana organized under the UAB CCTS.

A brief summary of our research and community engagement efforts is outlined below.

Research:

The Research Core, led by Dr. Martha Arrieta, has continued to focus on providing support to the research projects within the Center.

- 1) We are a member of the Southern All of Us Network, a consortium of Academic partners across Alabama, Mississippi, and Louisiana. The *All of Us* Research Program is an NIH-sponsored trial that will enroll one million participants to make precision medicine a reality. Dr. Crook is the site PI for this program. Enrollment continues to go well. There have been many outreach activities to enroll participants who are from underrepresented in biomedical research groups.
- 2) The Center continues to work under a sub-award on the 5-year project investigating DNA damage and repair capacity in partnership with Dr. Robert Sobol at the USA Health Mitchell Cancer Institute. Dr. Arrieta is the lead in recruiting the cohort via community-engaged methods. As of August of 2022, 194 participants had enrolled in the study. Second visits were conducted with 34 participants.
- 3) The Center continued activities under the sub-award from the NIH Community Engagement Alliance Against COVID-19 Disparities (CEAL) award to the University of Alabama at Birmingham. The project focuses COVID-19 awareness and misinformation, mistrust and misconceptions, and barriers to participation in clinical trials. The Center continued its partnership with a Strategic Planning Board (SPB) to formulate strategies for addressing the needs in the community in relation to the project's focus. Working with the partner churches, CHC continues to provide educational resources that can be shared via social media and print media.

Community Engagement:

Roma Hanks, PhD, directs the Community Engagement Core. The two main components of this core are The Community Health Advocate (CHA) Program and The Pipeline Program.

Our CHA program continues, with many of the CHAs providing long-term service and leadership in their community in the form of health advocacy through education and health initiatives. In this reporting year, CHAs have continued the focus on cancer education, heart health, monthly health focus, and healthy eating initiatives. CHAs organized both health fairs and blood drives during the year.

The Pipeline component focuses its efforts on high school students from underserved communities. It aims to reinforce STEM courses, expose students to the health professions,

and influence their choice of health professions career. This year, the program returned to a completely in-person format, with eleven students tackling a six-week rigorous schedule of academics, activities, guest speakers, and fun.

CHC continues to use the blog “The CHC Advocate” to disseminate information related to health disparities and community engagement. During the pandemic, we created a section called “Syndemic” to provide space for the sharing of stories, reflections, and mini-reviews of issues impacting justice, health equity, and the social determinants of health during the double pandemic of COVID-19 and structural racism. Several more submissions were added to the syndemic blog this academic year (<https://centerforhealthycommunitiesadvocate.wpcomstaging.com/tag/syndemic/>).

At the end of 2021, CHC received a sub-award from a three-year project with the Mobile County Health Department to train and deploy community health workers (CHW) in the county. Two CHWs have been trained and deployed at the Stanton Road Clinic starting August 1, 2022. The CHWs, along with the CHC Health Education Manager, also conduct community outreach events.

Research Training and Mentoring:

Dr. Crook continues to lead this core. We have been successful in maintaining the pipeline from our high school programs, mentioned above, to undergraduate studies and research efforts. One former pipeline student, now a senior at Vanderbilt, worked with the Center to analyze data from an evaluation of the CEAL Strategic Planning Board and presented a poster on the need for intergenerational work. Another student completed her undergraduate Honors Program thesis with the Center in the Spring of 2022. This student will be entering USA College of Medicine in the summer of 2022. A current medical student completed his second summer of research with the Center during the summer of 2022.

2021 – 2022
Summary of Scholarly Activities
Center for Strategic Health Innovation

I. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS

The Center for Strategic Health Innovation (CSHI) continues to serve as a leader in innovative healthcare technology applications and solutions. CSHI continues; 1) our long partnership with innovative programs with the Alabama Medicaid Agency, 2) health technology development and application, 3) applied informatics and healthcare analytics services, 4) technical assistance for meeting Meaningful Use requirements, 5) innovation programs with Medicare for value-based payment programs. CSHI actively promotes collaboration on projects with other USA colleges, College of Medicine departments, and other Regional Extension Centers (RECs) in the southeast US. We are continuing our partnership with four (4) of Medicaid's new Alabama Coordinated Health Networks (ACHN) to serve as their Health Information Management System (HIMS) vendor. The ACHNs provide coordinated consolidated case management services to Medicaid Eligible Individuals (EI) across Alabama.

Medical Informatics and Healthcare Technology: RMEDE™, our in-house developed Realtime Medical Electronic Data Exchange platform, continues as our platform to develop diverse projects tailored to our client's individual needs. CSHI utilizes innovative health technologies to improve the care, quality, cost and access to healthcare throughout Alabama. RMEDE™ is a secure web-based life-state management system that serves as the HIMS system for the ACHNs. The HIMS system supports care coordination for (EIs) for the following: 1) General and Transitional Care, 2) Maternity, 3) Family Planning, 4) Medical Monitoring. The RMEDE™ system addresses all facets of care coordination from assessing needs, creating care plans, tracking goals, monitoring progress, and reporting results. This year the RMEDE™ system was enhanced to include functionality to support remote delivery of care coordination in alignment with proper social distancing requirements due to COVID-19 restrictions. The system securely receives and sends data, compiles billing data, and provides reporting capabilities to the ACHNs. Reports are delivered via a secure web portal that utilizes Tableau®. The CSHI department partners with Medicaid and the ACHNs to enable data-driven decisions on patient care improvements.

CSHI continues to enhance and support our RMEDE™ Remote Patient Monitoring (RPM) program. There are currently over 1,000 active Medicaid Pt 1st patients participating in our in-home biomonitoring project. This program is a unique partnership between Medicaid, the Alabama Department of Public Health (ADPH) and USA's CSHI. Patient referrals are received from their primary medical provider (PMP) with the chronic disease diagnoses of hypertension, diabetes and congestive heart failure for in-home monitoring. Patients are instructed to dial-in their key physiologic parameters, and an ADPH Biomonitoring Nurse is assigned to monitor the results and submit reports to the patient's provider. Data are utilized by Medicaid to determine benchmarks for compliance and comparisons.

The Alabama Regional Extension Center (ALREC) continues to operate within the Center for Strategic Health Innovation at the University of South Alabama (USA). Since the ONC grant has ended, as part of its sustainability model, ALREC continues to offer its fee-for-service line that provides assistance to eligible clinicians throughout the multiple stages of Promoting Interoperability (formerly Meaningful Use) and MIPS attestations. Since Medicaid's Promoting Interoperability Incentive program has phased out, the REC is now focused on assisting eligible clinicians with their Merit-based Incentive Program submissions, including conducting annual Security Risk Analyses. ALREC is currently consulting with multiple medical practices throughout southern Alabama, working directly with roughly 290 physicians, nurse practitioners, and physician assistants. Approximately \$97,000 was received in revenue from ALREC's membership service line. At the end of the Medicaid Promoting Interoperability Program, ALREC assisted USA Health providers with 83 attestations, resulting in nearly \$663K in incentive payments. ALREC continues to work with USA Health University Hospital to monitor 271 physicians, helping them to complete their MIPS data submission while scoring above the exceptional performance threshold, which can result in up to 9% in positive payments adjustments.

CSHI and the USA Department of Family Practice are partnering on a HRSA grant, Partnering to Improve Population Care. The purpose of the grant is to increase the number of primary care physicians and improve the health of the population in the USA Health area through the expansion and enhancement of a Population Care Pathway program. Forty medical students will be given the opportunity to receive enhanced community training at one of the community clinical sites during their four years as a medical student. Five rural health clinics have been established as the clinical sites for the telehealth program. Telehealth carts are in place at each site location along with a site coordinator to guide and assist the medical students with the technology. The students have full access to the telehealth carts and are able to virtually connect with each other during online sessions, which provides each student with a unique experience to engage with one another using this telemedicine technology in rural areas.

2021-2022
Summary of Scholarly Activities
Center for Disaster Healthcare Preparedness

- I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS**
- II. PUBLISHED ABSTRACTS**
- III. PUBLISHED BOOKS**
- IV. INVITED PRESENTATIONS**
- V. NATIONAL PROFESSIONAL RECOGNITION**
- VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS**

The Center for Disaster Healthcare Preparedness (CDHP), since 2004, continues to serve as a leader in healthcare disaster preparedness, coordination and response training. David Wallace, DVM, serves as the Director, CDHP. CDHP manages the Alabama Incident Management System (AIMS) and training programs through a cooperative agreement with the Center for Emergency Preparedness (CEP), Alabama Department of Public Health (ADPH) and Health & Human Services (HHS), Administration for Strategic Preparedness and Response (ASPR).

Healthcare Coordination

CDHP serves as a coordination center and fiscal agent supporting the efforts of strengthening preparedness and response capabilities for the State of Alabama. CDHP works closely with all nine Health Care Coalitions (HCC) and ADPH to advise, support, oversee, and provide guidance to coalitions striving to accomplish the mission set forth in the Hospital Preparedness Program (HPP) grant administered by ASPR, delineated in the Funding Opportunity Announcement (FOA): EP-U3R-19-001. Implementation of the activities and objectives found in the 2017-2022 Healthcare Preparedness and Response Capabilities, aids to ensure a comprehensive coordination program designed to accomplish the benchmarks and programmatic activities set forth in the grant guidance. CDHP's Coordination Program utilizes coalition district work plans and strategic goals to identify and address gaps, build capability and capacity to respond to disasters, helping to ensure consistent healthcare delivery. Activities conducted to support the mission include training, workshops, exercises, planning, evaluation, guidance interpretation, administrative support, as well as providing the essential data collection and communication services of the Alabama Incident Management System (AIMS), which helps to maintain a common operating picture for response as well as situational awareness in healthcare facilities around the state. This annual report will provide an overview of activities in more detail, demonstrating the services and support for the Health Care Coalitions (HCCs) for the State of Alabama by CDHP.

CDHP works closely with the ADPH HCC Program Director, HCC Coordinators, and HCC membership to assist in accomplishing the four capabilities of the Hospital Preparedness Program (HPP). These four capabilities are:

- Capability 1: Foundation for Healthcare Medical Readiness
- Capability 2: Healthcare and Medical Response Coordination
- Capability 3: Continuity of Healthcare Service Delivery
- Capability 4: Medical Surge

All activities included in this annual report reflect efforts to support, facilitate, and expand the four capabilities of the program. CDHP staff assist in the HCCs accomplishment of the programmatic benchmarks, capabilities, objectives, and required activities included in the Scope of Work for Healthcare Coalition Coordination and the HPP Cooperative Agreement. CDHP consistently communicates, meets and collaborates with each of the nine HCCs in Alabama to develop and strengthen preparedness and response capabilities of the healthcare coalition members through the implementation of objectives and activities as defined in the 2017-2022 Health Care Preparedness and Response Capabilities & 2019-2023 HPP Performance Measures Implementation Guidance. CDHP works to streamline processes and create consistency in mechanisms to promote planning, training, collaborating and exercising across the coalition districts to assist ADPH in achieving the benchmarks indicated in the FOA HPP Cooperative Agreement.

Throughout the grant year, CDHP conducted ADPH-CEP Health Care Coalition bi-weekly meetings via ZOOM in order to provide guidance, set goals, track progress, and discuss training and exercises as required by the HPP FOA and implementation guidance.

Activities included in the following paragraph reference functions completed by each of the HCC Districts. The activities listed were supported and/or conducted in coordination with each HCC Coordinator and/or HCC Program Director. CDHP staff review and assist with completion of the annual work plan and budget for the Fiscal Grant, as well as the Supplemental Grant funded by HPP/ASPR. CDHP provided an HPP/HCC/CDHP orientation for the new ADPH-CEP Director of Hospital Preparedness and worked closely with staff within ADPH-CEP to review revised scopes of work and budgets. Collaboration with each HCC is instrumental to continue progress in completing HPP Calendar requirements which are subdivided into 6 categories:

- Sustainability
- Planning
- At-Risk Populations
- Training; Exercise
- Testing and Reporting
- Assessments

Planning and preparedness are key components of the HCC Readiness Program. Throughout the year, HCCs completed the Burn Surge Annex to the Response Plan. CDHP assisted HCCs in the annual review and revision of the Hazard Vulnerability Assessment (HVA) as part of the continual planning and preparedness cycle. HCC Districts conducted

annual Gap Analysis to determine gaps and strategies needed to achieve prioritized HCC capabilities and funded projects. CDHP assisted HCCs in annual review, update and maintenance of each respective HCC governance structure. Membership contact review and revision is also a critical component of maintaining a sustainable HCC. CDHP assisted in the completion of a Continuity of Operations Plan (COOP) plan for each HCC. HCCs also conducted a supply chain integrity assessment and formulated strategies to conduct an analysis and gather pertinent information to assist in the readiness effort. HHS emPower data, which is key to identifying at-risk populations, is shared with appropriate HCC members on a biannual basis to help ensure vulnerable populations are identified and accounted for during planning and response efforts to disasters. In order to build sustainability, efforts to advance responder health and safety are also a consideration. CDHP provided mental/behavioral health considerations for incorporation into HCC Response Plans.

Exercise and training support the preparedness capabilities and test planning efforts. Redundant communication drills are conducted two times a year within each HCC District. CDHP also supported, planned, executed, and validated the Burn Surge Annex, utilizing a tabletop exercise in each of the coalition districts. The planning, coordination, and execution for the virtual and onsite deliveries were conducted during this project period. Public Information Training, National Incident Management System (NIMS), as well as Incident Command Systems (ICS) training opportunities, were made available to HCC members across the state as required by the HPP Grant.

As the COVID response continued to affect the Health Care Coalition districts with hospital surges and high infection rates in 2021, HPP determined that the HCCs could use the real-world pandemic response as an opportunity to evaluate the response efforts and coordination efforts within the State of Alabama. CDHP utilized survey questions completed by HCC membership to evaluate the pandemic response performance from the coalition perspective. There were 253 participants in the survey, which yielded informative information on strengths and weaknesses of the response. In order to better evaluate the Infectious Disease Annex of the HCC Response Plan, a facilitated table-top exercise was conducted in each HCC district. CDHP developed an extensive and comprehensive HCC COVID-19 survey, with input from partners and stakeholders, and customized it to the unique needs of each HCC. Once the vetted survey was finalized, CDHP then deployed it to all 9 HCCs. The survey questions consisted of focus areas of the Health Care Coalition efforts throughout the pandemic response that continues today.

Once survey results were obtained and analyzed, summaries for each specific coalition were compiled and presented to each of the HCCs (coordinators & members). Discussions between CDHP, HCC Coordinator and key HCC leadership revealed the findings of the survey, which then generated the report that was made available to each respective HCC member during a local coalition meeting. CDHP staff participated in the local HCC meetings as well, to maintain situational awareness and provide information and guidance as needed.

After discussing the findings of each HCC District with the members of the coalitions, CDHP staff then coordinated and scheduled an On-site Delivery of a Table-Top

Exercise/Survey Discussions within each HCC District to identify specific areas of improvement and strengths for their coalition. These events were hosted for the purpose of collecting information to include in the Corrective Action Plan/Improvement Plan, as well as a review of the HCC Infectious Disease Surge Annex, as written by the Health Care Coalition & membership.

The discussion-based events also revealed additional details regarding the healthcare experiences during the pandemic, as well as offered suggestions for solutions to improving response, communications, supply challenges, and other essential functions necessary during an infectious disease outbreak. The Table-Top Exercises/Survey Discussions were documented utilizing the Health & Human Services (HHS)/ASPR-recommended Homeland Security Exercise Evaluation Program (HSEEP) documents for consistency & proper credit for HCC core member participants. Each HCC Coordinator was actively involved in the discussion, collecting information, providing insight, and documenting important elements of the conversation to apply to their specific and customized After-Action/Improvement Plan. Each coalition contained similarities in the top items that posed the greatest challenge throughout the response, but there were unique dynamics and influences of each coalition independently.

The identified critical elements of the COVID response were then correlated with the HPP Core Capabilities. The Core Capabilities are listed below:

- Capability 1: Foundation for Health Care and Medical Readiness
- Capability 2: Health Care and Medical Response Coordination
- Capability 3: Continuity of Health Care Service Delivery
- Capability 4: Medical Surge

The survey and facilitated table-top discussions purpose was to capture those lessons learned in a low stress, no fault learning environment, where ideas and potential solutions could be identified and applied where appropriate. For feasibility purposes, each coalition was charged with finding a minimum of three strengths and three areas of improvement to focus. These strengths and areas of improvement will be identified in their final AAR for the COVID response and uploaded to CAT as required by the HPP grant. The critical components of the COVID pandemic response survey included:

- Staffing
- HCC Response & Coordination, Incident management
- HCC Communication Internal/External, HCC Information Sharing
- HCC Leadership
- Supplies & Logistics
- Facilities & Space Utilization / Surge
- Patient Transfers/Transportation
- HCC Planning & Preparedness, Infectious Disease Annex

As HCC Coordinators completed their COVID-19 AAR, CDHP staff compiled the information from all the coalitions into a summarized document from a statewide HCC perspective response to COVID-19.

Training

Due to COVID-19 restrictions, traditional in person training programs offered through the Coordination Program were suspended during 2021; however, onsite delivery, classes and in person training resumed in January 2022.

Now in its eighteenth year, CDHP is a recognized regional response training center designed to teach effective collaborative healthcare community response to all disasters, natural or man-made. This program is made possible by a grant from ADPH-CEP through a cooperative agreement from ASPR. The total number of students attending CDHP training from 2005 to 2022 is 22,255. This year, CDHP offered training on-site (Basic Course, Simulation Course and Administrative Healthcare Preparedness Symposium), as well as training throughout the state as requested by health care coalitions and facilities (On-Site Activities). The total number of students attending training during 2021-2022 is 1,111.

CDHP Basic is a two-day course designed to provide core disaster response training. Six sessions were scheduled this year with 278 in attendance. This popular training program is available to healthcare coalition members, public health staff and peripheral professions that support healthcare. This training includes essential elements such as foundational background and historical information pertaining to the HPP Program, Public Health & Healthcare Coalitions. The primary goal of the BASIC program is to establish a foundational understanding of disaster healthcare preparedness, sustainment of the HCCs, and build coalition networks that promote the regional concepts of response. This program was approved by the College of Medicine for 11.5 Continuing Medical Education credits.

BASIC topics included:

- Medical Surge
- Resource Management
- Hazard Vulnerability
- Crisis Standards of Care
- Infectious Diseases
- Biological, Chemical, and Radiological Hazards
- CMS Emergency Preparedness Requirements
- National Incident Management (NIMS)
- Healthcare Coalitions
- Incident Command Systems (ICS)
- Hospital Preparedness Program (HPP)
- Alabama Incident Management System (AIMS)
- Public Information & Crisis Communications
- Mental Health
- Stop the Bleed

- Cybersecurity
- Facility Safety & Security - Active Shooter

Disaster Healthcare Simulation: In partnership with USA’s Simulation Department, CDHP offered six Simulation sessions each consisting of a one-day interactive training in the form of simulated clinical scenarios for clinicians charged with disaster response in their organizations. There were 147 students in attendance for the simulation training. This program was approved by the College of Medicine (COM) for 6 Continuing Medical Education (CME) credits.

Administrative Symposium: The Healthcare Emergency Preparedness Symposium is a two-day program designed for Chief and Administrator level personnel charged with disaster response and/or preparedness for their organizations. Nationally and Internationally recognized speakers representing emergency preparedness practitioners, professionals, leaders and consultants, provide current and best practices based on real-events and experiences.

The 2022 session focused on administrative and management issues facing healthcare facilities during disasters and provided a platform for knowledge exchange, reinforcement of lessons learned, and a sharing of regulatory updates specifically related to emergency/disaster management issues identified from previous disaster responses. The Symposium was held on June 28-29, 2022 on the campus of the University of South Alabama and had 75 in attendance. This program was approved by the College of Medicine for 11.5 CME credits.

Onsite Activities (Previously known as Roadshows)

Onsite activities are educational training hosted virtually or on location where CDHP staff can provide direct training and/or activities as requested by the HCC or HCC member. These activities provided training, such as proper use of personal protective equipment (PPE), facilitated discussions, presentations, and after-action reviews. These specific activities supported requirements as indicated by the FOA and Implementation Guidance intended to progress the preparedness, response, and recovery mission of the HCCs. There were 569 students in attendance at various Onsite Activities.

Orientation to Health Care Coalitions

To aid in educating and supporting new HCC Coordinators as they onboard, CDHP created an in-depth orientation program to provide an overview and understanding of the HPP Program, HCC requirements, and introduce them to the resources available to them by CDHP. This training serves an essential foundational orientation for new as well as seasoned HCC Coordinators.

