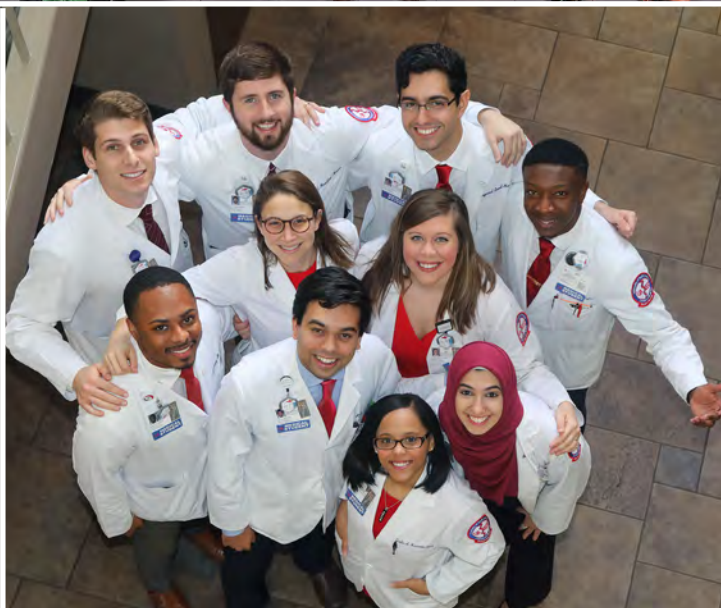




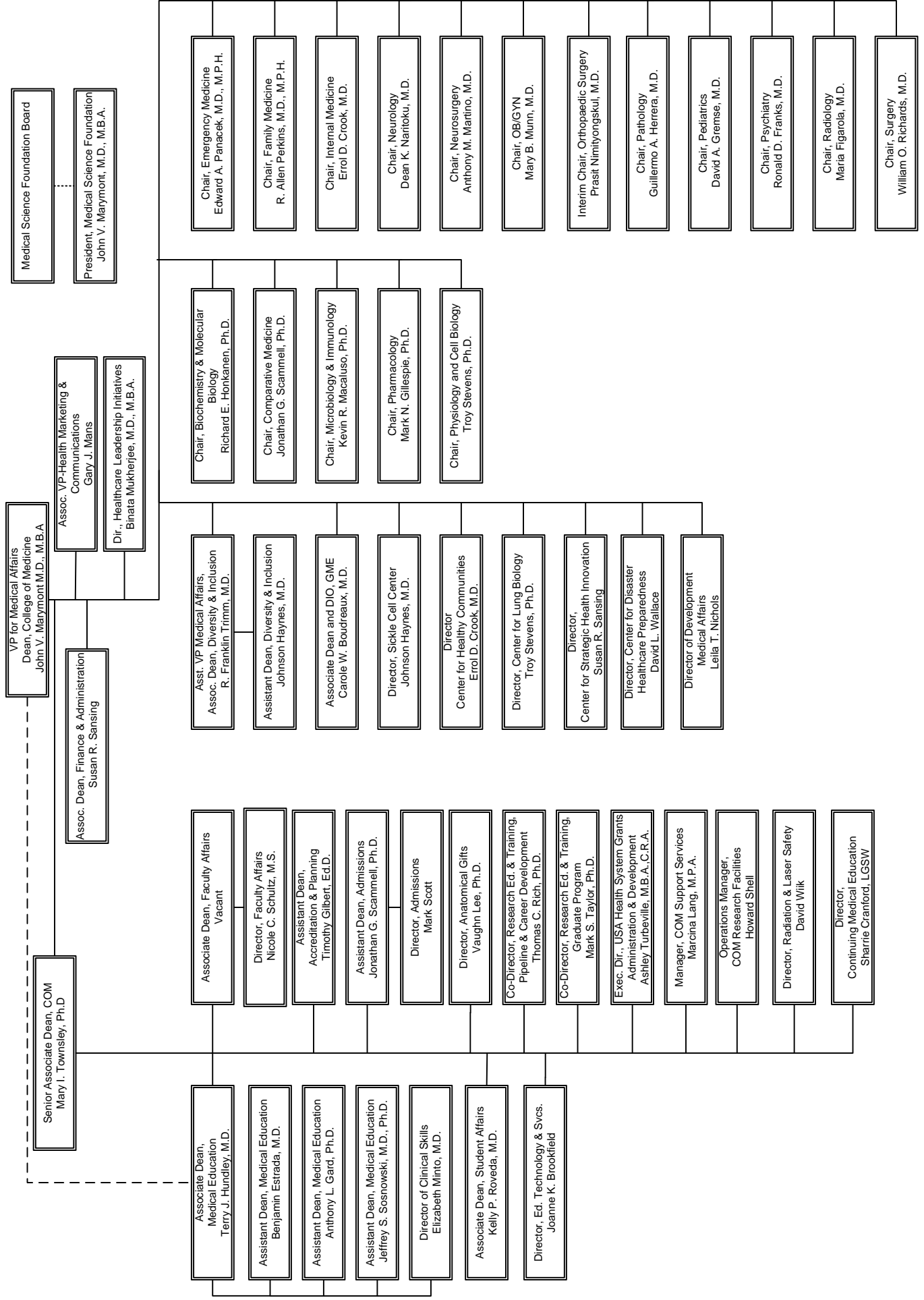
UNIVERSITY OF SOUTH ALABAMA
COLLEGE OF MEDICINE

ANNUAL REPORT

October 1, 2019 – September 30, 2020



USA College of Medicine Organizational Chart September, 2020



ANNUAL REPORT
UNIVERSITY OF SOUTH ALABAMA
COLLEGE OF MEDICINE

October 1, 2019 through September 30, 2020

FOREWORD

The 2019-20 annual report for the University of South Alabama College of Medicine catalogues the accomplishments of our faculty, staff and students relating to teaching, research, other scholarship and community service. The achievements for this year become so much more remarkable when placed against the backdrop of what we have faced since March, 2020. Our faculty, staff and students rapidly adapted to new learning environments and practices mandated by the university COVID-19 pandemic response, while continuing the legacy of excellence in academic achievement. Our medical students again scored above the national average on both Step exams and matched at some of the nation's most sought-after residency programs in the nation, all while reporting an overall satisfaction level of their medical education that exceeds the national average. Our graduate students continued to make progress towards their degrees despite scaled back research efforts during this time.

Recognizing that the members of our faculty are the life's blood for the College led to the creation of the position of Associate Dean for Faculty Affairs and Faculty Development. Emily Wilson, PhD, formerly from the Texas A&M Health Science Center, joined us to guide the development of the faculty, including implementing a sustainable faculty mentoring program.

Our research portfolio continues to be strong and growing. In addition to delving into the mechanisms and treatments for cancer, lung diseases, insect-borne diseases and more, our research teams pivoted their efforts to contribute to the rapid growth of scientific knowledge about the novel coronavirus.

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

VP Medical Affairs and Dean, College of Medicine.

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2019-2020
Summary of Scholarly Activities
Department of Biochemistry

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Alexeyev M, Geurts AM, Annamdevula NS, Francis CM, Leavesley SJ, Rich TC, Taylor MS, Lin MT, Balczon R, Knighten JM, Alvarez DF, Stevens T. Development of an endothelial cell-restricted transgenic reporter rat: a resource for physiological studies of vascular biology. *Am J Physiol Heart Circ Physiol*. 2020 Aug 1;319(2):H349-H358.

D'Arcy BM, Prakash A, Honkanen RE. Targeting phosphatases in cancer: suppression of many versus the ablation of one (editorial). *Oncotarget* 2019 Nov 12;10(61):6543-6545.