The HCC Orientation, includes the following:

- Funding Opportunity Announcement (FOA) # EP-U3R-19-001 & Hospital Preparedness Program
- Full review of Appendix A of the FOA that outlines 2019-2023 HPP FOA Requirements, Capabilities, Objectives, and Activities
- Review of the FOA Cooperative Agreements of 2020, 2021, & 2022

- 2017-2022 Health Care Preparedness & Response Capabilities
- 2019-2023 Hospital Preparedness Program Performance Measures Implementation Guidance
- 2017-2022 HPP-PHEP Cooperative Agreement CDC-FRA-TP17-1701 / HPP-PHEP Exercise Requirements
- Capabilities Assessment Tool (CAT) Reporting Forms & Website
- ASPR HCC Work plans & Budget Templates
- ASPR TRACIE resource website
- Fiscal Agent Roles & Responsibilities
- Performance measure tools used for tracking activities of the coalition (BP Trackers, Calendars, Plan Checklists)
- Current status of respective HCC plans, discussion, and strategic planning

ALABAMA INCIDENT MANAGEMENT SYSTEM (AIMS)

In 2004, AIMS launched its beginnings as a simple bed capacity reporting system with only 10% of Alabama Hospitals participating. Nearly twenty years later, AIMS has grown into a mature, reliable, and trusted disaster management tool, encompassing data collection and analysis, resource requests, communications, people tracking and situational awareness among its 2300 users. Users include Hospitals (100%); Nursing Homes; Public Health; Emergency Management Agencies; Emergency Medical Services; Community Health Centers and numerous healthcare entities affiliated with one of the nine Alabama HCCs. The growth in AIMS operational capacity and capability has been a result of being put through incredibly challenging events, such as hurricanes, tornadoes, heat-related incidents, transportation accidents and response to COVID-19 pandemic.

AIMS was certified by the Department of Health and Human Services (DHHS) in 2020, as the state's sole system for Hospitals to report the Federally required COVID Capacity & Utilization data, which is then compiled, reviewed and uploaded to HHS Protect for compliance. The multitude of data elements were analyzed and tabulated into requested reports to support internal and external stakeholders and partners including: HHS Protect/Centers for Medicaid and Medicare Services (CMS); National Healthcare Safety Network (NHSN), Alabama Department of Public Health (COVID-19 Dashboard; Center for Emergency Preparedness (CEP), State Health Officer and chief medical personnel, Division of Epidemiology, State Pharmacy, Public Information/Media Relations); the Alabama Hospital Association (AlaHA); the Mobile County Health Department (MCHD) and others response agencies as requested.

Data reported into AIMS fed the ADPH COVID-19 Dashboard- Tab 7 (COVID positive hospitalizations). During the 2021-2022 grant year, the largest spike in COVID+ hospitalizations as reported into AIMS was on January 24, 2022 with 2,961 COVID+ admissions. Although not reflected on tab 7, on January 20, 2022, the state reported its highest pediatric COVID+ admissions of 110.

The AIMS team worked closely with hospitals on accuracy and completion of three core daily reports including Bed Capacities (Adult ICU; Adult Med/Surg; Labor & Deliver; LTAC; NICU; Ped Med/Surg; PICU; Psychiatric; ED, OR, and other beds as Hospitals selected to report) and Resources (Negative Pressure, Ventilator and Morgue); HHS COVID Capacity and Utilization Report (60+ data fields defined and required by HHS/CMS as a condition of participation (CoP) including: Patient Status; Staffing; PPE and Medical Supplies; Influenza; Therapeutics and Vaccine Administration). The third, COVID Inpatient Survey Report, collected data on every hospitalized COVID+ patient upon discharge and/or death. AIMS calculated the Inpatient Survey submissions to track the total number of COVID+ hospitalizations in the state. In addition to these three core reports, additional reports and queries (COVID and Non-COVID) were developed to support data needs of facilities and response partners such as quarterly National Disaster Medical System (NDMS) Alabama bed capacity reports.

In addition to serving as a data collection tool, AIMS equally serves as a communication tool amongst the thousands of users and response organizations. Following the national tiered response structure beginning at the individual facility level, to the county in which the facility is located, expanding to the Healthcare Coalition/Public Health District in which the organization is a part of, to the top of the tier of Statewide communications. Hospitals and HCC members continued to use AIMS as a primary source to communicate resource needs, share information, respond to real-events and participate in HCC and facility-based exercises.

From July 1, 2021 to June 30, 2022 there were 643 Notifications (text and email alerts), which resulted in a total of 8,886 messages exchanged regarding: Resources requests (501); General updates and information (72); Real event responses (15) and exercises conducted by HCCs and individual facilities (55). As indicated, there were over 500 resource notifications sent through AIMS. The majority of notifications/messages were requests from hospitals for assistance with patient transfers requiring higher acuity care and/or specialized medical needs. In summary, the most common, broad categories of bed types needed, and medical conditions and specialty care services requested were: ICU beds; Cardiovascular; Pulmonology; Neurology; Nephrology; Gastrointestinal; Psychiatric and Surgery services. Nearly 90% of the requests were documented as “CLOSED” (indicating the information and/or request was no longer needed and/or was elevated statewide for assistance) or “NEEDMET” (indicating the request was fulfilled). The success of being able to meet the needs were largely due to having a platform to share and exchange information and the collaboration of HCCs and state partners who worked to identify local capability/capacity within the HCC District, then elevated needs to surrounding districts and/or statewide when needed. In addition, state partners (ADPH, USA-CDHP, Alabama Hospital Association (AlaHA) and United States Department of Veterans Affairs) communicated and collaborated to offer assistance with requests.

Throughout COVID-19 a tremendous amount of data has been collected in AIMS. The CDPH team worked to implement data downloads into excel spreadsheets so that individual facilities could easily extract and analyze their data for maintaining situational awareness and as part of the after-action review and improvement planning process.

Specific research and coding projects focused on building and enhancing data visualizations through reporting dashboards and automated electronic reports.

AIMS continued to provide ongoing 24/7 customer support with organization and/or individual accounts, data submissions for all reporting tools, monitoring and assistance with all notifications and requests, and operational training through in-person sessions, zoom, email, phone calls and text.

2021-2022
Summary of Scholarly Activities
USA Comprehensive Sickle Cell Center

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Pack-Mabien A, Bakitas M, Haynes J Jr, Ladores S, Landier W, Raju D. Pediatric to adult care transition program for sickle cell disease evaluation. *Pediatr Nurs*. 2022 Mar-Apr;48(2):68-78, 102.

II. PUBLISHED ABSTRACTS

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

Haynes J Jr. Invited speaker. How a Tuskegee foundation shaped my future [virtual presentation]. Founders Day Observance, Long Island Tuskegee Alumni Association; 2022 May 30; Mobile, AL.

Haynes J Jr. Invited speaker. Racism, a public health crisis. National Public Health Week, Public Health Interest Group; 2022 Apr 4; Mobile, AL.

Haynes J Jr. Invited speaker. Sickle cell disease and prostate cancer in the African American community. Alpha Phi Alpha Fraternity, Theta Delta Chapter at University of South Alabama; 2021 Nov 19; Mobile, AL.

Haynes J Jr. Invited speaker. Pathophysiology and manifestation of sickle cell disease. Sickle Cell Disease Association Educator Certification Program; 2021 Oct 27; Mobile, AL.

Haynes J Jr. Invited speaker. COVID-19 and variant trends in the Mobile area, hospitalizations, and areas of community concerns. Alpha Kappa Alpha Sorority's Trust the Science Community Health Fair and Vaccine Event; 2021 Oct 23; Mobile, AL.

Haynes J Jr. Invited speaker. Sickle cell disease, acute chest syndrome. Morehouse College of Medicine, Pulmonary/Critical Care Division Grand Rounds; 2021 Oct 11; Atlanta, GA.

V. NATIONAL PROFESSIONAL RECOGNITION

Johnson Haynes, Jr.: Panelist, COVID-19 and Variant Trends in the Mobile Area, Hospitalizations, and Areas of Community Concerns. Alpha Kappa Alpha Sorority's Trust the Science Community Health Fair and Vaccine Event. Panelist, Racism, a Public Health Crisis. National Public Health Week, Public Health Interest Group.

VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS

General Operations/ Service: Dr. Johnson Haynes, Jr., continues as Director of the USA Comprehensive Sickle Cell Center. The USA Comprehensive Sickle Cell Center continues to improve the delivery of clinical and educational services to individuals affected with sickle cell disease, family members of affected individuals, and health care providers.

Education: Historically, the Center faculty has provided a broad series of lectures throughout the academic and private medical community, along with lectures for the Counselor/Educator Certification Program, which takes place at the Sickle Cell Disease Association of America, Mobile Chapter. Lectures were provided to Internal Medicine residents and emergency department residents and faculty. The USA Sickle Cell Center has sponsored a clinical-based, regional conference on practical issues involving sickle hemoglobinopathies for the last 18 years. The 2021 conference, *Sickle Cell Disease Practical Issues XVIII: What's in your Genes? The Promise of a Cure* was a virtual conference held on May 15, 2021.

The Dr. Cecil L. Parker, Jr. Sickle Cell Disease Distinguished Lectureship Endowment is in its 14th year and continues to provide funding to support the USA Comprehensive Sickle Cell Center educational agenda in perpetuity. We will continue the clinical operations with the same determination and sincerity as we have previously. We continue to seek the necessary grant support to maintain all clinical and research activities, as well as continue requesting the necessary financial support currently made available by the University of South Alabama, College of Medicine.

Research: Ongoing research projects include:

1. Comparative Effectiveness of Peer mentoring vs Structured Education Based Transition Programming for the Management of Care Transitions in Emerging Adults with Sickle Cell Disease (Sub-Contract with Carolinas Healthcare System, Standard (STE) Arm, Patient-Centered Outcomes Research Institute). This contract is currently in its fifth year of five.
2. Alabama Sickle Cell Tracking Access Towards Equality. This contract is currently in its second year of three. (9/30/2020 – 9/29/2023)

Clinical Operations / Services: The Adult Sickle Cell Clinic has operated as a subspecialty clinic for over 20 years. This clinic serves 239 clients and continues to grow. The pediatric clinic provides services to over 150 clients. The primary objectives of these clinics are 1) to serve as a positive educational experience for primary care residents in the Departments of Medicine, Family Medicine, and Pediatric Medicine at the University of South Alabama; and 2) to be a resource for practicing physicians in the University and private community. The adult clinic is staffed by Dr. Johnson Haynes Jr.; Dr. Ardie Pack-Mabien, Nurse Practitioner; Ms. Jessica King, Nurse Practitioner; and Ms. T'Shemika Perryman, RN. The pediatric sickle cell clinic physician staff include Drs. Felicia Wilson, Hamayun Imran, Preethi Marri, and Abdul Hafeez Siddiqui and Nurse Practitioners, Ardie

Pack-Mabien PhD, CRNP and Jennifer Williams, CRNP. Family Medicine, Internal Medicine, and Pediatric residents rotate monthly through the Sickle Cell Clinics.

Dr. Pack-Mabien and Ms. Perryman support the pediatric outpatient clinical operations and serve as liaisons when transitioning patients from pediatric to the adult services. The Pediatric to Adult Care Transition Program (PACT) is now in its tenth year. In the PACT Program, a Learning Resource and Development Center (LRDC) is available and serves clients 13-19 years old. The LRDC is located in the Moorer Clinical Sciences Building in room 1515.

Adult hematology support for adult operations remains lacking and there is no proposed solution to this deficit of overall clinical operations in sight.

Other Activities: Dr. Haynes continues to serve as a member of the Alabama Sickle Cell Oversight Regulatory Commission. The Center's newsletter "Sickle Cell Today" is distributed across the State of Alabama to physicians, legislators, clients, client families, administrators, and community sickle cell foundations in April and September of each year.

**2021-2022
Summary of Activities
Office of Medical Alumni Relations**

Representing 43 graduating classes (1976-2022), the total number of M.D. graduates of the USA College of Medicine is 2,836 (not including former USAMC housestaff or graduates of the Ph.D. program).

2021-2022 Medical Alumni Association Board of Directors

Officers

- Dr. Christopher Semple '85, *President*
- Dr. Edward Panacek '81, *Vice President/Treasurer*
- Dr. Russell Goode, '10, *Chair, Alumni and Student Services Committee*
- Dr. John Todd '88, *Immediate Past President*

Directors

- Dr. Romsel Ang, '01
- Dr. Jason Dyken, '91
- Dr. Matthew Cepeda, '03
- Dr. Druhan Howell, '03
- Dr. Steve Kinsey, '89
- Dr. Bibb Lamar, '98
- Dr. Ed Panacek, '81
- Dr. Wes Pickard, '88
- Dr. Juan Ronderos, '85
- Dr. Stacey Wing, '96
- Dr. Sabrina Bessette, '03
- Dr. Nancy Wood, '07
- Dr. Ashleigh Butts Wilkerson, '12

Beginning with the 2021 Board year, 2 Board members were retired from the Board of Directors:

Beginning with the 2021 Board year, 2 new members were appointed to the Board of Directors and will begin their term with the 2022-2023 year:

Scholarship Recipients for the 2021-2022 Academic Year

Student Name	Scholarship Received	Amount of Scholarship
Sarah Bignault	2021 Medical Alumni Association Scholar	\$10,000
Christopher Roberts	2021 Medical Alumni Association Scholar	\$10,000
Madeline Tucker	2021 Medical Alumni Association Scholar	\$10,000
C. Zachary Aggen	2021 Medical Alumni Leadership Award	\$500
		\$30,500

2022 Medical Alumni Reunion Weekend

The 2022 Medical Alumni Reunion Weekend was held at the Grand Hotel in Point Clear, AL. We had 56 Alumni register for our CME portion of the weekend and over 140 guests attend events throughout the weekend. The 2023 Reunion will be at the Grand Hotel in Point Clear, AL, celebrating all classes in recognition of the College of Medicine's 50th Anniversary.

2021-2022 Annual Fund and Membership

Funds raised by the USA Medical Alumni Association in support of the operations of the Association.

Annual Fund Contributions	\$ 74,397
Amount Raised via Memberships	\$ 32,250
Total Amount Raised	\$106,647

2021-2022

Division of Medical Education and Student Affairs

The Divisions of Medical Education and Student Affairs are responsible for all undergraduate educational programs in the College of Medicine. Activities in the Division of Medical Education and Student Affairs are accomplished through offices in the Medical Sciences Building, Mastin Building, and USA Health University Hospital. Students in the clinical years of undergraduate medical education rotate at all USA Health Campus sites, including University Hospital, Children's and Women's Hospital, and the Strada Patient Care Center with the possibility of clinical interaction and research opportunities at USA Health Mitchell Cancer Center. USA College of Medicine students have the opportunity to see patients in outpatient settings at Stanton Road Clinic and Strada Patient Care Center.

Student Affairs

With the lifting of some of the COVID restrictions that impacted in-person events last year, the College of Medicine saw a return to large-group gatherings to celebrate most events for the academic year 2021-2022. Match Day 2022 returned to the Mobile Convention Center Ballroom with no limitations on attendees. Families and friends of the Class of 2022 gathered with faculty, staff and students to watch these soon-to-be residents open their envelopes, announce their match and pin the U.S. map, as had been done in previous years. Prior to the event, the students were checked in at the Convention Center, provided swag bags with a Match Day T-shirt and a sign that said, "I Matched at _____". The USA COM was proud to share this occasion with President Jo Bonner as he participated in his first Match Day ceremony as our new President.

The match results were impressive, including one student in Ophthalmology, one student in Otolaryngology, three students in Urology, four students in Anesthesiology, four students in Emergency Medicine, two students in Orthopedic Surgery, two students in Neurology and four students in Diagnostic Radiology. With respect to primary care fields, the following were the match results: fourteen students in Categorical Internal Medicine with two students in Preliminary Internal Medicine, four students in Family Medicine, six students in Psychiatry, three students in Pediatrics, and two students in combined Internal Medicine and Pediatrics. Regarding General Surgery, six students matched into categorical programs and five into preliminary programs. Regarding OB/Gyn, eight students matched into categorical programs. One student matched into a Transitional Year. Sixty-four percent of students matched into out-of-state residency programs, with the remaining thirty-six percent staying in Alabama programs. Twenty-one USA COM students chose to continue their graduate medical education in USA Health Hospitals. Students from USA COM were placed into programs spanning the entire continental United States.

Later, in the spring, the COM hosted an in-person Honors Ceremony for the Class of 2022 and their guests. Once again, this event was hosted in the USA campus Student Ballroom with breakfast provided prior to the event in the Terrace Room. This event was followed in May by the Class of 2022 Academic Hooding Ceremony held at the USA Mitchell Center. At this ceremony, the doctoral students received their academic hoods bestowed upon them by a guest of their choice. During the ceremony, the graduating class of 2022 was addressed by Dr. Susan LeDoux, Professor Emeritus, College of Medicine, and Class President, C. Zachary Aggen. The Military Oath of Office was

administered by Dr. Andrew C. Bright, Lieutenant Commander United States Navy and Assistant Professor in the Department of Surgery, along with Dr. Richard Menger, LCDR United States Navy Medical Corps. All doctoral students recited the Hippocratic Oath led by Dr. John Marymont, Vice President of Medical Affairs and Dean of the USA College of Medicine.

The White Coat ceremony, which marks the transition from the preclinical to the clinical years for the Class of 2024, was also able to be held in-person with no limitations in attendance in the USA Mitchell Center. Rising third year medical students processed in with their white coats and sat with the one guest of their choosing, who accompanied them to the stage for the donning of the White Coat. At this ceremony, as in previous years, those students, residents and faculty who were elected into the Arnold P. Gold Humanism Honor Society were inducted. Dr. Phillip Henderson, Assistant Professor of Internal Medicine and Surgery, Medical Director of Liver Transplantation, and previous inductee for Gold Humanism, addressed the class. The class response was provided by Carey Johnson, President of the Class of 2024. The Medical Student Oath was recited by the class and led by Dr. Chris Semple, President of the USA Medical Alumni Association. As in past years, the USA Medical Alumni Association purchased the White Coats for the Class of 2024.

Having the COVID restrictions lifted allowed us in the College of Medicine to see a return to the previous grandeur of these events. However celebrated, the importance of the transitions these events mark in the lives of our future healthcare providers remains the same. These classes and the documentation of these events will forever be etched into the history of these young people and the USA College of Medicine.

The number of visiting medical students who participated in senior elective courses at USACOM is outlined below.

	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022
Total Visitors	32	38	47	0	19
From LCME Schools	17	9	18	0	5
From Osteopathic Schools	15	29	29	0	14
From Foreign Schools	0*	0*	0*	0*	0*
Completed Paperwork, but Cancelled Visit					
From LCME Schools	14	12	6	0	3
From Osteopathic Schools	11	11	3	0	8
From Foreign Schools	0*	0*	0*	0*	0*
Disciplines in which Electives were taken					
Anesthesiology	0	0	0	0	0
Clinical Pharmacology	0	0	0	0	0
Emergency Medicine	0	0	14	0	1
Family Medicine	2	5	3	0	2
Internal Medicine	6	11	7	0	4
Medical Genetics	0	0	0	0	0
Neurology	1	2	1	0	0
Neurological Surgery	0	0	0	0	0
Obstetrics/Gynecology	1	0	1	0	0
Ophthalmology	0	0	0	0	0
Orthopedics	10	4	5	0	1
Pathology	1	1	1	0	0
Pediatrics	5	7	6	0	4
Psychiatry	1	4	4	0	3
Radiology	2	1	2	0	0
Surgery	3	3	3	0	4

*We joined the AAMC VSAS in 2014 and no longer rotate foreign students.

NOTE: Due to Covid-19, no visiting students in 2020-2021. Per COPA, visiting students limited in 2021-2022.

Months Electives Taken

	2018-2019	2019-2020	2020-2021	2021-2022
	American			American Foreign*

		Foreign*	American	Foreign*	American	Foreign*		
January	0	0	0	0	0	0	0	0
February	0	0	0	0	0	0	0	0
March	0	0	0	0	0	0	0	0
April	0	0	0	0	0	0	0	0
May	0	0	0	0	0	0	0	0
June	0	0	0	0	0	0	0	0
July	11	0	18	0	0	0	1	0
August	10	0	11	0	0	0	6	0
September	8	0	11	0	0	0	5	0
October	6	0	6	0	0	0	3	0
November	3	0	1	0	0	0	4	0
December	0	0	0	0	0	0	0	0

Letters of evaluation (Dean's Letters) were written for each of the 75 seniors who graduated in May, 2022. Students applied to 4379 residency programs through the AAMC Electronic Residency Application Service (ERAS).

Sixty-nine (69) students matched for residency positions. Sixty-five (65) of the May graduates used the NRMP as their primary means of obtaining residency, four (4) graduates participated in a specialty match, and four (4) graduates participated in the military match.