Murphy JM, Jeong K, Lim SS. FAK family kinases in vascular diseases (review). *Int J Mol Sci*. 2020 May 21;21(10):3630.

Salter EA, Wierzbicki A, Honkanen RE. Quantum-based modeling of dephosphorylation in the catalytic site of serine/threonine protein phosphatase-5 (PPP5C). *Catalysts*. 2020 Jun;10(6):674.

Scott AM, Jager AC, Gwin M, Voth S, Balczon R, Stevens T, Lin MT. Pneumonia-induced endothelial amyloids reduce dendritic spine density in brain neurons. *Sci Rep*. 2020 Jun 9;10(1):9327.

Swingle MR, Honkanen RE. Inhibitors of serine/threonine protein phosphatases: biochemical and structural studies provide insight for further development. *Curr Med Chem*. 2019;26(15):2634-2660.

Voth S, Gwin M, Francis CM, Balczon R, Frank DW, Pittet JF, Wagener BM, Moser SA, Alexeyev M, Housley N, Audia JP, Piechocki S, Madera K, Simmons A, Crawford M, Stevens T. Virulent *Pseudomonas aeruginosa* infection converts antimicrobial amyloids into cytotoxic prions. *FASEB J*. 2020 Jul;34(7):9156-9179.

Wagener BM, Anjum N, Christiaans SC, Banks ME, Parker JC, Threet AT, Walker RR, Isbell KD, Moser SA, Stevens T, Alexeyev MF, Audia JP, Richter W, Hardy KS, Saleh LA, Morgan C, Pittet JF. Exoenzyme Y contributes to end-organ dysfunction caused by *Pseudomonas aeruginosa* pneumonia in critically ill patients: an exploratory study. *Toxins (Basel)*. 2020 Jun 4;12(6):369.

II. PUBLISHED ABSTRACTS

Annamdevula N, Alexeyev MF, Leavesley S, Guerts AM, Francis CM, Rich T, Taylor M, Lin M, Balczon R, Alvarez DF, Stevens T. Generation of an endothelial-restricted transgenic reporter rat reveals vascular microheterogeneity with age-dependant loss of VE-cadherin expression. *Am J Resp Crit Care Med*. 201:A5399. Abstract no. A5399.

Available from: https://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2020.201.1_MeetingAbstracts.A5399

Balczon R, Stevens TC, Weintraub S, Stevens T. Regulation of endothelial-derived *Pseudomonas aeruginosa*-induced secreted beta amyloid by cystatin C. American Society for Cell Biology/ European Molecular Biology Organization (EMBO) 2019 Meeting; 2019 Dec 7-11; Washington, DC. p. 94. Abstract no. P2614/B874.

McDonough W, Aragon I, Rich J, Murphy JM, Saleh LA, Boyd A, Koloteva A, Richter W. Nonselective inhibition of PDE4 induces gastroparesis in mice. FASEB J. 2020 Apr;34(S1):05105. Available from: <https://faseb.onlinelibrary.wiley.com/doi/10.1096/fasebj.2020.34.s1.05105>

McDonough W, Aragon I, Rich J, Saleh LA, Richter A, Boyd A, Koloteva A, Richter W. Inhibition of PDE4 induces hypothermia in mice. FASEB J. 2020 Apr;34(S1):04497. Available from: <https://faseb.onlinelibrary.wiley.com/doi/10.1096/fasebj.2020.34.s1.04497>

McDonough W, Aragon I, Rich J, Murphy JM, Saleh LA, Boyd A, Koloteva A, Richter W. Nonselective inhibition of type 4 phosphodiesterases induces gastroparesis in mice. American Federation for Medical Research 2020 Southern Regional Meeting; 2020 Feb 13-15; New Orleans, LA. p. 95. Abstract no. 506.

Saleh LA, Aragon IV, Boyd A, McDonough W, Koloteva A, Spadafora D, Mneimneh W, Barrington RA, Richter W. Ablation of PDE4B protects from lung injury in a mouse model of acute *P. aeruginosa* infection. Am J Respir Crit Care Med 2020;201:A6543. Abstract no. A6543. Available from: https://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2020.201.1_MeetingAbstracts.A6543

Saleh LA, Aragon IV, Koloteva A, Boyd A, Richter W. Ablation of PDE4B protects from *P. aeruginosa*-induced lung injury in mice. Pediatr Pulmonol. 2019 Oct;54(S2):166. Abstract no. 30.

Saleh LA, Aragon IV, Boyd A, McDonough W, Koloteva A, Spadafora D, Mneimneh W, Barrington RA, Richter W. Ablation of PDE4B protects from lung injury in a mouse model of acute *P. aeruginosa* infection. FASEB J. 2020 Apr;34(S1):05664. Abstract no. 05664. Available from: <https://faseb.onlinelibrary.wiley.com/doi/10.1096/fasebj.2020.34.s1.05664>

Sharma N, Arrington J, Doublie S, Prakash A. Interaction of NEIL1 with proteins involved in the replication of DNA. 4th DNA Repair/ Replication Structures and Cancer Conference. 2020 Feb 16-20, Nassau, Bahamas. p. 119.

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

Honkanen R. Invited speaker. Development and characterization of PPP2R5D variant cell lines. Jordan's Guardian Angels Workshop; 2019 Dec 6; New York, NY.

Honkanen R. Invited speaker. Phosphoproteomics of PPP2R5D variant cell lines. Jordan's Guardian Angels Workshop. 2020 Mar 5; Sacramento, CA.

Prakash A. Invited speaker. A structural approach to understanding the function DNA repair complexes. University of Vermont; 2019 Dec 11; Burlington, VT.

Prakash A. Invited speaker. Structural insights into protein interactions. Gordon Research Seminar. 2020 Feb 29. Ventura, CA.

V. NATIONAL PROFESSIONAL RECOGNITION

Ronald Balczon: Journal Peer Review: Scientific Reports.

Donna Cioffi: American Physiological Society; Co-Chair, Nomination Committee, American Physiological Society, Respiration Section; Steering Committee, American Physiological Society.

Richard Honkanen: 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

Steve Lim: NIH, Ad hoc grant reviewer, Vascular and Hematology Research Enhancement Award Application Review, ZRG1 VH-N (80) NIH, Ad hoc grant reviewer, Fellowships: Physiology and Pathobiology of the Vascular and Hematological Systems ZRG1 F10C-N (20) L AHA Grant Reviewer -Basic Vascular Wall Biology 2 Study Section, Member British Medical Research Council (MRC) Grant Reviewer, British Lung Foundation Grant Reviewer, Associate reviewer, World research Journal of Cell Biology, Journal of Cytology and Molecular Biology, Journal of Biochemistry and Physiology, Journal of Clinical Trials in Oncology, Circulation Research, Cell Research, FASEB Journal, Scientific Reports, Journal of Cell Science, Journal of Histochemistry & Cytology, International Journal of Cancer, International Journal of Molecular Sciences, Journal of Cellular Biochemistry, PLoS One, Oncotarget, Omics Journals, Molecules and Cells, Frontiers in Biology, Cellular Signaling, Oncology letters, Molecular and Clinical Oncology, Journal of Biochemistry and Physiology.

Aishwarya Prakash: NIH Study Section ZRG1 MDCN-B (03), Graduate Women in Science National Fellowship Applications, NIH (NIEHS) Study Section ZES1 LAT-S(K9)1, Career Development in K Applications, Environmental and Molecular Mutagenesis, Member of the Editor's Choice Award Committee, Gene Reports, Molecules, Acta D, International Journal of Molecular Sciences, Molecular Biology Reports, FASEB

Journal, Journal of International Medical Research, Genes, Plos One, Environmental and Molecular Mutagenesis, Anti-cancer Agents in Medicinal Chemistry, Cell Reports.

Wito Richter: Cystic Fibrosis Research Inc, Editorial board *Biology* (Biochemistry and Molecular Biology), 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. This year there was substantial revitalization of the department. After many years of service, Dr. Donna Cioffi retired, and Drs. LeClaire and Ahn accepted positions at other institutions. In October, Dr. Mark Swingle joined the Department as a new Assistant Professor. Dr. Simon Grelet has accepted a position and will join the department as an Assistant Professor in December 2020. Dr. Aishwaraya Prakash was promoted to Associate Professor, with tenure, and a national search for additional faculty is ongoing.

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 (Foundation of Human Health), endocrine, cardiovascular, gastrointestinal, 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. Lim organized and directed a new graduate course (IDL 590 Genome engineering). Dr. Swingle served as the course director for IDL 576 and Dr. Honkanen served as the course director for IDL 577. This year four graduate students (Barnita Halder, Lana Vukadin, Cinta Papke and Alexander Richard) earned their Ph.D. in Basic Medical Sciences, and Saphala Galappaththi earned a MS in environmental toxicology. Currently six 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. Lim, Dr. Prakash, Dr. Lim and Dr. Ahn. Members of the faculty also contribute to undergraduate research training, acting as mentors for students enrolled in the BMD honors research programs.

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, as listed above. Of note, Dr. Prakash was invited to present a Keynote address at the Gordon Research Seminar (GRS) on DNA Damage, Mutation and Cancer. The department's intensive research effort has been made possible by extramural grant support from AHA, NIH, Jordan's Guardian Angles (JGA)-foundation, as well as internal funds supplied by the College of Medicine.

Studies primarily performed by Dr. D'Arcy under the guidance of Drs. Swingle and Honkanen enabled, for the first time, cholesterol catabolism in human monocyte derived macrophages. A US patent related to this potentially paradigm-altering breakthrough, along with patent related knowhow, has been licensed to Repair Athero, Inc.

2019-2020
Summary of Scholarly Activities
Department of Comparative Medicine

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Haldar B, Hamilton CL, Solodushko V, Abney KA, Alexeyev M, Honkanen RE, Scammell JG, Cioffi DL. S100A6 is a positive regulator of PPP5C-FKBP51-dependent regulation of endothelial calcium signaling. *FASEB J.* 2020 Feb;34(2):3179-3196.

II. PUBLISHED ABSTRACTS

Haldar B, Hamilton CL, Scammell JG, Cioffi DL. Calcium-dependent localization of S100A6 in pulmonary microvascular endothelial cells. *FASEB J.* 2020 Apr;34(S1):01993. Available from: <https://faseb.onlinelibrary.wiley.com/doi/10.1096/fasebj.2020.34.s1.01993>

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

Scammell JG. Invited speaker. Holistic review in medical school admissions. Tulane University Phi Delta Epsilon International Medical Fraternity; 2019 Oct 31; New Orleans, LA.

V. NATIONAL PROFESSIONAL RECOGNITION

Jonathan G. Scammell: Journal Reviewer, *PLOS One*, *American Journal Physiology Endocrinology and Metabolism*. Board Member, Alabama Board of Medical Scholarships.

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 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 activities of 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 skills activities of the Departments of Surgery and Obstetrics and Gynecology, and histology services.

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 Mitchell Cancer Institute, the Colleges of Arts and Sciences and Engineering, and every department within the College of Medicine. She holds a joint appointment at the Associate Professor level in the Department of Microbiology and Immunology. Outside of the university, Dr. Schuler works with the Alabama Marine Stranding Network that collaborates with the NOAA's National Marine Fisheries Service to provide veterinary care to stranded cetacean species. Dr. Scammell, continues his collaboration with Dr. Donna Cioffi in the Department of Biochemistry and Molecular Biology to study the role of the immunophilin FKBP51 in endothelial cell function.

Members of the department play significant roles in other aspects of college and university life as well. 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 continues her role as director of the introductory graduate level course on Fundamentals of Basic Medical Sciences (IDL 580). Dr. Scammell serves as Assistant Dean for Admissions, member of the Endocrinology and Reproduction Module 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, the Committee on Prehealth Advising, and the USA Health Branding Advisory Team. Within the vivarium, we welcome Hannah Robinson LVT, who was hired to take on increased activities of Microbiology and Immunology faculty and we congratulate Leigh Ann Wiggins LVT, who was promoted to Animal Health Care Technologist in a more supervisory role.

It should be noted that during this pandemic year, and especially during the University shutdown, the faculty and staff have provided essential and uninterrupted support of the animal care and use program. Proactive decisions were made regarding PPE and distancing of staff and investigators so that experiments have been minimally disrupted while keeping everyone as safe as possible. At the same time, preparations are being made for the all-important site visit from AAALAC International in November 2020.

2019-2020
Summary of Scholarly Activities
Department of Emergency Medicine

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Hsu A, Weber W, Heins A, Josephson E, Kornberg R, Diaz R. A proposal for selective resuscitation of adult cardiac arrest patients in a pandemic. J Am Coll Emerg Physicians Open. 2020 Aug;1(4):408-415.

Kalra S, Reddy S. New scope for the stethoscope. Mayo Clin Proc Innov Qual Outcomes. 2020 Feb 5;4(1):1-2.

Mellick L. Replacing a difficult mic-key gastrostomy tube [video]. University of South Alabama College of Medicine, producer. Mobile, AL: USA Health Medical Education Videos; 2019 Oct 8. Available from: <https://www.youtube.com/watch?v=sJg-4dCrJ8g&t=11s>.

Mellick L. Silver nitrate skin stain removal demonstration [video]. University of South Alabama College of Medicine, producer. Mobile, AL: USA Health Medical Education Videos; 2019 Oct 13. Available from: <https://www.youtube.com/watch?v=r0shqsM0IeI&t=6s>.

Mellick L. Breath holding spell emergency [video]. University of South Alabama College of Medicine, producer. Mobile, AL: USA Health Medical Education Videos; 2019 Oct 13. Available from: <https://www.youtube.com/watch?v=PuzAHPvWhCc&t=9s>.

Mellick L. Blistering distal dactylitis [video]. University of South Alabama College of Medicine, producer. Mobile, AL: USA Health Medical Education Videos; 2019 Oct 13. Available from: <https://www.youtube.com/watch?v=9Zr9VDSp6ag>.

Mellick L. Acute dacryocystitis emergency [video]. University of South Alabama College of Medicine, producer. Mobile, AL: USA Health Medical Education Videos; 2019 Oct 13. Available from: <https://www.youtube.com/watch?v=aWKQc8BKtzQ>.

Mellick L. The rapid 4 step cricothyrotomy [video]. University of South Alabama College of Medicine, producer. Mobile, AL: USA Health Medical Education Videos; 2019 Oct 28. Available from: <https://www.youtube.com/watch?v=luhQWqF2EY4&t=6s>.

Mellick L. How to insert a chest tube [video]. University of South Alabama College of Medicine, producer. Mobile, AL: USA Health Medical Education Videos; 2019 Oct 28. Available from: <https://www.youtube.com/watch?v=ZlzsQU34SjI&t=8s>.

Mellick L. The Soweto tie technique for chest tubes [video]. University of South Alabama College of Medicine, producer. Mobile, AL: USA Health Medical Education Videos; 2019 Oct 28. Available from: <https://www.youtube.com/watch?v=25Gq9P4lbHA&t=8s>.