	Number of Graduates	Match Utilized	
		NRMP	Non-NRMP
2018	73	70	3
2019	80	70	7
2020	66	63	2
2021	69	64	3
2022	75	65	4

*We joined the AAMC VSAS in 2014 and no longer rotate foreign students

University of South Alabama Seniors
Residencies Received by Discipline

	Class of 2018		Class of 2019		Class of 2020		Class of 2021		Class of 2022	
PRIMARY CARE:	33	45%	28	36%	27	42%	22	33%	25	35%
Internal Medicine	13	18%	12	16%	16	25%	10	15%	14	19%
Family Medicine	7	10%	10	13%	6	9%	7	10%	4	6%
Pediatrics	11	15%	6	8%	3	5%	4	6%	3	4%
Med/Peds	2	3%	0	0%	2	3%	1	1%	2	3%
Internal Med Prelim	0	0%	0	0%	0	0%	0	0%	2	3%
Anesthesiology	2		3		4		1		4	
Dermatology	0		1		2		0		0	
Emergency Medicine	8		4		6		4		4	
Neurology - Child	0		0		1		0		0	
Neurology	1		1		2		0		2	
Neurological Surgery	0		1		2		0		0	
OB/Gyn	6		7		2		8		8	
OB/GYN Preliminary	0		1		0		1		0	
Ophthalmology	1		5		1		2		1	
Orthopedic Surgery	2		3		1		5		2	
Otolaryngology (ENT)	1		1		0		2		1	
Pathology	2		2		1		0		0	
Psychiatry	5		7		3		4		6	
Radiology - Diagnostic	1		3		2		5		4	
Radiology - Interventional	1		0		0		0		0	
Radiation Oncology	0		1		1		1		0	
Surgery – General	8		4		7		6		6	
Surgery - Plastics	1		0		0		0		0	
Surgery – Preliminary	0		5		3		2		5	
Transitional	0		0		0		2		1	
Urology	1		0		0		2		3	
TOTAL Graduating Seniors	73		77		65		67		72	

University of South Alabama Seniors
Residencies Received by State

	Alabama		USA Hospitals (Mobile)	Out-of-State		Number of Different States
2018	12	16%	7	61	84%	22
2019	19	25%	12	58	75%	20
2020	23	35%	8	42	65%	23
2021	24	36%	17	43	64%	19
2022	26	36%	21	46	64%	16

On May 5, 2022, 69 medical students received the Doctor of Medicine degree and two graduate students received the Doctor of Philosophy degree at the 47th annual USA College of Medicine Academic Hooding Ceremony which took place in the Mitchell Center. Prior to the hooding and presentation of the doctoral degrees, Dr. Susan LeDoux addressed the class and Zachary Aggen responded for the graduates. On the morning of April 27, the College held its Honors and Awards Ceremony which took place in the ballroom at the Student Center where the following awards were presented:

Dean's Award – Devon Amelia Askins

Merck Award – Christopher Edward Roberts, Jr. and Thomas M. Snead III

Glasgow-Rubin Achievement Citations – Devon Amelia Askins, Regan Elizabeth Goocher,

Hannah Granger, Katherine Bonner Kaak, Laurel Cassidy Sharp, and Anna Robinson Wright

Dr. Robert A. Kreisberg Endowed Award of Excellence – Anna Robinson Wright

Leonard Tow Humanism in Medicine Award – Brittany Shavon Jackson and Dr. Elizabeth Minto

Medical Alumni Leadership Award – C. Zachary Aggen

Excellence in Public Health Award – Gisella Addolorata Mancarella Ward

Community Service Award – Gregory J. Overbeek and Melody Marie Zeidan

SNMA Leadership Award – Gisella Addolorata Mancarella Ward

Outstanding Student in the Pre-clerkship Curriculum – Devon Amelia Askins

Award for Excellence in Teaching Clinical Skills – Shyla R. Hossain

Clinical Pharmacology & Therapeutics Excellence Award – Katherine Bonner Kaak

Hollis J. Wiseman Award for Excellence in Pediatrics – Elizabeth Del Carmen Hernandez

Samuel Eichold Award – Madeline Marie Lear Tucker

Dr. Michael M. Linder Endowed Award – Christian Tyler Hunter

The Orthopaedic Excellence Award – Thomas Allen Boyd

John W. Donald Memorial Award in Surgery – Ryan Thomas Heslin

H. C. Mullins, M.D. Award – Gisella Addolorata Mancarella Ward

Obstetrics/Gynecology Award – Katherine Bonner Kaak

Excellence in Emergency Medicine Award – Alicia Carole Hereford

Society for Academic Emergency Medicine (SAEM) Award – Daniel Matthew Phillips

Excellence in Psychiatry Award – Tyeler Rayburn

Grade Distribution 2021 - 2022 Academic Year

Freshman Courses

	H	P	F
Principles of Infection & Immunity	10	61	5
Principles of Foundational Medicine	9	67	0
Patients & Human Structure	8	66	2
Cardiovascular System	12	61	1
Urinary System	9	57	1
Clinic I	37	39	0
Musculoskeletal System	20	54	0

Sophomore Courses

	H	P	F
Digestive System	11	62	0
Endocrine & Reproductive Systems	9	64	0
Hematology & Oncology	10	63	0
Neuroscience & Behavioral Science	12	61	0
Respiratory System	12	61	0
OSCE M2 – Fall	16	57	0
OSCE M2 – Spring	15	58	0

Junior Clerkships

	H	P	F	Out of sequence
Family Medicine	8	67	0	1
Internal Medicine	11	64	0	0
Neurology	7	62	0	0
OB/GYN	12	62	0	0
Pediatrics	12	61	0	0
Psychiatry	18	56	0	0
General Surgery	8	66	0	0

Note: For the Academic Year 2020-2021, preclinical modules and clinical clerkships were disrupted by COVID-19; as such, the only grades assigned for those affected courses were “Pass/Fail.”

Academic Progress of Medical Students
Source: Part II of LCME Annual Medical School Questionnaire

	2018	2019	2020	2021	2022
Initial Students in Class	76	75	74	77	77
Graduates	73	73	66	69	72
True Attrition (will not receive M.D. in any year)	1	0	0	3	2

	2017-18	2018-19	2019-20	2020-21	2021-22
Dismissed					
Freshmen	0	0	0	0	0
Sophomores	0	0	0	0	0
Juniors	0	0	0	0	0
Seniors	0	0	0	0	0
Placed on Leaves of Absence (LOA)					
Freshmen	2	0	1	1	1
Sophomores	1	4	0	0	1
Juniors	7	3	12	6	6
Transferred to Another Medical School	0	0	0	0	0
Withdrew	1	2	2	2	2
Admitted with Advanced Standing or Re-entered from Graduate School	0	0	0	0	0
Deceased	0	0	0	1	0
Repeated All or Part of the Year	3	5	1	6	7
Enrolled on a Decelerated Schedule	0	0	0	0	0

Minority Students (Black, Native American, Hispanic)	2017-18	2018-19	2019-20	2020-21	2021-22
Total	43	39	47	42	41
Freshmen	11	10	16	9	9
All Other Classes	32	29	31	33	32

United States Medical Licensure Examination (USMLE) Step 1
First Time Takers

	2017	2018	2019	2020	2021
Number of Students	74	67	69	69	74
National Overall Mean	229	230	231	245	230
USACOM Overall Mean	234	232	231	247	228
Failure Rate – National	4%	4%	3%	2%	4%
Failures at USA	1%	3%	4%	1%	5%

Minimum passing score = 176 in 1997; 179 in 1998-2000; 182 beginning in 2001; 185 in 2007; 188 in 2010; 192 in 2014; 194 in 2018

United States Medical Licensure Exam (USMLE) Step 2
First Time Takers

	2017	2018	2019	2020	2021
Number of Students	70	74	69	69	74
National Overall Mean	242	241	245	245	246
USACOM Overall Mean	248	248	249	247	249
Failure Rate – National	2%	4%	2%	2%	1%
Failures at USA	0%	3%	3%	1%	1%

Minimum passing score = 170 for Class of 1997-2000; 174 beginning with the Class of 2001; 182 beginning with the Class of 2004; 184 beginning with the Class of 2008; 189 beginning with the Class of 2011; 209 beginning with the Class of 2014

United States Medical Licensure Examination (USMLE) Step 3

	Class of 2015	Class of 2016	Class of 2017	Class of 2018	Class of 2019
National Percentage Passing	98	98	98	98	98
USA Percentage Passing	99	99	100	99	100
USA Number of Students	69	69	76	67	71

Evaluation of Student Performance in the First Postgraduate Year

The College of Medicine was selected for participation in the AAMC Resident Readiness Program. This program was a pilot initiative by the AAMC to collect information on the performance of a medical school's post-graduate year 1 (PGY-1) learners, known as interns, in their residency programs. This initiative was designed to improve data collection for curriculum enhancement, revise the process for dissemination and collection of surveys, and reduce the administrative burden of medical schools and residency programs.

The AAMC has distributed standardized surveys on behalf of medical schools to their graduates' residency programs. Given the nature of this pilot, the AAMC has requested data remain confidential and not disseminated until further review by them. We are hopeful in the coming years that we will be able to share the data as it becomes available.

Curriculum Committee

The Curriculum Committee met twice a month this past academic year. Meeting agendas consisted of subcommittee reports with recommendations for action, as well as informational sessions updating Committee members on issues such as continuous quality improvement of our educational program, ongoing oversight of the pre-clerkship, clerkship, and primary care pathway curricula, and the various curricular changes necessary to navigate students and faculty through the challenges posed by the global coronavirus pandemic.

The Committee is charged with oversight of the UME curriculum in accordance with LCME standards. This encompasses the establishment of policies and practices for design, delivery, monitoring, mapping and assessment of educational content, and assuring that curricular problems are effectively addressed. The Committee was chaired by Elizabeth Minto, MD.

Subcommittees of the Curriculum Committee also met regularly to perform portions of the work of the parent Committee through 2020-2021. The subcommittees and their chairs included:

Assessment and Evaluation (Anna Foust, MD)
Clerkship Directors (Nicolette Holliday, MD)
Clinical Skills (Elizabeth Minto, MD)
Curriculum Integration (Jeff Sosnowski, MD, PhD)
Clinical Pathways (T.J. Hundley, MD)
Pre-Clerkship Directors (David Weber, PhD)

A summary of Curriculum Committee activities and actions for 2021-2022 follows.

Curricular Oversight

The main focus of the Curriculum Committee continues to be oversight of the content and delivery of our COM curriculum and ensuring that our methods are preparing our students by appropriately defining and assessing educational objectives and achieving appropriate milestones of learning. For AY 2021-22, the A&E subcommittee's review of pre-clerkship courses was resumed after implementation of a new approach focusing on more collaborative approaches. A summary of that work can be found later in this document.

A large portion of the Curriculum Committee's early work in AY 2021-2022 related to the coordination, communication, and oversight while transitioning back to more traditional learning and away from the hybrid approach necessary during the height of the pandemic. The Committee had to develop policies and a framework to continue to provide the flexibility necessary if students were impacted by the pandemic. A summary of major portions of this work follows.

Plans for reopening in Fall 2021

Early in the summer of 2021, the Curriculum Committee began planning for a return to pre-pandemic instructional and assessment methods in the pre-clerkship years. Due to lessons learned during the pandemic, processes were designed to be flexible in the event the pandemic worsened or individual students were absent due to illness. This adaptability included the use of remote instruction and proctoring which would allow minimal disruption to the curriculum.

Small group teams were designed to allow for more variations in sizes to adapt to changing needs. Course directors and educational technology team members developed protocols using Zoom for students or instructors to still utilize hybrid learning if needed. The Division of Medical Education worked with the Curriculum Committee to also design protocols for the remote delivery of assessments such as quizzes and exams. Community service was resumed for students in the pre-clerkship years as well.

During the clerkship years, safety protocols were updated allowing students to participate in more patient care scenarios. Small group learning and assessments were converted back to in-person, and health system policies and processes were updated to further minimize disruption and absences for students. Overall, the changes led to a richer clinical experience for students more comparable to the pre-pandemic environment.

Expansion of Class Size

After reviewing available infrastructure, classroom size, clinical resources, and student support surfaces, the Curriculum Committee approved an increase in the class size to 80 students starting in AY 2022 – 2023. This increase in size will allow the College of Medicine to prepare more learners to enter the workforce and serve the needs of the community.

Comprehensive Revision of the COM Educational Program Objectives

The Curriculum Committee undertook a comprehensive review of the current educational program objectives. The decision was made to conduct a revision of these objectives. A taskforce was appointed by the Curriculum Committee Chair in collaboration with the Division of Medical Education. This taskforce was composed of course directors, general faculty, residency program leadership, COM administrative leadership, and Curriculum Committee members. The group reviewed published best practices, AAMC core entrustable professional activities for entering residency, ACGME residency program milestones, AAMC physician competency reference set, current trends in medical education from the literature, and examples from other institutions. The result was new educational program objectives categorized by the ACGME core competencies. The proposed draft was disseminated to the general faculty for comment and feedback. The latter was reviewed with appropriate edits made. The final version was submitted and approved by the Curriculum Committee for implementation in the 2022 – 2023 academic year.

Revision of Clinical Skills Curriculum

The Director of Clinical Skills and the Clinical Skills subcommittee undertook a revision of the clinical skills curriculum throughout the entirety of the educational program. In collaboration with course directors, several areas for improvement were identified to improve the curriculum to better prepare our students for residency. The changes were focused on organizational structure, revision of content, and assessment methods. Regarding organizational structure, various components of clinical skills education were unified under one framework. The clinical skills training, standardized patient training, community clinical experience, and the OSCE's were unified and are now referred to as the Clinical Skills course for students. Subsequently, the content was enhanced by providing more instruction on motivational interviewing, patient communication, oral presentation skills, comprehensive physical exams, and evidence-based medicine. A revised clinical skills assessment tool was developed for students to be evaluated.

The OSCE, or Observed Structured Clinical Exam, was revised over the three years. In the M1 and M2 year, the OSCE's were condensed from four exams to only three. The last OSCE of the M2 year was revised to include more assessment stations to allow for more robust assessment of clinical skills prior to entering the clerkships. The final OSCE at the conclusion of the M3 year was revised using the framework of the AAMC core entrustable professional activities (EPAs). These proposed EPAs represent important core skills and tasks which all students should demonstrate prior to entering residency training. The changes to the clinical skills curriculum will be reviewed at the end of the academic year.

Implementation of the "Foundations" Semester in the M1 Curriculum

The Curriculum Committee, the Pre-Clerkship subcommittee, and the Integration subcommittee, working with course directors, implemented to the new courses composing the M1 Fall Semester. This redesign was based on the identification of areas for improvement in basic science foundational content necessary for the organ system courses. This group of courses focused on the delivery of this fundamental content in the areas of anatomy, physiology, histology, biochemistry, pharmacology, immunology, microbiology, biostatistics, and the social sciences. As part of the restructuring, additional clinical faculty were identified to serve in leadership and/or instructor roles in the courses to improve clinical integration of content through the increased use of clinical cases and clinical reasoning tools.

The first module, The Patient and Human Structure, focused on delivery of fundamental anatomy of the person as well as head & neck anatomy. The more detailed anatomy of each organ system was integrated into each organ system. Utilizing this view of the whole person allowed for integration of culturally-responsive medicine curricula focusing on health disparities and health inequities affecting the care of patients and communities. The content was enhanced through the introduction of small group learning sessions with clinical cases illustrating specific diseases resulting from the specific anatomical structures.

The second module, Principles of Foundational Medicine, focused on the delivery of the fundamental histology, physiology, biochemistry, pharmacology, genetics, and biostatistics. The content in this module was realigned with the current USMLE Step 1 outline. The content was reinforced through the creation of integrated clinical reasoning sessions which built off the clinical case format used in the previous module. Each section was preceded by a clinical correlation session, which involved learning about specific diseases that illustrated the basic content the students were preparing to learn. These diseases were chosen to reinforce the underlying mechanisms contributing to abnormal processes leading to disease. Following delivery of the basic science content, the students received clinical reasoning small group sessions that recognized key illness scripts of the earlier presented diseases, with a deeper understanding of the basic science content.

The final foundation module, Principles of Infection and Immunity, emphasized essential immunology and microbiology topics necessary to understand how infections develop, clinically manifest, and how the host defends itself from these microbes. Specific microbes and their related infection diseases were further integrated into the future organ system modules as appropriate. This module was also improved by the addition of rheumatology and infectious disease faculty in small group learning sessions linked to diseases representative of the

immunology and microbiology concepts presented to the students.

Culturally-Responsive Medicine

The Curriculum Committee, Division of Medical Education, and the Office of Diversity and Inclusion collaborated to introduce curriculum focusing on culturally-responsive medicine in the M1 year. This endeavor was a result of work done by the Office of Diversity and Inclusion through the Justice Initiative. Content was developed on topics such as implicit bias recognition, microaggressions, and structural competency, and how they contribute to the healthcare disparities and inequities seen in patient care. A variety of instructional methods were developed including lecture, small group learning, and independent work. This content will continue to be expanded and integrated throughout the M1 – M4 curriculum.

Care Across the Lifespan

The Curriculum Committee worked with course directors to enhance content on the human lifespan. The content focused on prevention of disease and the overall approach to the healthy patient. Pediatric and adolescent preventive care was introduced in The Patient and Human Structure module which included developmental milestones, vaccinations, and safety counseling. During Principles of Foundational Medicine, preventive care of the adult patient was reviewed focusing on healthy lifestyles, vaccinations, and important health screenings such as cancer. Finally, geriatric preventive care was discussed in the Principles of Infection and Immunity module where vaccinations, screening methods for cancer, and advanced care planning was reviewed. This was the first occurrence of comprehensive lifespan content introduced this early in the educational program.

Renewed Musculoskeletal (MSK) Module

During the restructuring of the M1 foundations semester, it became necessary to renew the Musculoskeletal model. This process presented an opportunity to create a more comprehensive module focused on the musculoskeletal and integumentary systems. The Division of Medical Education worked with the course directors to redesign the course and the flow of content to deliver a highly integrated module. The students were introduced to the integumentary system first followed by normal and abnormal function of the muscles. Subsequently, diseases of the bone and joints were taught with the addition of content linked to sports medicine injuries. The module ended with rheumatologic diseases. The multisystem manifestations of these illnesses allowed for reinforcement of skin, muscle, connective tissue, and skeletal manifestations of disease. The final structure was applauded by students for its organization.

Introduction of a USMLE Preparation Support

Due to the disruptions caused by COVID and the transition of USMLE Step 1 to Pass/Fail, and the increased passing threshold for all USMLE exams, the Division of Medical Education proposed several steps to support students in the USMLE preparation. The first was a comprehensive purchase of NBME practice exams for all students eligible to take the USMLE exams. This resulted in two provided exams for those learners preparing for USMLE Step 1 and Step 2. In addition, the M2 year was shortened by two weeks to allow for the development and implementation of a USMLE Step 1 preparation course. All M2 students were required to take the course and it was designed using a flipped classroom model with small groups working together to solve clinical vignette, board-style questions. Each session was designed around a specific organ system or scientific discipline. In addition, sessions were included on stress

management, creating study schedules, and test taking strategies. The model was approved by the Curriculum Committee and implemented as a pilot this past academic year.

Formal Implementation of the Revised Clinical Competency-Based Evaluation

The Competency-Based Evaluation (CBE) is the rubric used in the required clerkships to evaluate a student's clinical performance. The CBE was redesigned in the previous academic year to improve efficiency, refine descriptors, and enhance faculty completion of the tool. After a successful pilot process of the tool on a small number of clerkships, the tool was fully implemented by the Curriculum Committee in all clerkships during academic year 2021 – 2022. Faculty development was prepared and disseminated to all applicable clinical departments. Initial review of early data collected demonstrated improvements in scoring across clerkships with reduced variability. At the conclusion of the academic year, the number of students receiving "Honors" in each clerkship also was above 10% of the graduating class. This was an improvement over the previous year. A more comprehensive review of the data will be conducted once all CBE's have been completed for the students this past academic year. M3 medical students have been oriented on the interpretation of the revised Clinical Competency-Based evaluations.

Modification of the M3 & M4 Academic Calendars

The Curriculum Committee reviewed and approved changes to the overall academic calendar. The changing landscape of the residency application process, student feedback, and challenges identified by the clerkship directors resulted in this change. The M3 and M4 academic calendars started one to two weeks earlier than in previous years. This change allowed the Fall semester of the M3 year to end sooner providing more independent time for students to pursue career exploration if desired. This was a significant enhancement allowing students the opportunity to participate in specialties not typically seen in the M3 year and thus make more informed decisions about career choice.