Mellick L. Modified infraclavicular approach to the subclavian vein [video]. University of South Alabama College of Medicine, producer. Mobile, AL: USA Health Medical Education Videos; 2019 Oct 28. Available from: <https://www.youtube.com/watch?v=tfgpu5xPbvQ&t=10s>.

Mellick L. The rapid 4 step cricothyrotomy technique [video]. University of South Alabama College of Medicine, producer. Mobile, AL: USA Health Medical Education Videos; 2019 Oct 30. Available from: <https://www.youtube.com/watch?v=GGuG59Je0B8&t=6s>.

Mellick L. Needle decompression of finger felon [video]. University of South Alabama College of Medicine, producer. Mobile, AL: USA Health Medical Education Videos; 2019 Nov 17. Available from: <https://www.youtube.com/watch?v=qGsk3HvvFBU&t=6s>.

Mellick L. Enlarged baby breasts [video]. University of South Alabama College of Medicine, producer. Mobile, AL: USA Health Medical Education Videos; 2019 Nov 17. Available from: <https://www.youtube.com/watch?v=YhA7xa5tXs0&t=5s>.

Mellick L. Head and face pain relief by cervical injections with bupivacaine [video]. University of South Alabama College of Medicine, producer. Mobile, AL: USA Health Medical Education Videos; 2019 Dec 8. Available from: <https://www.youtube.com/watch?v=JytmmIdv7AI&t=12s>.

Mellick L. Atomized tranexamic acid for epistaxis control [video]. University of South Alabama College of Medicine, producer. Mobile, AL: USA Health Medical Education Videos; 2019 Dec 31. Available from: <https://www.youtube.com/watch?v=IFHxCEESpjA>.

Mellick L. Treating carbon monoxide poisoning with HFNC [video]. University of South Alabama College of Medicine, producer. Mobile, AL: USA Health Medical Education Videos; 2020 Jan 2. Available from: <https://www.youtube.com/watch?v=bYyqHnWw8aU&t=6s>.

Mellick L. Two teenagers with severe anemia from Pica [video]. University of South Alabama College of Medicine, producer. Mobile, AL: USA Health Medical Education Videos; 2020 Jan 20. Available from: https://www.youtube.com/watch?v=yyG_R2w5AJ0&t=209s.

Mellick L. A plastic bead up the nose [video]. University of South Alabama College of Medicine, producer. Mobile, AL: USA Health Medical Education Videos; 2020 Feb 3. Available from: <https://www.youtube.com/watch?v=rciNnma064c&t=12s>.

Mellick L. Ricketts in the pediatric emergency department [video]. University of South Alabama College of Medicine, producer. Mobile, AL: USA Health Medical Education Videos; 2020 Feb 3. Available from: <https://www.youtube.com/watch?v=bkjJt6G828M&>

t=5s.

Mellick L. Bloody diaper or cefdinir side effects? [video]. University of South Alabama College of Medicine, producer. Mobile, AL: USA Health Medical Education Videos; 2020 Feb 3. Available from: <https://www.youtube.com/watch?v=FMZHLRNksXE&t=6s>.

Mellick L. My foley catheter balloon won't deflate [video]. University of South Alabama College of Medicine, producer. Mobile, AL: USA Health Medical Education Videos; 2020 Feb 8. Available from: <https://www.youtube.com/watch?v=YEHD7IOGww4&t=8s>.

Mellick L. Acute jaw dislocation emergency [video]. University of South Alabama College of Medicine, producer. Mobile, AL: USA Health Medical Education Videos; 2020 Feb 21. Available from: https://www.youtube.com/watch?v=Dqf_VTxffKo&t=184s.

Mellick L. Behind the scenes in the USA pediatric operating room [video]. University of South Alabama College of Medicine, producer. Mobile, AL: USA Health Medical Education Videos; 2020 Mar 9. Available from: <https://www.youtube.com/watch?v=JACGwT29uOc&t=6s>.

Mellick L. Nursemaids elbow reduction times two. [video]. University of South Alabama College of Medicine, producer. Mobile, AL: USA Health Medical Education Videos; 2020 March 17. Available from: <https://www.youtube.com/watch?v=OVNKbJVZU5I&t=7s>.

Mellick L. Acute jaw dystonic reaction emergency [video]. University of South Alabama College of Medicine, producer. Mobile, AL: USA Health Medical Education Videos; 2020 Mar 24. Available from: <https://www.youtube.com/watch?v=y2D5HAWPVC4&t=29s>.

Mellick L. Airway management of the pediatric COVID-19 patient-part I [video]. University of South Alabama College of Medicine, producer. Mobile, AL: USA Health Medical Education Videos; 2020 Mar 25. Available from: <https://www.youtube.com/watch?v=qOW5uyhlc-g&t=4s>.

Mellick L. Airway management of the pediatric COVID-19 patient-part II [video]. University of South Alabama College of Medicine, producer. Mobile, AL: USA Health Medical Education Videos; 2020 Mar 25. Available from: <https://www.youtube.com/watch?v=3wkD6Vex1JA>.

Mellick L. Airway management of the pediatric COVID 19 patient-part III [video]. University of South Alabama College of Medicine, producer. Mobile, AL: USA Health Medical Education Videos; 2020 Mar 25. Available from: <https://www.youtube.com/watch?v=CB1tfXLiGCY&t=10s>.

Mellick L. COVID BVM setup by The Gurney Room [video]. University of South Alabama College of Medicine, producer. Mobile, AL: USA Health Medical Education Videos; 2020 Mar 25. Available from: <https://www.youtube.com/watch?v=Cti6QtAod54>.

Mellick L. COVID simulated intubation by The Gurney Room [video]. University of South Alabama College of Medicine, producer. Mobile, AL: USA Health Medical Education Videos; 2020 Mar 25. Available from: <https://www.youtube.com/watch?v=Tw7dagLA9T8&t=36s>.

Mellick L. A plexiglass shield for intubating children with COVID-19 [video]. University of South Alabama College of Medicine, producer. Mobile, AL: USA Health Medical Education Videos; 2020 Mar 27. Available from: https://www.youtube.com/watch?v=b3lZ2n-_P_g&t=15s.

Mellick L. Oven sterilization of the N95 masks [video]. University of South Alabama College of Medicine, producer. Mobile, AL: USA Health Medical Education Videos; 2020 Mar 29. Available from: <https://www.youtube.com/watch?v=caN0wUEaAdI&t=20s>.

Mellick L. Intravenous line hacks for the COVID-19 patient [video]. University of South Alabama College of Medicine, producer. Mobile, AL: USA Health Medical Education Videos; 2020 Apr 1. Available from: <https://www.youtube.com/watch?v=PbzrrF8SFGY&t=87s>.

Mellick L. Air scrubbing calculations for SARs-CoV-2 virus [video]. University of South Alabama College of Medicine, producer. Mobile, AL: USA Health Medical Education Videos; 2020 Apr 3. Available from: <https://www.youtube.com/watch?v=3hTLAKIgfQo&t=8s>.

Mellick L. How to create a COVID-19 negative pressure room [video]. University of South Alabama College of Medicine, producer. Mobile, AL: USA Health Medical Education Videos; 2020 Apr 6. Available from: <https://www.youtube.com/watch?v=p1hcDpzKrqY&t=6s>.

Mellick L. Safer nebulization of COVID-19 patient [video]. University of South Alabama College of Medicine, producer. Mobile, AL: USA Health Medical Education Videos; 2020 Apr 6. Available from: https://www.youtube.com/watch?v=LIYxwhgf1_k&t=8s.

Mellick L. Safe HFNC and the COVID-19 patient, part I [video]. University of South Alabama College of Medicine, producer. Mobile, AL: USA Health Medical Education Videos; 2020 Apr 7. Available from: <https://www.youtube.com/watch?v=RE34TglBoNY&t=7s>.

Mellick L. Safe HFNC and the COVID-19 patient, part II [video]. University of South Alabama College of Medicine, producer. Mobile, AL: USA Health Medical Education Videos; 2020 Apr 7. Available from: https://www.youtube.com/watch?v=yyZbF3_tIAA&t=8s.

Mellick L. Pilonidal abscess emergency incision & drainage [video]. University of South Alabama College of Medicine, producer. Mobile, AL: USA Health Medical Education

Videos; 2020 Apr 8. Available from: <https://www.youtube.com/watch?v=u1Iysff7StM&t=12s>.

Mellick L. Evaluating our new plexiglass aerosol boxes [video]. University of South Alabama College of Medicine, producer. Mobile, AL: USA Health Medical Education Videos; 2020 April 9. Available from: <https://www.youtube.com/watch?v=PJ07zEG3o3U&t=6s>.

Mellick L. Limiting aerosol exposure during nebulization [video]. University of South Alabama College of Medicine, producer. Mobile, AL: USA Health Medical Education Videos; 2020 Apr 23. Available from: <https://www.youtube.com/watch?v=19Rxn6rxrS4&t=6s>.

Mellick L. 29 pediatric IV tricks [video]. University of South Alabama College of Medicine, producer. Mobile, AL: USA Health Medical Education Videos; 2020 Apr 24. Available from: <https://www.youtube.com/watch?v=rYyj4v-edic&t=7s>.

Mellick L. A doctor drills his own leg with an IO needle [video]. University of South Alabama College of Medicine, producer. Mobile, AL: USA Health Medical Education Videos; 2020 May 6. Available from: <https://www.youtube.com/watch?v=bzEmLPTD38g&t=6s>.

Mellick L. Pediatric glidescope intubation pearls by pediatric intensivist [video]. University of South Alabama College of Medicine, producer. Mobile, AL: USA Health Medical Education Videos; 2020 May 11. Available from: <https://www.youtube.com/watch?v=32ONdZ6Kw-0&t=7s>.

Mellick L. Parinaud oculoglandular syndrome emergency [video]. University of South Alabama College of Medicine, producer. Mobile, AL: USA Health Medical Education Videos; 2020 May 18. Available from: <https://www.youtube.com/watch?v=HYNU8mUpWIA>.

Mellick L. Orbital cellulitis emergency [video]. University of South Alabama College of Medicine, producer. Mobile, AL: USA Health Medical Education Videos; 2020 May 25. Available from: <https://www.youtube.com/watch?v=IMXFDSTgK7U&t=7s>.

Mellick L. Scaphoid bone fracture emergency [video]. University of South Alabama College of Medicine, producer. Mobile, AL: USA Health Medical Education Videos; 2020 Jun 6. Available from: <https://www.youtube.com/watch?v=f-Md9InMHzI&t=6s>.

Mellick L. A phone disaster emergency [video]. University of South Alabama College of Medicine, producer. Mobile, AL: USA Health Medical Education Videos; 2020 Jun 6. Available from: <https://www.youtube.com/watch?v=nReaBC2JhvM&t=6s>.

Mellick L. Digni minimi dislocation emergency [video]. University of South Alabama College of Medicine, producer. Mobile, AL: USA Health Medical Education Videos; 2020 Jun 15. Available from: <https://www.youtube.com/watch?v=RPmwLgBQYDY&t=246s>.

Mellick L. Finger paronychia emergency & digital block tutorial [video]. University of South Alabama College of Medicine, producer. Mobile, AL: USA Health Medical Education Videos; 2020 Jun 29. Available from: <https://www.youtube.com/watch?v=eZCCFIQfzow&t=50s>.

Mellick L. Our new LifeFlow resuscitation device [video]. University of South Alabama College of Medicine, producer. Mobile, AL: USA Health Medical Education Videos; 2020 Jun 30. Available from: <https://www.youtube.com/watch?v=5gIe8g7txGc&t=402s>.

Mellick L. Three bizarre accidental injuries [video]. University of South Alabama College of Medicine, producer. Mobile, AL: USA Health Medical Education Videos; 2020 Jul 5. Available from: <https://www.youtube.com/watch?v=FW97yiSHWak&t=7s>.

Mellick L. Nursemaid's elbow emergency [video]. University of South Alabama College of Medicine, producer. Mobile, AL: USA Health Medical Education Videos; 2020 Jul 13. Available from: <https://www.youtube.com/watch?v=n74j7dNQbjU&t=7s>.

Mellick L. Fishhook in foot emergency [video]. University of South Alabama College of Medicine, producer. Mobile, AL: USA Health Medical Education Videos; 2020 Jul 13. Available from: <https://www.youtube.com/watch?v=nnPzr1YoNxA&t=6s>.

Mellick L. The 3D LP trainer by The Gurney Room [video]. University of South Alabama College of Medicine, producer. Mobile, AL: USA Health Medical Education Videos; 2020 Jul 17. Available from: <https://www.youtube.com/watch?v=38RpzxNrOdM&t=15s>.

Musselwhite CC, Mitta M, Sternberg M. Splenic artery pseudoaneurysm. J Emerg Med. 2020 May;58(5):e231-e232.

Peerapornratanas, Priyanka P, Wang S, Smith A, Singbartl K, Palevsky PM, Chawla LS, Yealy DM, Angus DC, Kellum JA. ProCESS ProCESS and ProGreSS-AKI Investigators (includes Panacek EA, collaborator). Sepsis-associated acute kidney disease. Kidney Int Rep. 2020 Mar 12;5(6):839-850.

II. PUBLISHED ABSTRACTS

Sternberg ML, Mitta M. Superior mesenteric artery syndrome. 2020 EMerald Coast Conference; 2020 Jun 1-4; Destin, FL.

Sternberg ML, Rich J. Porphyria cutanea tarda. Society of Academic Emergency Medicine. Annual Session; 2020 May 12-15; Des Plaines, IL.

Sternberg ML, Mitta M. The insidious rash-case of mycosis fungoides Society of Academic Emergency Medicine Annual Session; 2020 May 12-15; Des Plaines, IL.

Sternberg ML, Rich J. Interstitial pulmonary fibrosis with lung transplant complications. COM M3 Case Report Symposium; 2020 Jun 5; Mobile, AL.

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

Panacek EA. Invited speaker. Pretest/introduction to workshop. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2019 Oct 28; Dallas, TX.

Panacek EA. Invited speaker. Process of research. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2019 Oct 28; Dallas, TX.

Panacek EA. Invited speaker. Research questions. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2019 Oct 28; Dallas, TX.

Panacek EA. Invited speaker. Research hypotheses, objectives. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2019 Oct 28; Dallas, TX.

Panacek EA. Invited speaker. Research terminology. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2019 Oct 28; Dallas, TX.

Panacek EA. Invited speaker. Introduction to study design. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2019 Oct 28; Dallas, TX.

Panacek EA. Invited speaker. Practicum: your study design. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2019 Oct 28; Dallas, TX.

Panacek EA. Invited speaker. Discuss your questions. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2019 Oct 28; Dallas, TX.

Panacek EA. Invited speaker. True experimental design. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2019 Oct 28; Dallas, TX.

Panacek EA. Invited speaker. Quasi-experimental designs. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2019 Oct 29; Dallas, TX.