Advancing the M4 year sooner resulted in two major improvements. First, it allowed students to begin Away rotations sooner in the academic year. This had been a frequent student request due to the application process for residency allowing students to secure these rotations sooner and obtain letters of recommendation earlier. This earlier start of the M4 year also allowed the M3 and M4 academic calendars to synchronize. This provided more opportunities for those students taking the Neurology clerkship in the M4 year and may allow more students to enroll in electives in the M3 year. The alignment of the calendars also allowed more M3 and M4 students on similar rotations to work together longer thereby improving peer-to-peer mentoring and advising.

Wellness Curriculum in the M3 Year

The Wellness Forums, a specific curricular element utilizing small group learning, were added to the M3 year in 2019. These sessions covered six core topics selected by students and faculty to promote resiliency and reduce burnout in students. These sessions also helped the COM achieve one of its overall educational program objectives. An opportunity to improve these sessions was identified based on student feedback, clerkship director feedback, and review of the curriculum by the COM Health & Wellness Counselor. Instead of a longitudinal curriculum that occurred independent of the clerkship, the forums were integrated within existing clerkships. In addition, the topics were revised and placed in clerkships where they would be the most representative.

This new model would also allow clerkship directors to place the sessions where they fit best to improve the overall experience for our students.

Electives for M4 Students

The Clinical Pathways subcommittee reviewed available courses in the M4 year, identifying several opportunities to provide more opportunities for interested students. The committee worked with the Departments of Internal Medicine and Family Medicine to create an Adult Rheumatology elective and Primary Care Sports Medicine elective, respectively. The Rheumatology elective provides students an opportunity to learn more about connective tissue diseases and other adult rheumatologic disease. The Sports Medicine elective provides students a more in-depth exposure to common sports related injuries as well as injury prevention, exercise physiology, and age-associated conditions. Both electives provide students opportunities for further hands-on training with point-of-care ultrasound. In addition to these electives, the OB/Gyn Reproductive Endocrinology & Infertility rotation and the Teaching Assistantship in Anatomy were revived. Both electives integrate basic science concepts from the pre-clerkship years.

In addition to new internal coursework, students were allowed more flexibility when choosing Away electives as pandemic restrictions were relaxed. As restrictions ease further, we anticipate future classes to return to pre-pandemic processes for Aways. The Clinical Pathways subcommittee also began reviewing the infrastructure to add new electives in the coming academic year. New additions being reviewed include Otolaryngology, Dermatology, and Culinary Medicine. Additional electives in Anesthesiology and Orthopedic Surgery are also being explored.

Primary Care Pathway

The 2021-22 academic year saw the first 9 students complete the second year and 8 students finish the first year of the parallel Primary Care Pathway curricular track. The task force that the Curriculum Committee appointed to develop this curriculum continued to oversee the content of the PCP track, recruit and train the PCP fellows that instruct these students, and the clinical sites where these students carry out their additional clinical experiences. A full-time coordinator for the PCP track, as well as dedicated staff at each clinical site, ensure that students are fulfilling the requirements of the curriculum. Student evaluations and the curricular review process continued to be conducted with appropriate oversight from the Curriculum Committee. The M3 year of the Pathway was developed and prepared for implementation. The Family Medicine, Internal Medicine, and Pediatrics clerkship directors were involved in the scheduling processes developed for this year. In addition, the Primary Care Pathway Selective was reviewed and approved by the Curriculum Committee for implementation in the following academic year.

Grading and Remediation Policies

Soon after the onset of the coronavirus pandemic in March 2020, the Curriculum Committee approved changes to the pre-clerkship and clerkship grading policies to accommodate for changes in instructional and assessment methods imposed by the rapid shift to remote learning and testing and subsequently hybrid instruction and assessment. In AY 2021 – 2022, grading policies were reviewed again as the COM transitioned back to normal instruction. The grading policies in the M1, M2 and M3 years were unified with assignment of letter grades by removing

certain temporary grade assignments. In addition, the requirement for students to complete remediation was simplified by removing certain criteria previously triggering the process. The Division of Medical Education conducted analysis using prior data with the new grading policy to predict the need for remediation. These results showed that students who would benefit from remediation would still be identified.

AAMC CLASS Project

With the discontinuation of USMLE Step 2CK, medical schools and national bodies began broad discussions on the future of clinical skills education in the United States. The AAMC formed a national taskforce composed of multiple working groups to unify this work and identify best practices in design, delivery, and assessment of clinical skills. Referred to as the CLASS Project, this group began work during AY 2021 – 2022. The COM was fortunate to have representation at multiple levels. One of our M3 medical students was appointed to the core national taskforce, and the USA Director of Clinical Skills was appointed to one of the subcommittees. Through this work, the COM will be able to contribute to the development of best practices for all medical schools.

Review of GQ and Mission Management Tool Data

The Curriculum Committee reviewed the compiled data from the 2021 GQ Questionnaire. Our students noted they are satisfied with the quality of their medical education, which is above the national average. Overall, the survey results were positive in a large majority of the areas. Emphasis was also placed by the Curriculum Committee on the AAMC's Mission Management Tool and the missions of a medical school prioritized therein. Overall, the results tied to student education were positive in numerous areas. Each of the 6 mission topics were summarized and distributed to the appropriate stakeholders for incorporation into their ongoing goal setting and actions. Specifically, the Primary Care Pathway task force continues to focus on Mission 1 (graduating a workforce to address the priority health needs of a nation). Mission 4 (provide high quality education as judged by your recent graduates) will be a focus of the Curriculum Committee and all subcommittees.

Justice Initiative

Dr. Franklin Trimm and the staff of the USA COM Office of Diversity and Inclusion finished the work of the Justice Initiative using the framework shared by the AAMC. Goals include to embrace antiracism in medical education and to condemn the structures of racism that have allowed inequities in medicine and in medical education to persist. Several plans were implemented by the Curriculum Committee as a result of the initiative such as review of grading in the M3 year and implementation of culturally-responsive curriculum in the pre-clerkship years. Moving forward, the COM will participate in the AAMC Advancing Diversity, Equity, and Inclusion Project. Members of the Curriculum Committee will continue to be involved as next steps occur.

Executive Committee of Student Assembly

Student Assembly meetings were held on the second Wednesday of every month and took place in either Mastin 218 or in the 1st floor auditorium of MSB. Zoom attendance was made available from August, 2021 – May, 2022. In-person meetings adhered to all updated COVID-19 protocols set forth by both USA Health and the University of South Alabama. Meetings were held at 5:30 p.m. and did not take place in December, 2021 or June and July of 2022.

As set forth in the Student Handbook, Student Assembly addressed issues affecting student life. The officers were:

- President: Samuel Thomas
- Vice President: Baylee Edwards
- Secretary/Treasurer: Mengjie Hu
- SGA Liaison: Natalie Kidd
- Faculty Advisors: Dr. Kelly Roveda, Dr. Caleb Butts

1. Events funded by Student Assembly

- a. Halloween Party: cancelled
 - i. \$300 reallocated to funding future student events
- b. Tacky Sweater Party: cancelled
 - i. \$300 reallocated to funding future student events
- c. Gold Humanism Solidarity Week – February 14-18, 2022 and “Thank a Resident Day” on February 25, 2022
 - i. Student Assembly approved \$700 that was used to purchase items that were handed out during Solidarity week. This included gift cards for hospital nurses and food for resident physicians.
- d. National Public Health Week: April 4-10, 2022
 - i. Student Assembly approved \$265 to provide incentives for those that participated.
- e. USACOM M3 Case Report Symposium: May 27, 2022
 - i. Student Assembly approved up to \$1000 to cover the cost of thank you gifts for judges, food, award plaques, and poster board delivery. Leftover funds were returned to Student Assembly.
- f. Asclepiam Ball
 - i. Due to delayed planning secondary to COVID-19, the Asclepian Ball was cancelled for the Spring of 2022 with plans to pursue a Fall 2022 ball.

2. Dates of Special Events, August, 2021 – July 2022 were as follows:

- a. Match Day ceremony for the Class of 2022 was held at the Arthur R. Outlaw Mobile Convention Center on March 18, 2022.
- b. USA COM Class of 2022 Honors ceremony was held at the USA campus Student Ballroom on April 27, 2022, with a breakfast at 9am and ceremony at 10am.
- c. The academic Hooding ceremony for the USA COM Class of 2022 was held at the Mitchell Center on May 5, 2022, at 10am.

- d. The Commencement Ceremony for the USA COM Class of 2022 was held at the Mitchell Center on May 6, 2022, at 2pm.
 - e. USA COM M3 Case Report Symposium was held on May 27, 2022 from 1-3pm in the 1st floor conference room of the Strada Patient Care Center.
 - f. White Coat Ceremony for the Class of 2024 and Gold Humanism Honor Society Induction for the Class of 2023 was held on June 16, 2022 at 7pm in the Mitchell Center.
 - g. The Wellness Committee organized several events for the College of Medicine as a whole.
 - i. M3 wellness forums were held on a monthly basis
 - ii. Other events were open to all College of Medicine students throughout the Fall and Spring semesters at various times.
 - h. Volunteer opportunities for M1-M4 students at the University of South Alabama Student Run Free Clinic were discussed on a monthly basis.
3. Changes to Student Assembly
- a. The Student Assembly Meeting Fund was established. This provides \$500 per academic year and is to be used to increase Student Assembly meeting attendance.
 - b. Article VII Section 2 of the Student Assembly Student Body Constitution was amended to separate the secretary/treasurer roles. This now states: The procedure for election of President, Vice President, Secretary, and Treasurer shall be as follows:
 - i. The election shall be conducted by one or more of the current Student Assembly officers.
 - ii. Nominations for President will be taken from the rising third year class until there is a motion, second, and majority vote that nominations be closed. The President of Student Assembly is required to have either previously served on Student Assembly or to have attended three (3) Student Assembly meetings. The number of candidates shall only be limited by a majority of the class quorum. The person receiving the most votes will be elected President. If no candidate receives the majority, there will be a run-off between the top two nominees. The nominee who receives the most votes in the run-off will be elected President. The above procedure will be repeated for the elections of both the Vice President, Secretary, and Treasurer.
 - iii. Elections will be by secret ballot, unless two-thirds of the class present prefers use of a hand count.
 - iv. These officers will assume office on graduation day of the year in which they are elected and will remain in office for one (1) year.
 - c. Article VII Section 5 was amended and Section 6 was added to the Student Assembly Student Body Constitution to reflect the roles of the secretary and treasurer. These sections state:
 - i. Section 5: The duties of the Treasurer shall be:
 - Maintain the checking and saving accounts of the Student Assembly in auditable form

- Assure assets are properly invested
 - Give financial reports as necessary to Executive Committee meetings
 - Serve as a correspondent for the Student Assembly
- ii. Section 6: The duties of the Secretary shall be:
- Receive the Student Assembly Record of Action and disperse a copy of the resolutions and the appendix of the Student Assembly Record of Action to all class Secretary/Treasurers at the first Executive Committee meeting each year
 - Update the Student Assembly Record of Action throughout the year and give the updated version to the Secretary for the following year and to place a copy in the Biomedical Library
 - Serve as a correspondent for the Student Assembly
 - Keep a record of meeting minutes, agendas, and meeting attendance.
4. New Student Assembly officers were elected in April, 2022 for the 2022-2023 school year.
- a. The transitional meeting took place on May 11, 2022.
 - i. President: Jordan Ingram
 - ii. Vice President: Kaylee Hart
 - iii. Secretary: Bailey Manning
 - iv. Treasurer: William Farley
 - v. SGA Liaison: John Paul Saway
 - b. Faculty Advisors: Dr. Kelly Roveda and Dr. Caleb Butts

Office of Financial Aid

	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022
Total Financial Aid	\$10,517,598	\$10,570,736	\$10,720,589	\$11,268,453	\$12,005,884
Students on Aid	256	270	243	253	254
Loans					
Direct Unsubsidized	7,674,811	7,623,544	7,573,878	7,813,881	7,730,029
Direct Grad Plus	1,025,483	1,021,921	1,001,350	1,062,267	1,344,904
Outside Private Loans	0	0	0	0	0
Total Loans	\$8,700,294	\$8,645,465	\$8,575,228	\$8,876,148	\$9,074,933
Scholarships					
University Sponsored	972,261	1,276,612	1,113,020	1,158,865	1,073,188
Outside Sponsored	138,866	58,614	290,094	447,983	955,495
Military – Army	93,654	189,522	258,454	221,298	229,964
Military – Navy	216,613	126,048	157,740	164,268	105,165
Military - Air Force	280,409	189,127	163,092	200,950	239,590
Alabama VA Benefits	61,442	31,440	31,476	31,476	0
US Federal VA Benefits	0	0	32,116	31,677	0
GI Bill	0	0	0	31,860	98,298
Faculty Staff Reimbursement	54,059	53,908	99,369	103,928.50	127,005
Total Scholarships	\$1,817,304	\$1,925,271	\$2,145,361	\$2,392,305.50	\$2,930,951
Average Indebtedness of a Graduating Senior					
	\$156,242	\$160,870	\$158,602	\$149,721	\$170,291

An Emergency Loan Fund is available to medical students. Loans of up to \$500 may be obtained by students through a fund administered by the Office of Student Affairs and Medical Education for a period of up to 60 days for the purpose of alleviating an unanticipated financial need. There is no interest charged. During the period August 1, 2021, through July 31, 2022, no emergency loans were approved and no loan payments were paid back into the loan account.

Office of Diversity and Inclusion

The Office of Diversity and Inclusion (ODI) within the USA Frederick P. Whiddon College of Medicine (COM) is a mission-driven environment with a commitment to making USA COM a safe and productive place for every person within our community. As an office, we strive to develop and improve policies, best practices, programming, and interventions directed at the outreach, recruitment and retention of a more diverse and inclusive student body, staff and faculty.

Our mission is led by our pursuit of achieving health equity for all. As an office, we believe that health equity is attainable through awareness, intentionality, and action. Striving towards health equity for all is what informs the efforts of this office within the USA College of Medicine, USA Health, and community at large. The report below is organized around our core values to illustrate the mission-driven nature of our work.

As an operating body, our office is composed of:

- *Associate Dean of Diversity and Inclusion*, Dr. Franklin Trimm
- *Assistant Dean of Diversity and Inclusion*, Dr. Johnson Haynes, Jr.
- *Director*, LoRen Modisa
- *Education and Training Specialist*, Tiquera Hall
- *Administrative Assistant*, Sherry Parnell

We also benefit from and value the support of the USA COM/USA Health Committee on Diversity and Inclusion (CDI) which is integral in the development and oversight of our programmatic efforts.

It is through the support of and collaboration with departments, committees, and offices throughout USA COM and USA Health that the ODI has been able to strengthen and expand efforts throughout the 2021-2022 academic year.

Workforce Diversity

One strategy to achieve health equity is to have a medical workforce that looks like the community it serves. In striving towards a diverse medical student body, two diversity pathway programs are coordinated through the ODI. Our pathway programs address the need for an increased number of student physicians from marginalized communities by intentional recruitment and support. Access to the field of medicine and exposure to URiM physicians and medical students is also critical for a diversified medical workforce.

- The Diversity, Recruitment, and Enrichment for Admission into Medicine (DREAM) Program, first developed as the Biomedical Enrichment and Recruitment (BEAR) Program in 1985, continues to develop each year. The DREAM Program aims to prepare first-time college seniors or non-traditional students for admission into and success within medical school through preparation for the Medical College Admission Test (MCAT), building interview and written communication skills, developing teamwork skills and other elements important for medical school success. Students are recruited from colleges and institutions across the state of Alabama and USA service area. Facilitated over the course of an eight-week summer session, students are immersed in coursework, professional development

sessions, and cultural immersion experiences led by faculty members. The current director of the DREAM Program is Dr. Jeff Sosnowski (*USA COM Assistant Dean for Medical Education*).

DREAM Program Progress Chart, 2019-2022

Year Entering DREAM	Entered DREAM (# of participants)	Successfully Completed DREAM (# of participants)	Matriculated to USA COM (# of participants)	Matriculated to Other Professional School (# of participants)	Completed MD Program (# of participants)
2019	12	12	8	1	TBD
2020 (Virtual Program)	9	9	1	1	TBD
2021	13	13	7	3	TBD
2022	12	12	TBD	TBD	TBD

- The SouthMed Prep Scholars (SMPS) Program aims to prepare high-achieving pre-medical students for admission into and success within medical school. SMPS occurs over two summers, and recruitment begins during a student’s freshman year. Students in SMPS Phase 1 engage in basic science research under the tutelage of investigators within USA College of Medicine, shadowing experiences within the USA Health System and additional professional development activities. Students in Phase 2 have activities like DREAM. Students for this program are recruited from colleges and universities across the state of Alabama and Southeast region with a focus on Alabama residents. The current director of the SouthMed Prep Scholars Program is Dr. Johnson Haynes, Jr. (*USA COM Assistant Dean for Diversity and Inclusion and Director, USA Sickle Cell Center.*)

SouthMed Prep Scholars Program Progress Chart, 2019-2022

Year Entering SMPS	Entered SMPS (Phase I)	Successfully Completed SMPS (# of participants)	Matriculated to USA COM (# of participants)	Matriculated to Other Professional School (# of participants)	Completed MD Program (# of participants)
2019	5	3	1	0	TBD
2020	6	5	TBD	TBD	TBD
2021	2	5	2	0	TBD
2022	4	2	TBD	TBD	TBD

**Within the progress charts above, “To Be Determined, TBD” has been placed in categories where program participants’ participation is still ongoing.*

Diversity Pathway Programs Contributions to Diversity in USA COM Medical Student Body

- 2021-2022 Medical Student Enrollment
 - 54% of URiM students
 - 61% of Black or African American students

In April 2022, ODI, in partnership with USA COM Office of Admissions, hosted the annual COM Admissions Medical Student Second Look. The purpose of this event was to recruit already-accepted USA COM students by highlighting reasons why USA COM is an attractive place for URiM students to study medicine, showing accepted students the diversity within USA COM/Health, and informing accepted students of support mechanisms and community that await them here if they decide to attend.

Inclusion and Belonging

The creation of an inclusive environment where students feel as if they belong requires collaboration and collectivism. The ODI values its relationships with partners within USA COM, within the larger USA community, and with our external partners throughout our service area and the state of Alabama.

Within USA COM, ODI has the continued privilege of working alongside the offices of Medical Education, Faculty Affairs, Graduate Medical Education, Student Affairs, and Admissions to ensure USA COM is positioned to be responsive to our ever-changing, increasingly diverse communities. The benefits of these relationships are multitudinous and can be seen throughout our institution from curriculum development to faculty recruitment to student admissions processes.

Within the larger university and local community, the ODI works actively with the following organizations:

- Minority Association of Pre-Health Students (MAPS)
- Alpha Epsilon Delta (AED) Pre-Health Honor Society
- USA Center of Academic Excellence
- USA Office of Academic Advising and Transfer Services
- USA Office of Diversity, Equity and Inclusion
- USA Black Faculty and Staff Association
- Mobile Metropolitan Medical Society (MMMS)

Together, these alliances are making the path to medical school for URiM students more visible, more accessible, and more navigable.

Partnerships with Historically Black Colleges and Institutions (HBCUs) such as Tuskegee University, Xavier University (New Orleans), and Spelman College (Atlanta, Georgia) and other

state-wide institutions such as Auburn University and University of Alabama at Huntsville have given ODI the opportunity to engage with competitive and scholarly URiM Alabama residents throughout the region. Locally, our office has been able to forge partnerships with local institutions such as the University of Mobile and Spring Hill College to recruit historically marginalized pre-med students across the city of Mobile.

As an office, ODI understands that recruitment is only a small piece of the puzzle. Pride is taken to support current medical students by celebrating what makes each student unique and how that uniqueness positively impacts everyone. The ODI supports several student-led groups that not only serve as safe spaces of community for medical students but also as means of peer support, education and community outreach.

Those groups include:

- Student National Medical Association (SNMA)
- American Medical Women’s Association (AMWA)
- MedPride and Allies
- Culinary and Lifestyle Medicine Interest Group (CLMIG)
- Muslims in Medicine (MIM)
- Medical Spanish Interest Group (MSIG)
- Black Men in White Coats (BMWC)

These groups, in partnership with the ODI, develop, host and facilitate Diversity & Inclusion “Lunch and Learn” sessions that are open to all students, faculty, and staff. Topics of past “Lunch and Learns” include *Motherhood & Medicine* hosted by AMWA, *Intersectionality in Medicine* by SNMA, and *Gender Affirming Care* by MedPride Allies. Outreach activities such the Wellness Screening Workshop hosted by SNMA in Partnership with BWC allowed our medical students of color to interact with students at the Alabama School of Math and Science.