Panacek EA. Invited speaker. Case control and other designs. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2019 Oct 29; Dallas, TX.

Panacek EA. Invited speaker. Recognizing design. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2019 Oct 29; Dallas, TX.

Panacek EA. Invited speaker. Research design practice. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2019 Oct 29; Dallas, TX.

Panacek EA. Invited speaker. Survey research. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2019 Oct 29; Dallas, TX.

Panacek EA. Invited speaker. Qualitative studies. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2019 Oct 29; Dallas, TX.

Panacek EA. Invited speaker. Practicum: selecting your study design. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2019 Oct 29; Dallas, TX.

Panacek EA. Invited speaker. Elements of a study protocol. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2019 Oct 30; Dallas, TX.

Panacek EA. Invited speaker. Practice discussion. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2019 Oct 30; Dallas, TX.

Panacek EA. Invited speaker. Sample size calculations. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2019 Oct 30; Dallas, TX.

Panacek EA. Invited speaker. Elements of a study protocol. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2019 Oct 30; Dallas, TX.

Panacek EA. Invited speaker. Instructions for between-session requirements. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2019 Oct 30; Dallas, TX.

Panacek EA. Invited speaker. Practicum: developing your study protocol. American College of Emergency Physicians Emergency Medicine Basic Research Skills Workshop; 2019 Oct 30 Dallas, TX.

Panacek EA. Invited speaker. Health care careers in emergency medicine. UMS-Wright Project Engage; 2020 Jan 8, Mobile, AL.

V. NATIONAL PROFESSIONAL RECOGNITION

Mellick L. Inducted into the Alpha Omega Honor Society

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 8 different journals. Editorial panel member “StatPearls” USA National Alumni Association Distinguished Alumni Award.

Sternberg ML. Red Sash Award, COM, University of South Alabama; Faculty AOA Inductee; Board of Directors Mobile Medical Museum; Board of Directors Alabama ACEP; Delegate to Medical Association State of Alabama; Volunteer Animal Rescue Foundation

Kalra, S. Red Sash Award.

VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS

Departmental goals - list key goals accomplished and/or innovative programs initiated by the department during the report year in education, research/scholarship and/or service:

- Achieved successful initial accreditation for new Emergency Medicine Residency Program approved by ACGME.
- Enhanced policy and procedure manual for the DEM to more regularize the departmental processes.
- Implemented EM Residency offices and coordinator function.
- Improved several quality assurance performance metrics in the emergency department, particularly related to ED through-put and other CMS required metrics.
- More regularized and formalized education goals/objectives and evaluations processes for all student learners rotating through the emergency department. Adjusted to COVID.
- Made major administrative changes to the PEDS ED at Children’s and Women’s Hospital. Focused as a pure pediatric emergency department with qualified providers.

- Further refined the role of APP's in the USA-UH Emergency Department.
- Further improvements in the CERNER electronic health record in the emergency department.
- Expanded faculty involvement in scholarship. Implemented a resident research requirement.

Summarize student feedback on faculty teaching during this report year.

What steps are you taking and/or what faculty development strategies are you using to address any weaknesses?

- We do not yet have a process to collect student feedback on the faculty or quality of teaching in the emergency department. This will be initiated next year.

List specific departmental goals for the next academic year

- Continue faculty recruitment at both hospitals (USAUH & C&WH) for the emergency EM qualified, academic departments, with focus on specific academic needs.
- Achieve successful maturation of the emergency medicine residency program with the second full class of interns.
- Prepare for 2021 ACGME site visit obtain full accreditation.
- Further improve and refine educational processes for EM residency
- Initiate a clinical research program in emergency medicine (have not had an EM specific research program in the history of the department). Increase faculty participation in scholarship.
- Successful roll out of new emergency department at USA-UH in 2020.
- Continued development of a new FED in West Mobile for 2021/2022.
- Increase EM faculty involvement in service and administration within the USA/USAHS.
- Obtain national certification for the Pediatric Emergency Department at CWH.
- Prepare/plan for the new PED at CWH for 2023.
- Secure additional funding for development of a new pediatric emergency department.

2019-2020
Summary of Scholarly Activities
Department of Family Medicine

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Alexander C, Perkins RA. On miracles and moving on (ADFM). *Ann Fam Med*. 2020 Jul;18(4):376-378.

Daniel CL, Wright AR. Increasing HPV vaccination in rural settings: the hidden potential of community pharmacies (commentary). *J Rural Health*. 2020 Autumn;36(4):465-467.

Desmond RA, Venkatesh R, Padilla LA, Daniel CL, Litton AG, Heimburger DC, Michael Brooks C, Waterbor JW. Twenty-five-year follow-up of short-term cancer research trainees at the University of Alabama at Birmingham: a brief report. *J Cancer Educ*. 2019 Oct;34(5):1010-1013.

Perkins A. Marine poisonings, envenomations, and trauma. In: Kellerman R, Conn D, editors. *Conn's Current Therapy 2020*. Philadelphia: Elsevier; 2020, p. 1277-1281.

Toldi JP, Thomas JL. Evaluation and management of sports-related eye injuries. *Curr Sports Med Rep*. 2020 Jan;19(1):29-34.

Vickers M, Green CL, Lee HY, Pierce JY, Daniel CL. Factors associated with HPV vaccination uptake and HPV-associated cancers: a county-level analysis in the state of Alabama. *J Community Health*. 2019 Dec;44(6):1214-1223.

Weidner A, Perkins A, Gilchrist V. What does population health mean to you in your institution? *Ann Fam Med* 2019 Nov; 17(6): 566-567.

II. PUBLISHED ABSTRACTS

Brown AA, Escobar JE, Toldi JP. Leg injury-football. *Med Sci Sports Exerc*. 2020 Jul;52(7 Suppl):1003. Abstract no. 3670.

Daniel CL, Green C, Anderson K, Bradley S, Robinson A, Lawson F. Implications of enrolling a rural, community pharmacy as a Vaccines for Children provider on HPV vaccination uptake. *Society of Behavioral Medicine*. 41st Annual Meeting and Scientific Sessions; 2020 Apr 1-4; San Francisco, CA.

Daniel CL, James JM, Pierce JY, Sobol RW, Parsons ML, Robertson A. Enhancing stakeholder engagement to improve ciguatera research and management. 10th US Symposium on Harmful Algae; 2019 Nov 3-8; Orange Beach, AL. p.60.

Daniel CL, McLendon L, Green C, Pierce J, Perkins A, Beasley M. Medical student knowledge and attitudes of HPV and the HPV vaccine. 33rd International Papillomavirus Conference; 2020 Jul 20-24; Barcelona, Spain. Abstract no.1115.

Herron RL, Spradley BD, Toldi JP, Ellis D, Best CL, Marass AD, Martino AM. Between trial reliability of the King Devick test in male high school athletes. Med Sci Sports Exerc. 2020 Jul;52(7 Suppl):312. Abstract no. 1182.

Salma A, Bae S, Fouad M, Daniel C, Scarinci I, Hoenemeyer T, Hardy C, Baskin M, Johnson C, Bowen C, Acemgil A, Demark-Wahnefried W. Urban-rural differences in cancer knowledge, beliefs, and practices across the state of Alabama. Population Health Assessment in Cancer Center Catchment Areas Meeting; 2020 Mar 20; Tucson, AZ. Abstract no. 1115.

Spradley BD, Herron RL, Toldi JP, Ellis D, Best CL, Marass AD, Martino AM. Between trial reliability of the King Devick test in female high school athletes. Med Sci Sports Exerc. 2020 Jul;52(7 Suppl):789. Abstract no. 2844.

Toldi JP, Herron RL, Spradley BD, Ellis D, Best CL, Marass AD, Martino AM. The relationships between King Devick and SCAT5 scores in high-school athletes. Med Sci Sports Exerc. 2020 Jul ;52(7 Suppl):785. Abstract no. 2832.

Toldi J, Marass A, Saville S, Herron RL, Spradley BD. Improving attitudes toward & increase knowledge of concussions in youth-sport participants. North American Primary Care Research Group 47th Annual Meeting; 2019 Nov 16 – 20; Toronto, Ontario, Canada. Abstract no. SRF203.

Trimmier M, Potts E, Sollie R. The population care pathway – A longitudinal curriculum for students with an interest in population health and primary care. Society of Teachers of Family Medicine 2020 Conference on Medical Student Education; 2020 Jan 30-Feb 1; Portland OR. Abstract no. PS02.

Trimmier M, Woodham A, Daniel C, Chinnners A. Evaluation of potential opiate misuse in patients currently receiving chronic opiate prescriptions. Society of Teachers of Family Medicine 2020 Conference on Medical Student Education; 2020 Jan 30-Feb1; Portland OR. Abstract no. P62.

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

Daniel CL, Pierce JY. Invited speakers. COVID and cancer. (virtual presentation). University of South Alabama Mitchell Cancer Institute Cancer Survivors Week Series, 2020 Jun 5; Mobile, AL.

Daniel CL. Invited speaker. Melanoma Monday. (virtual presentation) University of South Alabama Mitchell Cancer Institute Melanoma Monday Series, 2020 May 11; Mobile, AL.

Daniel CL. Invited speaker. Epidemiologic study of patients tested for COVID-19. (virtual presentation). United Way of Southwest Alabama Community Resource Network; 2020 May 6; Mobile AL.

Daniel CL, Green C. Participants in an online seminar presentation. A collaborative oral public health approach to oropharyngeal cancer prevention. 2020 National Oral Health Conference; 2020 May 29; San Diego, CA.

V. NATIONAL PROFESSIONAL RECOGNITION

Allen Perkins was named President of the Association of Departments of Family Medicine. He also served as a member of the Family Medicine Leadership Council and the Academic Family Medicine Advocacy Council. Ehab Molokhia was named to the Step 2 CS IRC committee.

VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS

The department has hired 2 faculty (Drs Grayson Saville and Jenna Pfleeger) to assist with the educational and patient care duties of the department, The Primary Care Sports Medicine fellowship was approved, and the initial fellow will join the program in August. The department response to the Covid-19 crisis was the bigger news of 2019 and 2020. We provided support for inpatient Covid-19 cases at both hospitals. We provided logistic support for the drive through testing site that is now operational at the Civic Center. We have an ongoing research protocol looking at long term needs of patients with a Covid-2 infection. We transitioned over a quarter of our visits to virtual visits. From an educational standpoint, Dr Trimmier converted nearly all of her course offerings to virtual for the 3rd and 4th year of medical school. The department worked diligently to operationalize the HRSA Title VII Medical Student Education grant, We have hired all of the site coordinators, gotten approval for the Primary Care Provider Track from the LCME, and finalized the contract for telehealth support with the University of Arkansas. In addition, we have created curriculum specific to the track for the students as well as faculty development curriculum for the faculty fellows and the internal faculty. We will begin these programs in August.

2019-2020
Summary of Scholarly Activities
Department of Internal Medicine

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Baldwin BM, Angus-Barker GV, Joseph S, Figarola MS, Cohen MV, Malozzi CM, Kar J. Fully automated, MRI-based left-ventricular contractility analysis in breast cancer patients following chemotherapy. 2019 IEEE Signal Processing in Medicine and Biology Symposium; 2019 Dec 7; Philadelphia, PA. Available from: <https://ieeexplore.ieee.org/abstract/document/9037829>

Bardia N, Nwokeocha N, Tahir H, Nguyen L, Sachdev S, Omar B. Echocardiography in the COVID 19 pandemic - whom, where & how? *Cardiofellows Newsletter*. 2020 Jun; 3(6):26-28. Available from: https://cardiofellows.com/uploads/3/4/7/2/34727532/echocardiography_in_the_covid_pandemic_-_mod.pdf

Hamad MN, Kumar S, Sachdev S, Omar B. Renal cell carcinoma, cardiac extension & mets! *Cardiofellows Newsletter*. 2020 Jan; 3(1):1-2. Available from: https://cardiofellows.com/uploads/3/4/7/2/34727532/renal_cell_carcinoma_-_mahmoud.pdf

Han S, Obuch JC, Duloy AM, Keswani RN, Hall M, Simon V, Ezekwe E, Menard-Katcher P, Patel SG, Aagard E, Brimhall B, Ahmad A, Alghamdi S, Brown MD, Broy C, Carlin L, Chugh P, Connolly SE, Cooley DM, Cowley K, DiPalma JA, Early DS, Ellert S, Gaumnitz EA, Ghassemi KA, Lebovics E, Lee RH, Lunsford T, Massaad J, Mittal M, Morigeau K, Pietrak S, Piper M, Shah AS, Shapiro A, Sonnier W, Sorrell C, Vignesh S, Woolard S, Wani S. A prospective multicenter study evaluating endoscopy competence among gastroenterology trainees in the era of the next accreditation system. *Acad Med*. 2020 Feb;95(2):283-292.

Han S, Obuch JC, Keswani RN, Hall M, Patel SG, Menard-Katcher P, Simon V, Ezekwe E, Aagaard E, Ahmad A, Alghamdi S, Austin K, Brimhall B, Broy C, Carlin L, Cooley M, DiPalma JA, Duloy AM, Early DS, Ellert S, Gaumnitz EA, Goyal J, Kathpalia P, Day L, El-Nachef N, Kerman D, Lee RH, Lunsford T, Mittal M, Morigeau K, Pietrak S, Piper M, Shah AS, Shapiro AB, Shergill A, Sonnier W, Sorrell C, Vignesh S, Wani S. Effect of individualized feedback on learning curves in EGD and colonoscopy: a cluster randomized controlled trial. *Gastrointest Endosc*. 2020 Apr;91(4):882-893.e4.

Hewes JL, Lee JY, Fagan KA, Bauer NN. The changing face of pulmonary hypertension diagnosis: a historical perspective on the influence of diagnostics and biomarkers. *Pulm Circ*. 2020 Feb 4;10(1):2045894019892801.

Kar J, Cohen MV, McQuiston, SA, Figarola MS, Malozzi CM. Fully automated and comprehensive MRI-based left-ventricular contractility analysis in post-chemotherapy breast cancer patients. *Br J Radiol*. 2020 Jan;93(1105):20190289.

Kar J, Cohen MV, McQuiston, SA, Figarola MS, Malozzi, CM. Can post-chemotherapy cardiotoxicity be detected in long-term survivors of breast cancer via comprehensive 3D left-ventricular contractility (strain) analysis? Magn Reson Imag. 2019 Oct;62:94-103.

Kumar S, Hamad MN, Sachdev S, Malozzi C, Omar B. Quadricuspid aortic valve...associated ASD! Cardiofellows Newsletter. 2020 Jan;3(1):6-9. Available from: https://cardiofellows.com/uploads/3/4/7/2/34727532/sk_-_quadricuspid_vave_with_asd_-_sagar.pdf.