Additionally, celebrating uniqueness and individual identity are integral to the creation of spaces of belonging. Over the past several years, ODI has acknowledged several holidays and commemorative celebrations to increase visibility and declare solidarity with our diverse student, staff, and faculty body within USA COM and USA Health. Since 2021, ODI has acknowledged and celebrated the following yearly holidays, to name a few:

- Dr. Martin Luther King, Jr. Day
- Black History Month
- Women’s History Month
- Asian American and Pacific Islander Month
- Ramadan & Eid al Fitr
- Pride Month
- Juneteenth
- Women in Medicine Month

Equity and Justice

Begun in 2020, the *Justice Initiative* started with a COM self-assessment by students, faculty, staff and leadership with strong student and resident/fellow engagement. The goals and accomplishments of the first year were moved into a continuous improvement cycle in the USA COM Committee on Diversity and Inclusion (CDI) for the 2021-2022 year. Teams of CDI members reviewed 2-3 elements of the JI along with updated data and policies and presented their findings and suggested recommendations to CDI over 7 meetings. Action plans were agreed upon and implemented primarily through ODI. A summary of JI driven actions includes:

- Established URM goals to look like community we serve: 27% Black, 1% Native American and 5% Latino.
- Developing additional pathway program; implemented Diversity 2nd look for USA COM applicants and USA Health residencies.
- Improved student tracking of matriculates, graduates and total enrollment + faculty and leadership tracking
- Sharing history of diversity story at USA COM in community published magazine, poster by ODI and live presentation
- Sharing of URM individuals and accomplishments through COM Watercooler and other COM / USA communications
- Work with Admissions and Faculty Affairs regarding recruitment and retention
- Introduction of CRM section in 1st module with follow through in 2nd and 3rd modules, increasing DEI content in some clerkships
- Added additional anonymous reporting system (link on ODI website); actively responding to reports for all sources
- Increased focus on grading equity, particularly in clerkships
- Restructured eligibility criteria for AOA
- Increased awareness through IRB of how race is used in study design
- Training of clinical trial coordinators in use of race in clinical trials and importance to health equity in recruiting diverse study cohorts

Several goals and action plans remain in progress or unmet at the end of the 2021-2022 academic year. These will be incorporated, along with the Advancing DEI Initiative priorities into a COM DEI Strategic Plan. The Justice Initiative of 2020-2022 is considered closed.

Shifting from these initial efforts, USA COM has joined with more than 100 other US medical schools to participate in the *AAMC Council of Deans Advancing DEI Initiative*. A Key Stakeholder Team assessed the USA COM using the AAMC Diversity, Inclusion, Climate and Equity (DICE) instrument. Priorities for improvement were identified and will become a DEI strategic plan moving forward.

ODI continues to provide *unconscious bias training* as well as other specific training to our USA COM/USA Health partners. Below is a summary of the training and development provided within the 2021-2022 year:

- **242** participants trained in unconscious bias, including a majority of USA COM and USA Health leadership, and almost all residency program leaders and selection committee members as well as Primary Care Pathway faculty.
- **27** participants on the USA COM Admissions committees (PhD and MD programs) underwent unconscious bias training in preparation for upcoming admission cycles.
- **170** medical student participants trained in unconscious bias including M1 students during first year orientation and M4 students during their transition to residency, summer pathway students
- **14** participants amongst USA COM & USA Health received training on “Why Diversity Matters.”
- **76** medical student participants trained in creating safe spaces and patient care approaches for LGBTQ+ members of the healthcare community and the patients we serve.
- **60** participants trained on the Diversity & Equity in Health Care including M3 medical students.
- **38** student participants trained in a Resilience & Wellness 5 part Series, including PhD graduate students and summer pathway students

Overviews of unconscious bias continued to be included in all leadership selection committee orientations that were initiated during this academic year. A diversity, equity, and inclusion advocate is appointed to all leadership selections committees.

The Primary Care Pathways Program is an educational track that provides 4 years of specialized training in primary care. The goal of the program is to increase primary physicians in underserved communities. The Office of Diversity and Inclusion partners with the Primary Care Pathways Program by providing core faculty & curriculum.

As the year progresses, the ODI looks forward to continued growth and expanded reach for the purpose of impacting healthcare outcomes for the state of Alabama one student, faculty, and staff-person at a time.

Office of Admissions Annual Report for 2021-2022

Applicant and Acceptance Data

The University of South Alabama College of Medicine participates in the American Medical College Application Service (AMCAS). The period for receiving AMCAS applications to the College of Medicine for the class entering August 1, 2022, opened June 1, 2021, and closed November 1, 2021. The matriculating Class of 2022 represents nineteen (19) colleges and universities from the United States. Seventy-eight percent (78%) of this year's class come from the four (4) largest universities in the state. Additional details of the 2021-2022 admissions cycle are shown in Table 1.

Recruitment and Retention Efforts

1. Undergraduate campus recruiting visits were completed via Zoom and in person. These USA COM recruiting teams interviewed and counseled over two hundred (200) premedical students at five (5) colleges and universities.
2. The Director and Assistant Director of Admissions served as admissions counselors and advised prospective students on a daily basis. In addition, selected faculty members advised prospective applicants periodically.
3. Premedical visitation day programs were cancelled for the 2021-2022 interview season due to COVID-19 restrictions.
4. The following publication was updated and approved by the Admissions Committee: Policies and Procedure Manual. The website was also updated and maintained by the Admissions Office.
5. Special admissions reports and correspondence were produced and distributed annually to in-state college premedical advisors and selected out-of-state college advisors.
6. A total of sixteen (16) Interview Day programs were conducted from September until February. The interviewers, primarily College of Medicine clinical and basic science faculty, serve as members of the Committee on Admissions and as *ad hoc* members. These members interviewed two hundred five (205) candidates; each interviewee was interviewed by two committee members, giving a total of four hundred ten (410) interviews. These interviews were conducted virtually via Zoom.
7. The following Admissions Committee subcommittees were active in 2021-2022: Interview Selection Subcommittee, the Scholarships Subcommittee, Wait List Subcommittee, and the Early Assurance Subcommittee.

Table 1. University of South Alabama College of Medicine Admissions Report

	2019	2020	2021	2022
<u>Total Applicants (Completed Secondary Applications)</u>	1554 (860)	1433 (872)	1830 (1062)	1802 (1076)
Residence: Alabama	430 (387)	460 (425)	535 (474)	516 (470)
Out-of-State (OOS)	1059 (426)	928 (410)	1218 (536)	1231 (562)
Service Areas (FL & MS)	65 (47)	45 (37)	68 (50)	55 (44)
Rural	67 (62)	89 (89)	103 (80)	107 (103)
Alabama Female	193 (179)	239 (224)	301 (265)	274 (159)
Alabama Black	41 (38)	57 (49)	80 (71)	64 (49)
Out-of-State Black	106 (42)	112 (32)	125 (62)	144 (56)
AL Other Underrepresented Minorities*	22 (22)	23 (13)	28 (20)	33 (22)
OOS Other Underrepresented Minorities	150 (48)	147 (52)	152 (55)	165 (56)
<u>Total Applicants Interviewed</u>	198	238	203	205
Residence: Alabama	182	217	189	192
Out-of-State	7	11	4	5
Service Areas (FL & MS)	9	10	10	8
Rural	28	49	37	35
Female	95	117	112	100
Black	19	26	29	15
Other Underrepresented Minorities	7	7	21	9
<u>Total Applicants Accepted</u>	141	122	126	133
Residence: Alabama	127	106	118	125
Out-of-State	8	8	3	4
Service Areas (FL & MS)	6	8	5	4
Rural	23	25	21	24
Female	76	66	77	64
Black	17	17	17	10
Other Underrepresented Minorities	6	3	12	7
<u>Total Matriculants</u>	74	74	74	78
Average MCAT	508	507	509	509
Average GPA	3.82	3.80	3.81	3.86
Early Decision Program	15	12	21	15
Residence:				
Alabama	65	65	69	73
Out-of-State	4	5	2	2
Service Areas (FL & MS)	5	4	3	3
Rural	8	14	15	14
Female	42	43	45	35
Black	8	11	7	9
Other Underrepresented Minorities	4	1	5	3

*Other Underrepresented Minority: Hispanic ethnicity, American Indian

2021-2022
Summary of Activities
Office of Continuing Medical Education

I. NATIONAL PROFESSIONAL RECOGNITION

Sharrie D'Andrea Cranford: Editor of the Society for Academic Continuing Medical Education's tri-annual report the INTERCOM, as well as a standing member of the Communications Committee. Continues to serve as a Surveyor for the Accreditation Council for Continuing Medical Education and a Surveyor for Joint Accreditation. Founder and Chair of the Alabama Continuing Medical Education Coalition which includes members from most continuing medical education providers in Alabama.

II. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS

The University of South Alabama (USA) Office of Continuing Medical Education (OCME) submitted their reaccreditation report for commendation with final determination expected December 2022. As a jointly accredited provider, USA OCME can now offer continuing education credits to physicians, nurses, mental health professionals, and pharmacists, together or separately, through the Accreditation Council for Continuing Medical Education, the American Nurses Credentialing Center, the Accreditation Council for Pharmacy Education, and other national accrediting bodies.

During 2021-2022, the Office of Continuing Medical Education (OCME) provided numerous educational activities that addressed the ever-changing practice gaps of all healthcare providers including the healthcare team. The OCME coordinated CME activities provided by the clinical and university academic departments, the OCME, and outside agencies. There were approximately 44 regularly scheduled series (Grand Rounds), 13 conferences, and 35 online activities, all combining for 3,341 CME hours of instruction and collaboration and 703 events/talks. In total, 10,269 physicians, 2,259 nurses, 315 physician assistants, 28 pharmacists, 17 pharmacy techs, 255 social workers, 15 dieticians, and 25 others were awarded continuing education credits. We had 15,840 attendees for the year. Activities were jointly provided through the collaboration with the Providence Foundation, Global Partnership for Telehealth, HomeTown Health, Gulf Coast Patient Care Network, Springhill Medical Center, Center for Disaster Healthcare Preparedness, USA College of Business and Department of Education, Veterans Administration, and other organizations in our region.

III. SIGNIFICANT PROFESSIONAL AND CME ACHIEVEMENTS

- Added national AAPA, ADA, NBCC, and BOC credit offerings.

CME Plans for 2023

- Improve offerings of Joint Accreditation criteria for commendations.
- Add NBCC criteria to Policy and Procedure Manual.
- Create committee for renewed five-year strategic plan.

2021-2022
Summary of Scholarly Activities
Department of Graduate Medical Education

I. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS

Organizational Structure

Judy Blair-Elortegui, MD served as Associate Dean for Graduate Medical Education (GME), Designated Institutional Official (DIO), and chair of the Graduate Medical Education Committee (GMEC) at the University of South Alabama that together oversees all GME training programs at the institution. Dr. Blair-Elortegui was appointed as interim DIO/Associate Dean on September 1, 2021 following the retirement of Dr. Carole Boudreaux. Dr. Blair-Elortegui was then appointed to the position on May 1, 2022.

The GME Office implements policies of the GMEC. The ACGME charges the GMEC with monitoring and advising on all aspects of residency education, including compliance with ACGME requirements and creating a strong and supportive learning environment for the trainees. The GMEC is composed of program directors, teaching faculty, peer-selected residents and fellows, and designated representatives of the major teaching hospitals, including representation from USA Health Quality and Safety. The GMEC is responsible for reviewing current issues facing residency and fellowship programs, as well as for developing institutional policies and procedures to ensure quality of education and of the clinical learning environment. GMEC activities are reported by the Associate Dean to the Vice President for Medical Affairs/Dean of the College of Medicine.

Overview of GME Programs and Accreditation

During the 2021-2022 academic year, USA Health sponsored graduate medical education in 12 residency training programs with 279 ACGME-approved resident positions and 11 fellowship training programs with 39 ACGME approved fellow positions, totaling 318 housestaff positions. Filled house staff positions for the 2021-2022 academic year numbered 294. While the majority of the GME programs are accredited by the ACGME, the GMEC provides oversight of one additional non-accredited fellowship program in Renal and Genitourinary Pathology. Permanent complement increases were approved for the Neurology program and the Pulmonary/Critical Care program. During the 2021–2022 academic year, the majority of residency and fellowship positions were filled through the National Resident Matching Program (NRMP) main match and the Medical Subspecialty NRMP Match, with 80 physicians completing training during the 2021–2022 academic year. An application has been submitted for a Urology residency and for the addition of Hematology training to the Medical Oncology Program. The Sponsoring Institution, USA Health, received continued accreditation status on January 18, 2022.

Residency Programs:

Residency Program	Department Chair	Program Director	Accreditation Status	Approved/Filled Positions 2021-2022
Family Medicine	Dr. Allen Perkins	Dr. Ehab Molokhia	Continued Accreditation	17/18
Internal Medicine	Dr. Errol Crook	Dr. Judy Blair-Elortegui	Continued Accreditation	53/60
Internal Medicine and Pediatrics (Combined)	See Internal Medicine and Pediatrics	Dr. Grace Hundley	Continued Accreditation	8/11
Neurology	Dr. Dean Naritoku	Dr. William Kilgo	Continued Accreditation	13/16
Obstetrics & Gynecology	Dr. Mimi Munn	Dr. Tracy Roth	Continued Accreditation	15/16
Orthopedic Surgery	Dr. James Slauterbeck	Dr. Jeff Brewer	Continued Accreditation	15/15
Pathology	Dr. Guillermo Herrera	Dr. Jacek Polski	Continued Accreditation	13/15
Pediatrics	Dr. David Gremse	Dr. Richard Whitehurst	Continued Accreditation	37/36
Psychiatry	Dr. Ron Franks	Dr. Luke Engeriser	Continued Accreditation	18/20
Radiology	Dr. Suzy Figarola	Dr. Samuel McQuiston prior to 8/1/2022 Dr. Brett Martin 8/1-2022-present	Continued Accreditation	20/20
Surgery	Dr. William Richards	Dr. Lee Grimm	Continued Accreditation	32/32
Emergency Medicine	Dr. Ed Panacek	Dr. Ed Panacek	Continued Accreditation	19/18

Fellowship Programs:

Fellowship Program	Department Chair	Program Director	Accreditation Status	Approved/Filled Positions 2021-2022
Sports Medicine Family Medicine at Andrews	Dr. Allen Perkins	Dr. Josh Hackel	Continued Accreditation	1/1
Sports Medicine Family Medicine at USA Health	Dr. Allen Perkins	Dr. Peter Rippey	Continued Accreditation	1/1
Cardiovascular Disease	Dr. Errol Crook	Dr. Omar Bassam	Continued Accreditation	7/6
Gastroenterology	Dr. Errol Crook	Dr. Jack DiPalma	Continued Accreditation	7/9
Medical Oncology	Dr. Errol Crook	Dr. Brian Persing	Continued Accreditation	4/4
Pulmonary Disease and Critical Care Medicine	Dr. Errol Crook	Dr. Brian Fouty	Continued Accreditation	8/9
Clinical Neurophysiology	Dr. Dean Naritoku	Dr. Juan Ochoa	Continued Accreditation	0/0
Gynecologic Oncology	Dr. Mary Munn	Dr. Jennifer Pierce	Initial Accreditation	1/3
Renal and Genitourinary Pathology	Dr. Guillermo Herrera	Dr. Guillermo Herrera	Non-accredited	1/1
Addiction Medicine (multidisciplinary)	Dr. Sandra Parker	Dr. Luke Engeriser	Initial Accreditation	1/2
Child and Adolescent Psychiatry	Dr. Sandra Parker	Dr. Edgar Finn	Continued Accreditation	3/4
Surgery Critical Care	Dr. William Richards	Dr. Chris Kinnard	Continued Accreditation	1/1

Summary of GME Activities

Program Accreditation Oversight

- Ongoing oversight and monitoring of 12 ACGME-accredited residency programs, 11 ACGME-accredited fellowship programs and 1 non-accredited Renal and Genitourinary Pathology Fellowship Program. The non-accredited Advanced Endoscopy Fellowship was discontinued.
- Pediatrics Program's ACGME Focused Site Visit to inform their RC's accreditation decision.
- Emergency Medicine Program's ACGME Full Accreditation Site Visit to inform their RC's accreditation decision
- Sports Medicine (Family Medicine) Program's ACGME Full Accreditation Site Visit to inform their RC's accreditation decision.

- Addiction Medicine Program’s ACGME Full Accreditation Site Visit to inform their RC's accreditation decision
- Diagnostic Radiology Program’s ACGME Full Accreditation Site Visit to inform their RC's accreditation decision
- Urology’s new program application, including its ACGME site visit preparation scheduled for July 2022
- Application for addition of hematology training to the medical oncology fellowship program.
- Ongoing oversight of Pathology, Pediatrics and Radiology Program plans of action based on GMEC Special Review

Institutional Collaboration

- Quality Improvement and Patient Safety: Continued development of USA Health Housestaff Quality and Safety Council. Resident chair of the Housestaff Quality and Safety Council presents to Performance Improvement Council, GMEC and Housestaff Council to ensure ongoing GME collaboration and house staff engagement in USA Health quality and safety initiatives. Kristen Noles, DNP, Quality and Performance Improvement Coordinator, UH Quality Management, designated USA Health's Quality and Safety GME liaison. Collaborative outcomes through her leadership have resulted a significant increase in direct resident and fellow involvement in ongoing USA Health interdisciplinary quality and safety initiatives that have resulted in system change and improvement. GME stakeholder involvement at all levels in the Press Ganey process. All trainees working within USA Health have completed the Universal Skills training for patient safety.
- Housestaff Council: (composed of chief residents and senior fellows) and residency/fellowship program collaboration with USA Health IT in optimizing Cerner processes/workflows and expanding the use of Microsoft Teams for HIPPA compliant texting and other functionality. John Cherry, IT Strategist, USA Health IT, designated GME IT liaison to support implementation of USA Health IT initiatives in the programs and provide program-specific IT support. Several resident work spaces have received additional work stations and telephones. Chair of the USA Health Housestaff Council presents to Medical Executive Committee and GMEC representing all GME trainees.
- Resident Benefits: Ansleigh Townsend, Senior Benefits/EEO Consultant, USA Health Human Resources designated Human Resources GME liaison to assist the GME Office and programs with trainee-related HR support. The GME office and HR collaborated on a substantial revision of the leave policy for trainees to meet the new ACGME and ABMS requirements.
- Diversity, Equity, and Inclusion: Collaboration with Dr. Franklin Trimm, Associate Dean for Diversity and Inclusion, to engage the GME Community in the College of Medicine's and USA Health's Justice initiative. The DEI sub-committee hosted a recruiting open house and social event during the year.
- Faculty Development: Collaboration with Dr. Emily Wilson, Associate Dean of Faculty Affairs and Faculty Development, and Dr. TJ Hundley, Associate Dean for Medical Education, to increase faculty development overall, but especially in their role as educators. The first in the GME Grand Series was presented on June 16, 2022. A two session half-day workshop series has been developed for clinician educators. Enrollment is in progress and the first session will occur in August 2022.

Program Support

- Successful virtual interview season resulting from collaboration with IT, Education Technologies, Marketing and Communication and the GME programs with financial support from USA Health to purchase interview scheduling software and hire a production company to develop institutional and individual program videos.
- GME office staff participated in the annual ACGME annual educational meeting to increase and update their knowledge in order to provide better program support.
- GME Office staff assigned to individual programs to work closely with their leadership ensuring timely completion of monthly "Acton Items" assigned by the GME Office to ensure deadlines are met and loops are closed.
- Monthly meetings of the GMEC and separate monthly meetings of the Program Coordinators led by the DIO provide information and education necessary for program management.

Well-being

- DIO engagement with the CMO, Employee Assistance Program, and Chaplain on institutional wellbeing initiatives.
- Three "Fifth Friday" resident appreciation day events.
- "GME Pulse" newsletter to better connect the USA GME Community.
- USA COM Chapter of the Gold Humanism Society and other leaders at USA Health and the USA COM provided notes of appreciation on "Thank A Resident Day."
- Approval of program expenditures for wellness activities through the GME office.
- Advancements in institutional benefits such as short term disability coverage, revised parental leave policy, and expanded employee assistance program.

Compliance with Clinical and Educational Work Hours

- Work hours showed a high level of compliance during the 2021-2022 academic year. No programs carry a citation for clinical and educational work hour non-compliance. All potential duty-hour violations identified through logging in new innovations were reviewed by the GME office. Simple logging errors were corrected through collaboration with the program and logging resident. Potential violations were then addressed by review of the GME committee. For the rare true violations that were identified, corrective procedures or education were instituted to prevent recurrences.

Resident and Fellows Scholarship Exposition

- The USA Resident and Fellow Scholarship Exposition was conducted June 16, 2022 at the USA Health Strada Patient Care Center. There were a total of 35 poster entries from 10 different training programs in the categories of "Clinical Vignettes/Case Reports", "Clinical and Translational Research", and "Quality Improvement and Patient Safety". Cash awards were presented to the winning posters in each category.

2021-2022
Summary of Activities
Medical Student Summer Research Program

The Forty-Ninth Annual Medical Student Research Day was held on Friday, July 22, 2022 hosting over 100 attendees in the Medical Sciences Building for both oral and poster presentations. 57 first and second-year medical students participated in research projects with basic science and clinical faculty in the College of Medicine during the summer. A weekly seminar series introduced students to important research related topics. The program aims to highlight the relation between scientific discoveries and their application in clinical medicine.

Brant M. Wagener, M.D., Ph.D., Associate Professor, The University of Alabama at Birmingham School of Medicine, Department of Anesthesiology and Perioperative Medicine was the keynote speaker. Dr. Wagener's seminar was entitled: "*Where I Was, Where I Am, and How I Got Here: A Journey in Academic Medicine and Lessons Learned*"

Culmination of the summer's work was the presentation of 8 oral and 49 poster presentations at the Annual Medical Student Research Day. Student presentations and their faculty sponsors were as follows:

ORAL PRESENTATIONS

STRUCTURAL FEATURES OF PLASMA MTDNA FRAGMENTS ARE LINKED TO ACUTE OUTCOMES IN HUMAN PATIENTS WITH SEVERE TRAUMATIC INJURY. **Danner W. Butler.** Rising Sophomore. Grant T Daly, Viktor M. Pastukh, Justin T. Roberts, Raymond J. Langley, Matthew Kutcher, Jon D. Simmons. Sponsored by Mark N. Gillespie Departments of Pharmacology, Surgery, and Internal Medicine. University of Mississippi Medical Center, Department of Surgery.

HIGH RISK ACE SCORE PREDICTS PROVISIONAL PTSD IN TRAUMA SURVIVORS. **Austin Chapman,** M.S. Rising Sophomore. Sponsored by Ashley Williams, M.D., Department of Surgery, Division of Trauma and Acute Care Surgery.

GEOSPATIAL MAPPING CAN BE USED TO MONITOR COMMUNITY VIOLENCE OVER TIME AND INFORM PREVENTION EFFORTS. **Alicia Dent-Agard.** Rising Sophomore. Sponsored by Dr. Ashley Williams, Department of Surgery.

AMYLOID PRECURSOR PROTEIN GENE EXPRESSION IN HSV-1 INFECTED CORNEAL FIBROBLASTS. **Anna Fouty.** Rising Sophomore. Sponsored by Dr. Robert Barrington, Ph.D., Department of Microbiology and Immunology.

OUTCOMES OF NEONATES RECEIVING LATE PRETERM STEROIDS. **Jessica Irvin.** Rising Sophomore. Sponsored by William Perez, M.D. and Mary Munn, M.D. Department of Obstetrics and Gynecology.

ROBOTIC V. LAPAROSCOPIC OUTCOMES IN GENERAL SURGERY. **Naden Kreitz.** Rising Sophomore. Sponsored by Dr. William Richards, MD, FACS, Department of Surgery.

BRAIN PERICYTE DYSFUNCTION IN NORMAL AGING. **Ryleigh Randall**. Rising Sophomore. Sponsored by Dr. Amy Nelson, Ph.D., Department of Physiology and Cell Biology.

EXAMINING THE CLINICO-PATHOLOGICAL SIGNIFICANCE OF ARHGAP25 IN CERVICAL CANCER PROGRESSION. **Leila Yang**. Rising Sophomore. Srijan Acharya, Ph.D., Sarabjeet Kour Sudan, Ph.D., Mitchell Cancer Institute. Ajay P Singh, Ph.D., Seema Singh, Ph.D., Santanu Dasgupta, Ph.D. Department of Pathology, Department of Biochemistry and Molecular Biology.

POSTER PRESENTATIONS

EFFECT OF PROTHROMBOTIC FACTORS ON EXPRESSION OF ACE2 IN RAT PULMONARY ARTERIAL ENDOTHELIAL CELLS. **Sarah Blackstock**. Rising Sophomore. Sponsored by Abu-Bakr Al-Mehdi M.D., Ph.D., Department of Pharmacology

PERICYTE DYSFUNCTION IN ALZHEIMER'S DISEASE. **Hanna Bobinger**. Rising Sophomore. Sponsored by Amy Nelson, Ph.D., Department of Physiology & Cell Biology.

COMPARING EFFECTIVENESS OF VIRTUAL TO IN-PERSON CULINARY MEDICINE COURSES AMONG CANCER SURVIVORS AND THEIR CAREGIVERS: IMPACT OF COVID-19 PANDEMIC. **Hope Harris**. Rising Sophomore. Sponsored by Jennifer Young Pierce, M.D., M.P.H, Mitchell Cancer Institute.

COASTAL CONCERNS FOR CLINICIANS: EVALUATING HARMFUL ALGAE BLOOM KNOWLEDGE AND OPPORTUNITIES TO INCREASE PROVIDER EDUCATION. **Alexander Lund**. Rising sophomore. Sponsored by Jennifer Young Pierce, M.D., M.P.H., F.A.C.O.G., Mitchell Cancer Institute.

CHOLECYSTECTOMY AT THE TIME OF SPLENECTOMY IN PEDIATRIC HEMATOLOGIC DISORDERS. **Matthew Kelley**. Rising Sophomore. Sponsored by Charles Hartin, Jr, M.D., Department of Surgery.

ANALYSIS OF THE ROLE OF THE MICROTUBULE-ASSOCIATED PROTEIN TAU IN PULMONARY MICROVASCULAR ENDOTHELIAL CELLS. **Caroline Krieger**. Incoming Freshman. Sponsored by Ron Balczon, Mike Lin, and Troy Stevens. Center for Lung Biology.

IMPACT OF OBESITY ON CANCER HEALTH DISPARITIES. **Bethaney Jackson**. Rising Sophomore. Dr. Sarabjeet Kour Sudan, Dr. Cindy Nelson, Dr. Ajay P Singh. Sponsored by Dr. Seema Singh. Department of Pathology.

SYNTHETIC BIOLOGY APPROACHES TO RE-ENGINEER THE PSEUDOMONAS AERUGINOSA TYPE III SECRETION SYSTEM INTO A PROTEIN DELIVERY TOOL. **Andrew Stokes**. Rising Sophomore. Sponsored by Dr. Jonathon P. Audia, Ph.D., Department of Microbiology and Immunology.

APPLICATION OF ARTIFICIAL INTELLIGENCE COMPUTER-AIDED DIAGNOSTIC FRAMEWORK TO DETECT MALIGNANT MELANOMA. **Richard Brandon Schonour**. Incoming Freshman. Sponsored by Thuy Phung, M.D., Ph.D., Department of Pathology, Mohamed Shaban, Ph.D., Department of Electrical and Computer Engineering.

CORRELATION OF RENAL BLADDER ULTRASOUND AND VOIDING CYSTOURETHROGRAM IN PEDIATRIC PATIENTS HOSPITALIZED FOR FEBRILE URINARY TRACT INFECTION. **Kahlea Haladwala**. Rising Sophomore. Sponsored by Dr. Maria Roca Garcia, M.D., Assistant Professor of Pediatrics, Children's and Women's Hospital.

DIABETES, PREGNANCY, AND TECHNOLOGY. **Emily Cleveland**. Rising Sophomore. Sponsored by Heather Fishel, M.D., Department of Internal Medicine, Division of Endocrinology.

REVERSION OF DISEASE-ASSOCIATED GENETIC VARIANTS IN JORDAN'S SYNDROME WITH PRIME EDITING. **Nicholas Friend**. Rising Sophomore. Sponsored by Dr. Mark Swingle, Ph.D., Department of Biochemistry and Molecular Biology.

EXOUPRESSING PSEUDOMONAS AERUGINOSA STRAINS TRIGGER A HYPERINFLAMMATORY CELL DEATH PATHWAY IN HUMAN LUNG ENDOTHELIAL CELLS. **Jonathon Hubbert**. Incoming Freshman. Sponsored by Dr. Jonathon P. Audia, Ph.D., Department of Microbiology and Immunology.

PARTNERING WITH THE COMMUNITY: FACILITATING INTEREST AND TRUST IN BIOMEDICAL RESEARCH. **Warren Law III**. Rising Sophomore. Lynette Parker, Kellia Love, Erica Sutherland, Martha Arietta. Sponsored by Dr. Arrieta. USA Center for Healthy Communities.

SEX-SPECIFIC MUSCLE OXYGENATION AND CUFF-SPECIFIC PERCEPTUAL RESPONSES DURING BLOOD FLOW RESTRICTION RESISTANCE EXERCISE. **Amanda Cuomo**. Incoming Freshman. Sponsored by Dr. Joshua Keller. Department of Health, Kinesiology, and Sport.

EFFICIENT UTILIZATION OF RESOURCES AND SAFE OVERLAPPING SURGERY IN A SPINAL DEFORMITY PRACTICE. **Noah Baker**. Incoming Freshman. Sponsored by Richard Menger, M.D., M.P.A., Victor Bowden, M.D., Department of Neurosurgery.

DISORDER-RELATED VARIANTS (E198K AND E420K) OF A PP2A-REGULATORY SUBUNIT (PPP2R5D) CAUSE ALTERED MTOR, AMPK, AND INSULIN SIGNALING PATHWAYS. **Avery Silar**. Rising Sophomore. Sponsored by Richard Honkanen, Ph.D., Department of Biochemistry and Molecular Biology.

QUANTIFYING AGONIST INDUCED CELLULAR FORCES IN PULMONARY MICROVASCULAR ENDOTHELIAL CELLS. **David Castleberry**. Incoming Freshman. D. Colley, S. Johnson, N. Annamdevula, A. Britain, D. Tambe. Sponsored by S.J. Leavesley and

T.C. Rich. Departments of Pharmacology, Physiology and Cell Biology, and Chemical and Biomolecular Engineering and the Center for Lung Biology.

PERSONALITY, FOOD CHOICE, AND WOMEN'S HEALTH. **Claire R. Chastain**. Rising Sophomore. Sponsored by C. P. Holliday, J.D., M.D., Department of Obstetrics & Gynecology.

SALMONELLA OUTER MEMBRANE VESICLES CONTAIN tRNA FRAGMENTS (tRFs) THAT INHIBIT BACTERIOPHAGE P22 INFECTION. **Cana Brown**. Incoming Freshman. Sponsored by Glen Borchert, Ph.D., Department of Pharmacology.

DO PATIENT-ANSWERED VERSUS PARENT-ANSWERED PATIENT REPORTED OUTCOMES (PRO) DIFFER IN PEDIATRIC FRACTURE CARE? **Cade Smelley**. Rising Sophomore. Sponsored by Tyler McDonald, M.D., Department of Orthopaedic Surgery.

SOCIAL HEALTH IMPACTS PATIENT PHYSICAL RECOVERY 12-14 MONTHS POST TRAUMATIC BLUNT INJURY. **Benjamin Cockrell**. Incoming Freshman. Sponsored by Ashley Williams, M.D. Fanny Meisler Trauma Center at University Hospital.

EPDS SCORE CORRELATING WITH AMOUNT OF WEIGHT GAIN IN PREGNANCY. **Genevieve Tillman**. Rising Sophomore. Sponsored by Nicolette Holliday, M.D., Department of Obstetrics and Gynecology.

EFFECT OF ADJUVANT IMMUNOTHERAPY ON RECURRENCE FREE SURVIVAL IN MELANOMA PATIENTS: A REAL-WORLD EXPERIENCE. **Keith Adler**. Rising Sophomore. Sponsored by J. Harrison Howard, MD FACS, Department of Surgery.

INVESTIGATING CO-FEEDING TRANSMISSION OF POWASSAN VIRUS BETWEEN INFECTED NATIVE TICKS AND THE INVASIVE H. LONGICORNIS. **Parker Norman**. Rising Sophomore. Sponsored by Meghan Hermance PhD, Department of Microbiology and Immunology, Laboratory of Infectious Diseases.

ASSESSMENT OF DETECTABLE ATHEROSCLEROSIS ON COMPUTED TOMOGRAPHY IMAGING IN BREAST CANCER PATIENTS ENTERING TREATMENT. **Sidney Bailey**. Rising Sophomore. Sponsored by Christopher Malozzi, DO, Division of Cardiology.

VALIDATION OF FREEHAND PEDICLE SCREW TECHNIQUE. **Max Bassett**. Incoming Freshman. Sponsored by Richard Menger, M.D., M.P.A., Department of Neurosurgery.

ISOLATION OF DNA AND RNA FROM SINGLE BARRETT'S ESOPHAGUS BIOPSIES. **Will Gannaway**. Incoming Freshman. Justin T. Roberts PhD, Kate Ledbetter. Sponsored by Mark N. Gillespie PhD, William O. Richards MD. Department of Surgery and Pharmacology.

BREAST CANCER DISPARITIES: RACIAL AND SOCIOECONOMIC CONNECTION OF MOLECULAR SUBTYPES. **Wade Davis**. Rising Sophomore. Dr. Sarabjeet Kour Sudan, Dr. Cindy Nelson, Dr. Ajay P. Singh, Dr. Bethany Jackson. Sponsored by Dr. Seema Singh. Department of Pathology, Mitchell Cancer Institute.

RECEIPT OF GUIDELINE CONCORDANT CARE IN PANCREATIC ADENOCARCINOMA PATIENTS. **Krishna Amin.** Rising Sophomore. Sponsored by Annabelle L. Fonseca, M.D., M.H.S. Department of Surgery.

RECEIPT OF GUIDELINE CONCORDANT CARE IN HEPATOCELLULAR CARCINOMA. **Matt Watterson.** Rising Sophomore. Sponsored by Annabelle L. Fonseca, MD, MHS Department of Surgery.

ENHANCED RECOVERY AFTER SURGERY (ERAS) IN THE GYNECOLOGIC PATIENT: LOOKING AT THE LENGTH OF STAY (LOS), COST REDUCTION, AND OPIOID USE. **Tara Hicks.** Rising Sophomore. Sponsored by Tracy Roth, M.D., Department of Obstetrics & Gynecology.

INFLAMMATORY RESPONSE TO ANTICOAGULANTS. **Eric Nguyen.** Rising Sophomore. Sponsored by Christopher Kinnard, MD. Department of Surgery.

CHARACTERIZATION OF RNA BIOMARKERS IN PLASMA FROM ACUTE LUNG INJURY PATIENTS USING OXFORD NANOPORE SEQUENCING. **Emily M. Hartsell.** Rising Sophomore. Justin T. Roberts, Viktor Pastukh, Grant T. Daly. Sponsored by Raymond J. Langley, Mark N. Gillespie. Department of Pharmacology.

PERSONALITY AND OBSTETRICS & GYNECOLOGY HEALTH CARE ACCESS. **Sarah Hunter Jackson.** Rising Sophomore. Sponsored by C.P. Holliday, J.D., M.D., Department of Obstetrics and Gynecology.

EFFECTS OF COVID-19 PANDEMIC ON THE TRAUMA POPULATION IN A LEVEL 1 TRAUMA CENTER. **Javier Michael.** Rising Sophomore. Sponsored by Maryann Mbaka MD. Department of Trauma Surgery.

ANTEPARTUM RISK FACTORS FOR NEONATAL NECROTIZING ENTEROCOLITIS AND BOWEL PERFORATION. **Walker Phillips.** Rising Sophomore. Sponsored by Dr. Carey Winkler. Department of Obstetrics and Gynecology.

CRYOABLATION OF INTERCOSTAL NERVES AFTER CHEST WALL TRAUMA. **Edwin Boyer, B.S.** Rising Sophomore. Sponsored by Christopher Kinnard, M.D. USA Health University Hospital, Department of Surgery, Division of Trauma.

CRITICAL ROLE OF PDE4 IN THE REGULATION OF SERUM POTASSIUM LEVELS. **Peter Lochmaier.** Rising Sophomore. Sponsored by Abigail Boyd & Wito Richter. Department of Biochemistry.

RETROSPECTIVE ANALYSIS OF DIABETIC EXTREMITY INFECTIONS IN HOSPITALIZED PATIENTS AT USA MEDICAL CENTER. **Peter Whitehurst.** Rising Sophomore. Sponsored by Amber Bokhari M.D., University of South Alabama Department of Internal Medicine.

REVIEW OF DEKA SMARTXIDE TETRA CO2 LASER FOR IMPROVEMENT OF CHRONIC HYPERTROPHIC SCARRING FROM BURN RELATED TRAUMA. **Chandler Hinson**. Rising Sophomore. Sponsored by Kimberly A. Donnellan MD1 and Andrew C. Bright DO2. Skin & Laser Center1; Division of Trauma, Acute Care Surgery, & Burns2.

OPERATIVE INTERVENTION OF BLUNT BOWEL AND MESENTERIC INJURY: THE USE OF CT IMAGING TO GUIDE DECISION MAKING. **William C. Smith IV**. Rising Sophomore. Sponsored by Nathan Polite, DO, FACS, FACOS., USA Health at University Hospital, Department of Surgery.

BLUNT CEREBROVASCULAR INJURY (BCVI) MANAGEMENT: A UNICORN DIAGNOSIS. **Brandon Barnes B.S.** Rising Sophomore. Sponsored by Maryann Mbaka M.D., Victoria Bouillon M.D., Andrew Haiflich M.S.N., M.B.A, USA Health University Hospital, Department of Surgery, Division of Trauma.

A PRELIMINARY REVIEW OF PTSD IN BURN PATIENTS USING PCL-5 (DSM-V), ACE SCORES, AND THE BAS-2. **Connor Martin**. Rising Sophomore. Sponsored by Andrew Bright; D.O. Department of Emergency General Surgery.

INCIDENCE AND OUTCOMES OF UNDIAGNOSED AND UNTREATED DIABETES MELLITUS IN TRAUMA PATIENTS. **Caroline Massey**. Rising Sophomore. Sponsored by C. Caleb Butts, MD, Division of Trauma & Acute Care Surgery and Burns, Department of Surgery.

PILOT STUDY FOR THE UTILITY OF NANOPORE SEQUENCING AS A CLINICAL TOOL FOR PERSONALIZED MEDICINE. **Nathaniel S. Olliff**. Incoming Freshman. Sponsored by Glen Borchert, Ph.D., Department of Pharmacology, Department of Biology.

INCIDENCE AND SEVERITY OF MEDICATION RECONCILIATION DISCREPANCIES IN TRAUMA PATIENTS. **E. Grace Dunbar**. Incoming Freshman. Sponsored by C. Caleb Butts, M.D., Division of Trauma & Acute Care Surgery and Burns, Department of Surgery.

ENHANCING WOUND HEALING IN HYPER-IGE SYNDROME USING FPRS AS TARGETS. **Rachel Motamed**. Rising Sophomore. Sponsored by Dr. Robert Barrington. Department of Microbiology and Immunology, Center for Lung Biology.

STATE LAW MANDATING HEALTH CARE PROVIDERS TO REPORT INJURIES FROM GUNSHOTS INCREASES POLICE AWARENESS OF COMMUNITY VIOLENCE. **Ginger Llivina**. Incoming Freshman. Sponsored by Ashley Williams, M.D., Department of Surgery.

The Clyde G. "Sid" Huggins Medical Student Research Awards were presented to the following: Ryleigh Randall, rising sophomore medical student, received the best oral presentation award. Four medical students were presented awards for best poster presentations: Rachel Motamed, Kahlea Haladwala, Brandon Barnes, and Wade Davis, all rising sophomores. Each winner was presented with a plaque of recognition and cash award.

**2021-2022
Summary of Activities
Graduate Program in Basic Medical Sciences**

Administration

Administration of the graduate program falls under the purview of the Office of Research Education and Training which is co-directed by Drs. Tom Rich and Mark Taylor. Dr. Mark Taylor also serves as the Director of the Basic Medical Sciences Graduate Program.

Admissions

The BMS Graduate Program Office continued using the UniCAS admissions application program for the 2021-22 Academic Year. Prospective student applications were accessed and processed within the Office of Research Education and Training. An Admissions Committee was composed of representation from all 6 tracks. Committee members reviewed all applications to determine who would be invited to interview, and then participated in the interviews. Interviews with eligible students were hosted via Zoom video conferencing by the Office of Research Education and Training.

The Basic Medical Sciences Graduate Program interviewed applicants for the Fall 2022 class between January and June 2022. A total of 36 applicants were invited to interview. A summary is provided below.

Admissions – BMS Graduate Program

		2022 Cohort
Applications	US/Perm. Res.	10
	International	44
Acceptances	US/Perm Res.	6
	International	12
Matriculants	US/Perm. Res.	4
	International	7
	Avg. UG GPA	3.56
	Avg. GR GPA	3.51

Curriculum

1. Resiliency training began being offered in the BMS Graduate Program in Fall 2021 through the NIH's *Becoming a Resilient Scientist* series. Four staff were trained by the NIH's Office of Intramural Training and Education as facilitators for small group resiliency conversations. The program was opened to all BMS students and COM postdocs in Fall 2021. In Spring 2022, first year BMS students were required to complete the resiliency training.
2. The first Elevator Pitch Symposium was held on Thursday, April 14, 2022. Ten BMS students presented their research in three-minutes to a broad audience. Three winners were selected by

judges chosen from across campus. Alexander Coley placed first place, Santana Johnson placed second, and Sirin Saranyutanon placed third.

3. The BMS Graduate Program presented its fifteenth Edwin R. Hughes Memorial Award to Triston Cooper on August 11, 2022. The Award honors the first-year student with the best academic performance in the Basic Medical Sciences Graduate Program's core curriculum (IDL 580 and IDL 581).

Financial Support for Graduate Training

1. Four students were awarded the Samuel J. Strada Career Enhancement Travel Award in the 2021-22 academic year.
2. In 2017, a COM Dean's Pre-doctoral Fellowship program was established. The program provides up to three one-year \$30,000 fellowships through an annual competition. The awardees of the fellowship for 2022 were Jenny Hewes, Rachel Rodenberg, and Reece Stevens.

Graduates

6 students officially completed all requirements during the academic year (August 2021 – July 2022):

Abigail Boyd

DISSERTATION TITLE: "Type 4 Phosphodiesterases as a Therapeutic Target: the Good, the Bad, and the Promising"

MAJOR PROFESSOR: Wito Richter, Ph.D.

TRACK: Lung Biology

Brianne Kestler

DISSERTATION TITLE: "Role of Internal Calcium Stores in the KCA2.3 Regulation of Human Uterine Smooth Muscle Contractions"

MAJOR PROFESSOR: Mark Taylor, Ph.D.

TRACK: Vascular Biology

Hanna Laukaitis

DISSERTATION TITLE: "Infection and Transmission Determinants of Flea-Borne Rickettsioses"

MAJOR PROFESSORS: Kevin Macaluso, Ph.D.

TRACK: Infectious Disease and Host Defense

Yelitza Rodriguez

DISSERTATION TITLE: "The Role of Nuclear Focal Adhesion (FAK) in Tumor and the Tumor Microenvironment"

MAJOR PROFESSOR: Steve Lim, Ph.D.

TRACK: Cell and Molecular Biology

Sirin Saranyutanon

DISSERTATION TITLE: “The Effect of Nicotine on Immune Suppression and Prostate Cancer Pathogenesis”

MAJOR PROFESSOR: Ajay Singh, Ph.D.

TRACK: Cancer Biology

Griffin Wright

DISSERTATION TITLE: “STAT3 Dysregulation of XRCC1 Results in Altered Base Excision Repair”

MAJOR PROFESSOR: Natalie Gassman, Ph.D.

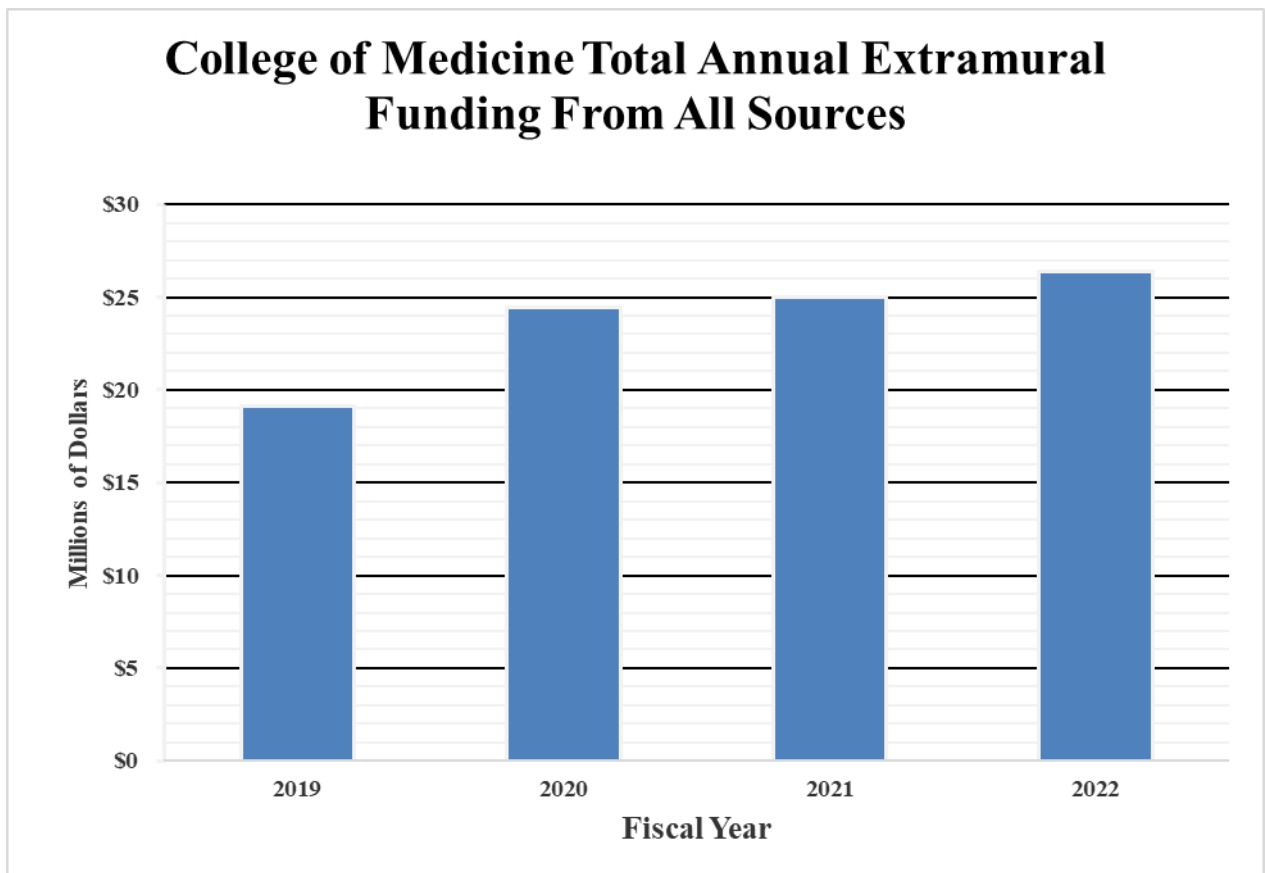
TRACK: Cancer Biology

Summary of Extramural Support

Funding for the 2021-2022 academic year includes \$25,816,289.42 and \$ 543,913.04 in awards and revenue administered through the Office of Sponsored Programs and the South Alabama Medical Science Foundation, respectively. Note that MPI awards (awards with multiple principal investigators) are only counted once in the extramural fund totals.

Extramural Funds Totals for Last 4 Years

2019	\$19,159,860
2020	\$24,462,635
2021	\$25,010,809
2022	\$26,360,202



EXTRAMURAL FUNDING

October 1, 2021- September 30, 2022

Biochemistry and Molecular Biology

Principal Investigator	Agency	Grant ID#	Title	Fiscal Year Funding
DAVIES, CHRISTOPHER	NATIONAL INSTITUTES OF HEALTH	1 R01 AI164794-01A1	Molecular Mechanism of Cephalosporin Resistance of N. Gonorrhoeae Conferred by Mutated PBP2	728,298.00
HONKANEN, RICHARD E.	STATE OF CALIFORNIA	A22-2853-S003	PPP2R5D Variants	499,995.00
LIM, STEVE	NATIONAL INSTITUTES OF HEALTH	5 R01 HL158875-02	FAK Regulation of Cholesterol Influx and Efflux in Foam Cells	\$385,000
PRAKASH, AISHWARYA	UNIVERSITY OF ARIZONA	579730-3	Aberrant DNA Repair and Lupus	\$58,899
PRAKASH, AISHWARYA	NATIONAL INSTITUTES OF HEALTH	5 R01 ES030084-04	Repair of Environmentally Induced Mitochondrial DNA Damage	\$431,200
PRAKASH, AISHWARYA	UNIVERSITY OF ARIZONA	579730-2	Aberrant DNA Repair and Lupus	\$66,240
RICHTER, WITO CO-INVESTIGATORS	CYSTIC FIBROSIS FOUNDATION	BOYD22H0	Pseudomonas Aeruginosa-derived Noncanonical Cyclic Nucleotides as Biomarkers and Virulence Factors in CF	\$3,000
BOYD, ABBY				
RICHTER, WITO CO-INVESTIGATORS	CYSTIC FIBROSIS FOUNDATION	CFF 003110H221	PDE Regulation of CFTR Activity and Bicarbonate Secretion in Mice	\$3,000
FIEDLER, EDWARD				
Total				\$2,175,632

Center for Disaster Healthcare Preparedness

Principal Investigator	Agency	Grant ID#	Title	Fiscal Year Funding
WALLACE, DAVID	ALABAMA DEPARTMENT OF PUBLIC HEALTH	C20115248 (GC-22-356)	COVID-19 Supplemental HCC Fiscal Agency Program	\$442,127
WALLACE, DAVID	ALABAMA DEPARTMENT OF PUBLIC HEALTH	GC-22-342 (C20115236)	Fiscal Agent for Alabama Healthcare Coalition Program	\$727,509
WALLACE, DAVID	ASSISTANT SECRETARY OF PREPAREDNESS AND RESPONSE	GC-22-137 (C20115090)	COVID-19 Supplemental HCC Fiscal Agent Program	\$502,599
WALLACE, DAVID	ALABAMA DEPARTMENT OF PUBLIC HEALTH	GC-22-357 (C20115249)	Alabama Healthcare Coalition Coordination Program	\$769,920
Total				\$2,442,155

Center for Healthy Communities

Principal Investigator	Agency	Grant ID#	Title	Fiscal Year Funding
ARRIETA, MARTHA CO-INVESTIGATORS	UNIVERSITY OF ALABAMA AT BIRMINGHAM	000534462-SC002	Alabama Community-Engagement Research Alliance Against COVID-19 in Disproportionately Affected Communities (Alabama CEAL)	36,649.00
HANKS, ROMA				
ARRIETA, MARTHA	NATIONAL INSTITUTES OF HEALTH	5 U01 ES029518-05 SUBFUND	Measuring Genomic DNA Damage and DNA Repair Capacity in Longitudinal Population Samples - A Step Towards Precision Prevention	125,924.00
ARRIETA, MARTHA CO-INVESTIGATORS	UNIVERSITY OF ALABAMA AT BIRMINGHAM	000534462-SC002-ARR-A02	Alabama Community-Engagement Research Alliance Against COVID-19 in Disproportionately Affected Communities (Alabama CEAL)	75,584.00
HANKS, ROMA				

CROOK, ERROL CO-INVESTIGATORS PERKINS, ALLEN ARRIETA, MARTHA CROOK, ERROL	UNIVERSITY OF ALABAMA AT BIRMINGHAM	30TZ0D026548-01S5	Alabama Precision Medicine Initiative	\$631,506
CROOK, ERROL CO-INVESTIGATORS PERKINS, ALLEN ARRIETA, MARTHA CROOK, ERROL	UNIVERSITY OF ALABAMA AT BIRMINGHAM	10TZ0D026548-01 AMEND 06	Alabama Precision Medicine Initiative	\$230,763
CROOK, ERROL CO-INVESTIGATORS ARRIETA, MARTHA HANKS, ROMA	MOBILE COUNTY HEALTH DEPARTMENT	A21-0208-02	Mobile County Community Health Worker Coalition Sub-Award	\$421,898
Total				\$1,522,324

Family Medicine

Principal Investigator	Agency	Grant ID#	Title	Fiscal Year Funding
PERKINS, ALLEN	HEALTH RESOURCES AND SERVICES ADMINISTRATION	5 T34HP42151-02-01	Partnering to Improve Maternal Outcomes - Supplement	\$4,245
PERKINS, ALLEN CO-INVESTIGATORS ESTRADA, BENJAMIN DANIEL, CASEY TRIMMIER, MARIROSE PETTY, MELODY HUNDLEY, TJ ESTIS, JULIE PERKINS, ALLEN	HEALTH RESOURCES AND SERVICES ADMINISTRATION	5 T99HP33560-04-00x	Partnering to Improve Population Care	\$1,173,481
PERKINS, ALLEN CO-INVESTIGATORS TRIMMIER, MARIROSE PFLEGER, JENNA TRIMM, FRANKLIN BOATRIGT, LAURA HUNDLEY, TJ PERKINS, ALLEN	HEALTH RESOURCES AND SERVICES ADMINISTRATION	5 T34HP42151-02-00	Partnering to Improve Maternal Outcomes	\$599,964
PERKINS, ALLEN CO-INVESTIGATORS TRIMMIER, MARIROSE PFLEGER, JENNA TRIMM, FRANKLIN BOATRIGT, LAURA HUNDLEY, TJ PERKINS, ALLEN	HEALTH RESOURCES AND SERVICES ADMINISTRATION	5 T99HP33560-04-01	Partnering to Improve Population Care - Supplement #3	\$5,450,869
RIPPEY, PETER CO-INVESTIGATORS PERKINS, ALLEN	ALABAMA FAMILY PRACTICE RURAL HEALTH BOARD	A22-0025	Student Preceptorship FY22	\$20,000
RIPPEY, PETER CO-INVESTIGATORS PERKINS, ALLEN	ALABAMA FAMILY PRACTICE RURAL HEALTH BOARD	21-0504	Point Care Ultrasound (POCUS) Training in Family Medicine Residency	\$20,564
Total				\$7,269,123

Internal Medicine

Principal Investigator	Agency	Grant ID#	Title	Fiscal Year Funding
HAYNES, JOHNSON	NOVARTIS PHARMACEUTICALS	SEG101A2203-5008-02	A Phase II, Multicenter, Randomized, Open Label Two Arm Study Comparing the Effect of Crizanlizumab + Standard of Care to Standard of Care Alone on Renal Function in Sickle Cell Disease Patients	\$3,100
HAYNES, JOHNSON	CAROLINAS HEALTHCARE SYSTEM	A18-0056-S006	Comparative Effectiveness of Enhanced Peer Navigation versus Structured Education Based Programming for the Management of Care Transitions in Emerging Adults with Sickle Cell	\$41,297
MALOZZI, CHRISTOPHER	NATIONAL INSTITUTES OF HEALTH	5 R21EB028063-03 NCE SUB FUND	Automated MRI-based 3D Contractility (Strain) Analysis for Detecting Subclinical Cardiotoxicity in Breast Cancer Patients Undergoing Chemotherapy	\$12,366
MALOZZI, CHRISTOPHER	LUITPOLD PHARMACEUTICALS, INC	63842	A Randomized, Double-Blind, Placebo-Controlled Study to Investigate the Efficacy and Safety of Injectafer (Ferric Carboxymaltose) as Treatment for Heart Failure with Iron Deficiency (HEART-FID)	\$10,226
SONNIER, WILLIAMS	CORRONA, LLC	63891	(Luitpold - 1VIT15043) Corrona Inflammatory Bowel Disease (IBD) Registry (IBD-600 Registry)	\$5,600
VANDE WAA, JOHN	HEALTH RESOURCES AND SERVICES ADMINISTRATION	2 H12HA24771-10-00	University of South Alabama Family Specialty Clinic	\$377,778
Total				\$450,367

Microbiology and Immunology

Principal Investigator	Agency	Grant ID#	Title	Fiscal Year Funding
BARRINGTON, ROBERT	MOWYCAL, LLC	A19-0046-sup3	Pre-clinical Studies to Determine the Efficacy of N-formylmethionyl-leucyl-phenylalanine (N-F-MLF) Peptide Prevention of Most Cell Degranulation	\$46,056
BARRINGTON, ROBERT	MOWYCAL, LLC	A19-0046-sup4	Pre-clinical Studies to Determine the Efficacy of N-formylmethionyl-leucyl-phenylalanine (N-F-MLF) Peptide Prevention of Most Cell Degranulation	\$50,632
HERMANCE, MEGHAN	UNIVERSITY OF FLORIDA	sub00003264	CDC Southeastern Regional Center of Excellence in Vector-Borne Diseases: The Gateway Program	\$15,730
HERMANCE, MEGHAN	NATIONAL INSTITUTES OF HEALTH	5 R21 A163693-02	Evaluating the Ability of the Invasive Asian Longhorned Tick, Haemaphysalis longicornis, to Maintain and Transmit North American Tick-borne Viruses	\$192,500
HERMANCE, MEGHAN	NATIONAL INSTITUTES OF HEALTH	1 R01 AI171398-01	Intra-tick and Intra-host Infection Dynamics of a Tick-borne Bunyavirus	\$518,191
MACALUSO, KEVIN	NATIONAL INSTITUTES OF HEALTH	1 R13 AI169930-01	31st Meeting of the American Society in Rickettsiology	\$8,000
MACALUSO, KEVIN	UNIVERSITY OF FLORIDA	SUB00003404	Rickettsial Influence on Host Membrane Physiology in Arthropod Vectors	\$81,900
MACALUSO, KEVIN	NATIONAL INSTITUTES OF HEALTH	2 R01 AI122672-06A1	Emerging Flea-borne Rickettsial Diseases: Vector Competence and Transmission Biology	\$460,848
RAYNER, JONATHAN	LATHAM BIOPHARM GROUP	2021-001	Discovery & Development of Broad-Spectrum Small Molecule Inhibitors Targeting the Alphavirus Helicase Protein	\$205,199
RAYNER, JONATHAN	MOBILE COUNTY HEALTH DEPARTMENT	A20-0083-003	Mobile County Public Health Department Mosquito-borne Infectious Disease Surveillance - 2020	\$48,968

RAYNER, JONATHAN	BLUE WILLOW BIOLOGICS	63900	The preparatin of 2 SARS-CoV-2 vaccines using nanoemulsion adjuvant and testing the efficacy of those vaccines against challenge with up to two SARS-CoV-2 strains in a hamster model. (Blue Willow Hamster Study)	\$52,012
Total				\$1,680,036

Neurology

Principal Investigator	Agency	Grant ID#	Title	Fiscal Year Funding
DEES, DANIEL	ABBVIE, INC.	63894	Advanced Parkinson's Disease: An Open-label Extension Study of M15-736 Evaluating the Safety and Tolerability of ABBV-951 (AbbVie M20-098)	\$3,000
DEES, DANIEL	HUNTINGTON'S DISEASE SOCIETY OF AMERICA	2022-06-12	HDSA Center of Excellence	\$12,500
KILGO, WILLIAM	EMD SERONO, INC.	63885	A Phase III, Multicenter, Randomized, Parallel Group, Double Blind, Double Dummy, Active Controlled Study of Evobrutinib Compared with Teriflunomide, in Participants with Relapsing Multiple Sclerosis to Evaluate Efficacy and Safety (EMD Serono Mis200527_0080)	\$3,000
KILGO, WILLIAM	CELGENE INTERNATIONAL II SARL	63886	A Multicenter, Longitudinal, Open-label, Single-arm Study Describing Cognitive Processing Speed Changes in Relapsing Multiple Sclerosis Subjects Treated With Ozanimod (Celgene RPC-1063-MIS-001)	\$3,367
KILGO, W	ROCHE	63909	An Observational Study of Ocrelizumab-Treated Patients With Multiple Sclerosis To Determine The Incidence and Mortality Rates Cancer and All Malagnancies (Roche-BA39731-Verismo)	\$10,026
NARITOKU, DEAN	XENON PHARACEUTICALS, INC.	63867	A Randomized, Double-blind, Placebo-controlled, Multicenter Study to Evaluate the safety, Tolerability and Efficacy of XEN1101 as Adjunctive Therapy in Focal-onset Epilepsy (Xenon XPF-008-201)	\$18,656
SUGG, REBECCA	THE NEUROLOGICAL INSTITUTE OF NEW YORK	010785-138674-02	ARCADIA Clinical Trial through the NIH StrokeNet	\$4,547
Total				\$55,096

Obstetrics and Gynecology

Principal Investigator	Agency	Grant ID#	Title	Fiscal Year Funding
BAKER, SUSAN	UNIVERSITY OF ALABAMA AT BIRMINGHAM	000530812-SC012	A Window to Future Outcomes of Antihypertensive Therapy and Superimposed Preeclampsia for Mothers with Mild Chronic Hypertension (CHAP Maternal Follow-up Study)	\$16,789
BAKER, SUSAN	UNIVERSITY OF ALABAMA AT BIRMINGHAM	000530812-SC012-02	A Window to Future Outcomes of Antihypertensive Therapy and Superimposed Preeclampsia for Mothers with Mild Chronic Hypertension (CHAP Maternal Follow-up Study)	\$53,024
BAKER, SUSAN	UNIVERSITY OF ALABAMA AT BIRMINGHAM	000517555-SC001	Regional Partnership Grants to Increase the Well-Being of, and to Improve the Permanency Outcomes for, Children Affected by Substance Abuse	\$10,000
MUNN, MARY	ALABAMA DEPARTMENT OF PUBLIC HEALTH	GC-22-112 (C20115072)	Perinatal Coordinator Grant FY22	\$23,000

ROTH, TRACY	PFIZER	63887	A Phase 3, Randomized, Double- or Observer-Blinded, Placebo-Controlled Trial to Evaluate The Efficacy and Safety of a Respiratory Syncytial Virus (RSV) Perfusion FSubunit Vaccine in Infants Born to Women Vaccinated During Pregnancy Investigational (Pfizer C3671008)	\$175,859
Total				\$278,672

Orthopaedics

Principal Investigator	Agency	Grant ID#	Title	Fiscal Year Funding
SLAUTERBECK, JAMES	ALLOSOURCE	63908	ProChondrix CR Articular Cartilage Restoration Evaluation (PACE) Registry (PACE Registry)	\$8,550
Total				\$8,550

Pathology

Principal Investigator	Agency	Grant ID#	Title	Fiscal Year Funding
CHAKROBORTY, DEBANJAN	DEPARTMENT OF DEFENSE	W81XWH-20-1-0618-P00001	Role of Angiotensin II-Mediated KLF4 Regulation in Gastric Cancer Metastasis	\$422,082
DASGUPTA, SANTANU CO-INVESTIGATORS CARTER, ELLIOT	BREAST CANCER RESEARCH FOUNDATION OF ALABAMA	A23-0001	Exploring Mitochondrial Whole Genome in Triple Negative Breast Cancer	\$25,000
DASGUPTA, SANTANU CO-INVESTIGATORS SINGH, AJAY	ELSA U. PARDEE FOUNDATION	A22-0030	Cervical Cancer Prevention in Racial Disparity by Epigenome Monitoring	\$126,000
PIERCE, JENNIFER CARTER, ELLIOT	NATIONAL INSTITUTES OF HEALTH	7 R21 CA2166763-03	Development of a Novel Antiangiogenic Drug for Colon Cancer by Targeting Neuropeptide Y Receptors.	\$967
SARKAR, CHANDRANI	NATIONAL INSTITUTES OF HEALTH	5 R01 CA224306-05	A Novel Molecular Cross-talk Driving Pancreatic Cancer Progression	\$339,625
SINGH, AJAY CO-INVESTIGATORS SINGH, SEEMA	DEPARTMENT OF DEFENSE	W81XWH2210913	Impact of Nicotine Exposure on Prostate Cancer Progression and Therapeutic Outcome	\$1,155,000
CARTER, ELLIOT SINGH, AJAY CO-INVESTIGATORS SINGH, SEEMA	NATIONAL INSTITUTES OF HEALTH	5 R01 CA231925-04	Impact of Social Factors on Breast Cancer Biology in African-American Women	\$591,517
DASGUPTA, SANTANU CARTER, ELLIOT MULEKAR, MADHURI SINGH, SEEMA CO-INVESTIGATORS SINGH, AJAY	NATIONAL INSTITUTES OF HEALTH			
DANIEL, CASEY HANKS, ROMA				
Total				\$2,660,191

Pediatrics

Principal Investigator	Agency	Grant ID#	Title	Fiscal Year Funding
ANDERSON, STEPHANIE	ALABAMA DEPARTMENT OF MENTAL HEALTH/MENTAL RE	MP2021-09-A22-0002	Regional Autism Network (RAN)	\$75,000
ESTRADA, BENJAMIN CO-INVESTIGATOR CUSTODIO, HAIDEE	UNIVERSITY OF ALABAMA AT BIRMINGHAM	000522211-SC016-Amend 4	Congenital and Perinatal Infections Rare Diseases Clinical Research Consortium	\$11,000
ESTRADA, BENJAMIN EYALS, FABIAN	UNIVERSITY OF ALABAMA AT BIRMINGHAM ROCHE DIAGNOSTICS OPERATIONS, INC	22-0583 63915	Acute Flaccid Myelitis (AFM) Reference Range and Clinical Performance Evaluation of Elecsys IL-6 Assay in Neonatal Sepsis (US); Collection Study (Roche Study #0165/0661)	\$12,750 \$9,290
GREMSE, DAVID	PHATHOM PHARMACEUTICALS, INC	63917	A Phase 1, Randomized, Parallel-group, Open-label, Multicenter Study to Evaluate the Pharmacokinetics, Pharmacodynamics and Safety of Vonoprazan (10 or 20 mg Once Daily) in Adolescents with Symptomatic Gastroesophageal Reflux Disease (Phathom VPED-102)	\$10,350
HARMON, CHARLES	BAXTER HEALTHCARE CORPORATION	A21-0226	Evaluate the Risk of Developing Essential Fatty Acid Deficiency in Pediatric Patients, Including Neonates, Receiving Either Clinolipid 20% or Standard-of-Care Soybean Oil Based Lipid Emulsion	\$16,500
IMRAN, HAMAYAN	PUBLIC HEALTH INSTITUTE	NON-INDUSTRY RCR	COG Per Case Reimbursement Non-Industry Sources from PHI	\$1,500
IMRAN, HAMAYAN	PUBLIC HEALTH INSTITUTE	WLI - Work Load Intensity-01	PHI Workload Intensity under NCTN Grant U10CA180886	\$27,500
IMRAN, HAMAYAN	PUBLIC HEALTH INSTITUTE	PCR Per Case Reimbursement-2	Per Case Reimbursement - NCTN Operations Grant U10CA180886	\$26,100
IMRAN, HAMAYAN	CHILDREN'S HOSPITAL OF PHILADELPHIA	FP00034489_SUB06_01A1	COG Study AAML1831: A Collaboration between COG, Jazz Pharmaceuticals, Astellas, Pharma Global Development, Inc. and Foundation Medicine, Inc.	\$3,000
IMRAN, HAMAYAN	CHILDREN'S HOSPITAL OF PHILADELPHIA	9400120212 - ST. BALDRICKS SEVEN	Children's Oncology Group Grant - Non-Industry Funded Work Order	\$3,500
IMRAN, HAMAYAN	THE DESMOID TUMOR RESEARCH FOUNDATION	AR10474 STUDY: ARST1921	ARST1921 "A Safety, Pharmacokinetic and Efficacy Study of a γ-secretase Inhibitor, Nirogacastate (PF-03084014) UND# 146375) in Children and Adolescents with Progressive, Surgically Unresectable Desmoid Tumors"	\$400
IMRAN, HAMAYAN	CHILDREN'S HOSPITAL OF PHILADELPHIA	9400710617-05	Project: Every Child (APEC14B1) Non-Industry	\$5,850
IMRAN, HAMAYAN	CHILDRENS HOSPITAL OF PHILADELPHIA	FP00021944_A1_SUB74_0,1 year 2	Health Effects After Anthracycline and Radiation Therapy (HEART)- (ALTE11C2 Study)	\$2,000
KAULFERS, ANNE-MARIE MARRI, PREETHI	ALABAMA DEPARTMENT OF PUBLIC HEALTH GLOBAL BLOOD THERAPEUTICS, INC	GC-22-093 (C20115059) 63911	Endocrinology Clinic for Newborn Screening	\$22,000 \$11,700
MARRI, PREETHI	GLOBAL BLOOD THERAPEUTICS, INC	63912	A Randomized, Double-blind, Placebo-controlled, Multicenter Study to Assess the Safety and Efficacy of Inclacumab in Participants with Sickle Cell Disease Experiencing Vasoocclusive Crises (GBT2104-131)	\$11,700
MARRI, PREETHI	GLOBAL BLOOD THERAPEUTICS, INC	63913	A Randomized, Double-blind, Placebo-controlled, Multicenter Study of a Single Dose of Inclacumab to Reduce Re-admission in Participants with Sickle Cell Disease and Recurrent Vaso-occlusive Crises (GBT2104-132)	\$11,700
WILSON, FELICIA	ALABAMA DEPARTMENT OF PUBLIC HEALTH	GC-22-094 (C20115060)	An Open-Label Extension Study to Evaluate the Long-Term Safety of Inclacumab Administered to Participants with Sickle Cell Disease Who Have Participated in an Inclacumab Clinical Trial (GBT2104-133)	\$22,000
			Comprehensive Sickle Cell Center for the State Newborn Screening Program	\$22,000
			Total	\$283,840

Pharmacology

Principal Investigator	Agency	Grant ID#	Title	Fiscal Year Funding
BORCHERT, GLENN	NATIONAL SCIENCE FOUNDATION	NSF 2219900	Salmonella sRNAs Drive the Decision Between Active Stress Resistance and Persistence in Cell Dormancy	\$318,036
BORCHERT, GLENN	NATIONAL SCIENCE FOUNDATION	NSF 2223547	Long G4 Regions (LG4s) in the Human Genome Constitute Functional Enhancers that Coordinate Neighboring Gene Expressions	\$427,321
BORCHERT, GLENN	ALABAMA COMMISSION ON HIGHER EDUCATION	A22-0125	Graduate Research Scholars Program (GRSP) Awards (Round 17)	\$25,000
GILLESPIE, MARK CO-INVESTIGATORS DALY, GRANT	AMERICAN HEART ASSOCIATION	830166-02	Oxidative Mitochondrial DNA Damage in the Propagation of Ischemia-Reperfusion Injury and its Long-term Consequences	\$31,520
GILLESPIE, MARK CO-INVESTIGATORS BORCHERT, GLENN WILSON, EMILY MULEKAR, MADHURI GRAVES, REBECCA ARRIETA, MARTHA	UNIVERSITY OF ALABAMA BIRMINGHAM	000520679-SC010	University of South Alabama Translational Research Service Center	\$193,978
GILLESPIE, MARK PASTUKH, VICTOR MULEKAR, MADHURI	NATIONAL INSTITUTES OF HEALTH	5 R01 GM127823-04	mtDNA Damage and DAMPS in Multiple Organ Dysfunction Syndrome	\$438,552
GILLESPIE, MARK GILLESPIE, MARK LANGLEY, RAYMOND CO-INVESTIGATORS BENTON, RYAN	UNIVERSITY OF ALABAMA AT BIRMINGHAM UNIVERSITY OF ALABAMA AT BIRMINGHAM NATIONAL INSTITUTES OF HEALTH	000533248-SC002 A21-0121-01 1 R21 NR019338-02	Deep South SARS-CoV-2 Recovery (DSR) Cohort USA CCTS Fee for Service Agreement to Fund Voucher Awards Metabolic Energy Crisis Signature Predicts Quality of Life in Survivors of Acute Respiratory Failure	\$100,100 \$15,000 \$200,788
MIGAUD, MARIE	UNIVERSITY OF PENNSYLVANIA	576028-04	Targeting NAD Metabolism to Improve Glucose Homeostasis in Obesity and Aging	\$29,303
MIGAUD, MARIE	UNIVERSITY OF BERGEN	309567	Norwegian Students for Training in Medicinal Chemistry	\$16,185
MIGAUD, MARIE	FOLEY HOAG LLP	A22-0022	Synthesis at Scale	\$19,147
MIGAUD, MARIE	ELYSIUM HEALTH, INC.	A19-0143-02	Design, Development and Chemical Syntheses of Tools and Processes to Explore the Landscape of B-vitamin in Health and in Disease	\$219,542
MIGAUD, MARIE MIGAUD, MARIE RACHEK, LYUDMILA I.	UNIVERSITY OF BERGEN UNIVERSITY OF ALABAMA AT BIRMINGHAM BREAST CANCER RESEARCH FOUNDATION OF ALABAMA	874 789 542 000534308-SC001 A22-0031	Hub Molecules of Life Dihydroxyacetone Induced Metabolic Reprogramming Gene Expression Analysis in Mouse Breast Cancer Models with Mitochondrial Targeted TAT-hOGG1	\$50,000 \$64,604 \$35,000
RICH, THOMAS	UNIVERSITY OF ALABAMA BIRMINGHAM	000524523-SC003	Probing Gq and Arrestin Mediated Regulation of Mechanical and Chemical Signals in Human Airway Smooth Muscle Cells	\$50,740
RICH, THOMAS CO-INVESTIGATORS LEAVESLEY, SILAS PHA, AHN-VU	THOMAS JEFFERSON UNIVERSITY	MP2022-11-06	G Protein-Coupled Receptor Regulation in Airway Myocytes	\$103,950
RICH, THOMAS RICH, THOMAS	NATIONAL INSTITUTES OF HEALTH AMERICAN HEART ASSOCIATION	5 P01 HL066299-20 PROJECT 2 AHA 903376	Lung Endothelial Cell Phenotypes - Project 2 Undergraduate Summer Research Experience at University of South Alabama	\$84,624 \$33,946
SOBOL, ROBERT CO-INVESTIGATORS PIERCE, JENNIFER	FLORIDA GULF COAST UNIVERSITY	17056-NSF-USA-MCI-045	To Assess and Minimize the Risk of Human Exposure to Ciguatoxins in a Changing Climate	\$14,000

SOBOL, ROBERT CO-INVESTIGATORS LI, JIANFENG	UNIVERSITY OF CALIFORNIA	A17-0212-03	A Systems Approach to Mapping the DNA Damage Response	\$112,059
SOBOL, ROBERT CO-INVESTIGATOR LI, JIANFENG	NATIONAL INSTITUTES OF HEALTH	5 U01 ES029518-05	Measuring Genomic DNA Damage and DNA Repair Capacity on Longitudinal Population Samples - a Step Towards Precision Prevention	\$428,708
SOBOL, ROBERT CO-INVESTIGATORS KOCZOR, CHRISTOPHER FANG, QINGMING	FOX CHASE CANCER CENTER	FCCC15137-04	Investigating Genetic Ancestry Influences on Oral Cavity and Laryngeal Cancer Survival Disparities	\$271,867
SOBOL, ROBERT	FOX CHASE CANCER CENTER	7910422	SPORE Professional Services Agreement	\$20,000
SOBOL, ROBERT CO-INVESTIGATORS LI, JIANFENG	BREAST CANCER RESEARCH FOUNDATION OF ALABAMA	A22-0032	Overcoming Breast Cancer Resistance to PARG Inhibitor-induced Cell Death by NAD-modulation	\$50,000
SOBOL, ROBERT SOBOL, ROBERT	UNIVERSITY OF ALABAMA AT BIRMINGHAM UNIVERSITY OF TEXAS HEALTH AT SAN ANTONIO	000528128-SC001-A02 168700-168699-2	SON- Mediated RNA Splicing in Glioblastoma The Paternal Age Effect - Enhanced Germ Cell Mutagenesis modulated by the TRP53/APE1/MDM2 Tumor Suppressor Axis	\$16,771 \$45,015
			Total	\$3,415,756

Physiology and Cell Biology

Principal Investigator	Agency	Grant ID#	Title	Fiscal Year Funding
ALEXEYEV, MIKHAIL COHEN, MICHAEL	NATIONAL INSTITUTES OF HEALTH BOEHRINGER INGELHEIM PHARMACEUTICALS, INC.	5 P01 HL066299-20 CORE C A20-0072-03	Lung Endothelial Cell Phenotypes - Core C Cluster-randomized Clinical Trial to Test the Effectiveness of an Innovative, Clinic-level Implementation Strategy to Improve the Management of Patients with T2DM and Cardiovascular Disease	\$289,411 \$5,350
LEAVESLEY, SILAS	NATIONAL INSTITUTES OF HEALTH	5 P01 HL066299-20 CORE D	Lung Endothelial Cell Phenotypes - Core A: Administrative Core	\$220,166
LEE, JI YOUNG CO-INVESTIGATORS ALEXEYEV, MIKHAIL RICH, THOMAS STEVENS, TROY	NATIONAL INSTITUTES OF HEALTH	1 R01 HL160988-01	Acidosis in Pulmonary Endothelial Injury and Repair	\$385,000
LIN, MIKE CO-INVESTIGATORS BALCZON, RONALD ZHA, XIANGMING STEVENS, TROY NELSON, AMY R.	NATIONAL INSTITUTES OF HEALTH	2 R01 HL140182-05	Nosocomial Pneumonias Impair Cognitive Function	\$478,890
STEVENS, TROY STEVENS, TROY	NATIONAL INSTITUTES OF HEALTH NATIONAL INSTITUTES OF HEALTH	5 R00 AG058780-05 5 P01 HL066299-20 CORE A 5 P01 HL066299-20 PROJECT 1	Brain Pericyte Contractility, Cerebral Blood Flow and Blood-brain Barrier Integrity are Impaired by Normal Aging and Alzheimer's Disease Amyloid-beta and are Dependent on p75NTR Lung Endothelial Cell Phenotypes - Core A Lung Endothelial Cell Phenotypes - Project 1	\$218,200 \$210,381 \$315,786

STEVENS, TROY CO-INVESTIGATORS ALEXEYEV, MIKHAIL BALCZON, RONALD LEE, JI YOUNG	NATIONAL INSTITUTES OF HEALTH	5 R01 HL148069-03	Lung Endothelial Aß in Infectious Proteinopathy	\$385,000
STEVENS, TROY CO-INVESTIGATOR RICH, THOMAS	OFFICE OF NAVAL RESEARCH	A22-0136 SUBFUND	Development of Next Generation CO2 Capture Processes for Naval Application:	\$398,129
TAMBE, DHANANJAY	NATIONAL INSTITUTES OF HEALTH	5 P01 HL066299-20 CORE B	Lung Endothelial Cell Phenotypes - Core B	\$266,708
TAYLOR, MARK	NATIONAL INSTITUTES OF HEALTH	5 P01 HL066299-20 PROJECT 3	Lung Endothelial Cell Phenotypes - Project 3	\$334,769
TAYLOR, MARK CO-INVESTIGATORS FRANCIS, MICHAEL LIN, MIKE WEBER, DAVID	NATIONAL INSTITUTES OF HEALTH	1 R01 HL155288-02	Network Signature of Low-Flow Endothelial Dysfunction	\$385,000
Total				\$3,892,790

Surgery

Principal Investigator	Agency	Grant ID#	Title	Fiscal Year Funding
BRIGHT, ANDREW	MEDIWOUND	63879	Use of Nexobrid for Treatment of Acute Deep Partial and Full Thickness Burn Injuries (MediWound MW2018-06-21)	\$123,526
FONSECA, ANNABELLE	UNIVERSITY OF ALABAMA AT BIRMINGHAM	000520679-SC010 PILOT	Patient and Stakeholder Reported Perspectives on Barriers in Access to Oncologic Care in Pancreatic Cancer	\$26,793
RICHARDS, WILLIAM	TORAX MEDICAL, INC.	63910	The CALIBER Study: Randomized Controlled Trial of LINX versus Double-Dose Pump Inhibitor Therapy for Reflux Disease (Torax Rethink Reflux Registry)	\$18,446
RIDER, PAUL	MILLENNIUM PHARMACEUTICALS / TAKEDA	63857	TAK-954-2004: A Randomized, Double-Blind, Placebo-Controlled, Phase 2 Dose Ranging Study to Evaluate the Efficacy and Safety of 2 Dose Regimens of Intravenous TAK-954 for the Prophylaxis and Treatment of Postoperative Gastrointestinal Dysfunction in Patients Undergoing Large- and Small-bowel Resection (Millennium TAK-954-2004)	\$26,373
RIDER, PAUL	PALISADE	63914	A Randomized, Double-Blind, Placebo-Controlled Proof of Concept Study to Evaluate LB1148 for Return of Gastrointestinal Function, Post-Operative Ileus and Intra-Abdominal Adhesions in Subjects Undergoing Elective Bowel Resection (PROFILE) (Palisade Bio LBS-POI-201)	\$13,277
Total				\$208,415

Mitchell Cancer Institute (SAMSF PROJECTS ONLY)

Principal Investigator	Agency	Grant ID#	Title	Fiscal Year Funding
ROCCONI, RODNEY	Gradalis, Inc.	63752	A Randomized, Double-Blind, Placebo-Controlled Phase 3 Trial of Vigil Engineered Autologous Tumor Cell Immunotherapy in Subjects with Stage IIb-IV Ovarian Cancer in Clinical Complete Response following Surgery and Primary Chemotherapy (VITAL) - (CL-PTL-119) (Gradalis CL-PTL-119)	\$3,615
SCALICI, JENNIFER	GOG/ABBVIE	63761	Clinical Study Protocol M13-694 A Phase 3 Placebo-Controlled Study of Carboplatin/Paclitaxel With or Without Concurrent and Continuation Maintenance Veliparib (PARP inhibitor) in Subjects with Previously Untreated Stages III or IV High-Grade Serous Epithelial Ovarian, Fallopian Tube, or Primary Peritoneal Cancer (Abbvie M13-694)	\$13,640
Total				\$17,255