Landai N, Sachdev S, Tahir H, Rafique M, Chiranjeevi S, Chowdhuri N, Rahimi F, Amritphale A, Awan GM, Omar B, Malozzi C. CoronaVirus disease 2019 (COVID-19) & the cardiology consultant. Cardiofellows Newsletter. 2020 Apr;3(4):15-20. Available from: https://cardiofellows.com/uploads/3/4/7/2/34727532/covid-19_-_the_cardiology_consultant_-_mod.pdf

Lee JY, Fagan KA, Zhou C, Batten L, Cohen MV, Stevens T. Biventricular diastolic dysfunction, thrombocytopenia and red blood cell macrocytosis in experimental pulmonary arterial hypertension. Pulm Circ. 2020 May 26;10(2):2045894028908787.

Liem RI, Lanzkron S, Coates TD, DeCastro L, Desai AA, Ataga KI, Cohen RT, Haynes J Jr, Osunkwo I, Lebensburger JD, Lash JP, Wun T, Verhovsek M, Ontala E, Blaylark R, Alahdab F, Katabi A, Mustufa RA. American Society of Hematology 2019 guidelines for sickle cell disease: cardiopulmonary and kidney disease. Blood Adv. 2019 Dec 10;3(23):3867-3897.

Nguyen T, Nguyen L, Omar B. The COLCOT trial: colchicine for secondary post—MI prevention! Cardiofellows Newsletter. 2020 Jan;3(1):3-5. Available from: https://cardiofellows.com/uploads/3/4/7/2/34727532/the_colcot_trial_-_ln.pdf.

Nguyen L, Nguyen T, Omar B. TICO: is one year of DAPT absolutely necessary in ACS? Cardiofellows Newsletter. 2020 Mar 3;(3):13-14. Available from: https://cardiofellows.com/uploads/3/4/7/2/34727532/the_tico_trial.pdf.

Nguyen L, Omar B. The ISCHEMIA trial: is routine revascularization necessary? Cardiofellows Newsletter. 2019 Dec;2(12):47-49. Available from: https://cardiofellows.com/uploads/3/4/7/2/34727532/the_ischemia_trial_-_ln.pdf.

Nwokeocha N, Sachdev S, Rafique M, Awan GM, Amritphale A, Omar B. Thoracic aortic repair..TEVAR or TOVAR, that is the question! Cardiofellows Newsletter. 2020 Feb;3(2):10-12. Available from: https://cardiofellows.com/uploads/3/4/7/2/34727532/tevar__nneka.pdf.

Sachdev S, Amritphale A, Awan GM, Omar B. Inadvertent subclavian artery cannulation..the tip is in the tip! Cardiofellows Newsletter. 2019 Oct;2(10):42-43. Available from: https://cardiofellows.com/uploads/3/4/7/2/34727532/catheter_malposition_-_sarina.pdf.

Sachdev S, Omar B. The COMPLETE trial: nonculprit revascularization in STEMI. Cardiofellows Newsletter. 2019 Nov;2(11):44-46. Available from: https://cardiofellows.com/uploads/3/4/7/2/34727532/the_complete_trial_-_ss.pdf.

Sachdev S, Tahir H, Nguyen L, Rafique M, Chiranjeevi S, Chowdhuri N, Amritphale A, Awan GM, Omar B. COVID-19 and interventional cardiology: to cath or not to cath! That may not be the only question! Cardiofellows Newsletter. 2020 May;3(5):21-25. Available from: https://cardiofellows.com/uploads/3/4/7/2/34727532/covid-19__interventional_cardiology_1.pdf.

II. PUBLISHED ABSTRACTS

Baldwin BM, Angus-Barker G, Joseph S, Cohen MV, Malozzi CM, Kar J. Comprehensive methodology of a MRI-based automated left-ventricular chamber quantification algorithm and validation in chemotherapy-related cardiotoxicity. Biomedical Engineering Society 2019 Annual Meeting; 2019 Oct 16-19; Philadelphia, PA. Abstract no. P-SAT-252. Available from: submissions.miramart.com/SecureView/BMESArchive/rad4c4c0azr.pdf

Baldwin B, Cohen MV, Joseph S, Poorsala T, McQuiston SA, Malozzi C, Kar J. A novel tool for MRI-based automated left-ventricular chamber quantification and 3D strain analysis. Society for Cardiovascular Magnetic Resonance 23rd Annual Scientific Sessions; 2020 Feb 12-15; Miami, FL. Abstract no. P240.

Barcnas CH, Hurvitz SA, DiPalma J, Bose R, Chan A, Chien J, Hunt D, McCulloch L, Kupic A, Tripathy D, Rugo HS, and the CONTROL investigators. Effect of prophylaxis or neratinib dose escalation on neratinib-associated diarrhea and tolerability in patients with HER2-positive early-stage breast cancer: Phase II CONTROL trial. Cancer Res. 2020 Feb;80(4 Suppl):P5-14-03. Abstract no. P5-14-03.

Nguyen L, Sachdev S, Tahir H, Malozzi CM, Rahimi F, Awan G, Amritphale A, Omar B. Cardiac cement embolization - unexpected consequence of kyphoplasty. J Am Coll Cardiol. 2020 Mar 24;75(11 suppl 1):2415. Abstract no. 1096-11.

Sachdev S, Nguyen L, Tahir H, Rafique M, Rahimi F, Malozzi CM, Amritphale A, Awan G, Maltese C, Omar B. Giant coronary aneurysm needs multimodality imaging. J Am Coll Cardiol. 2020 Mar 24;75(11 suppl 1):3158. Abstract no. 1377-369.

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

V. NATIONAL PROFESSIONAL RECOGNITION

W. A. Broughton, Chair of Southern Sleep Society Foundation Board.

Karen Fagan, Chair, NIH/NHLBI Special Emphasis Panel; Opportunities for Collaborative Research at the NIH Clinical Center, 2020.

Karen Fagan, Chair, NIH/NHLBI COVID-19 Protocol Review Committee
Institute-wide rapid assessment of Covid 19 related clinical trials. 2020-

Karen Fagan, Chair, NIH/NHLBI – REHAB-PH-H2 Blockade in Pulmonary Arterial Hypertension. 2018 – Present.

Karen Fagan, Chair, Pulmonary Circulation Assembly, Nominating Committee, 2019-2020.

Karen Fagan, Chair, Pulmonary Hypertension Association, Board of Trustees, 2018-2020; Speaker, Facilitator International Conference 2000-Present.

Jack DiPalma, Secretary-Treasurer, American College of Gastroenterology, 2017-Present.

VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS

The activities for this academic year were impacted greatly by the COVID-19 Pandemic. The department responded collectively to develop and maintain safe clinical practices in all patient care arenas, to develop new methods to deliver educational content to all of our learners, and to adjust research protocols. We also developed new research projects that help us to better understand all aspects of the COVID-19 Pandemic. These projects range from elucidating the basic genetics and biology of the virus, evaluating treatment options, and understanding the sociocultural impacts of the pandemic on the health and health care of our community. Drs. T. J. Hundley, now Associate Dean for Education for the COM, John Vandewaa, Division Chief of Infectious Disease, Karen Fagan, Division Chief of Pulmonary – Critical Care, Judy Blair, Residency Program Director and Assistant DIO, and Rachel Seaman, hospitalist and Associate Program Director, deserve special mention for their leadership and contributions to USA Health, the University, and the state of Alabama during the COVID-19 pandemic.

Education

Our department was able to make major shifts in the how we taught with the onset of the pandemic. Department members have been innovative and remain committed to all learners having the best experience possible when they are with us. The department has continued to receive excellent evaluations from medical students and residents for its educational activities. The College of Medicine Class of 2020 recognized the Department for its efforts voting the third year internal medicine clerkship as the best clerkship in the 3rd year. The department has received this honor from graduating classes for 21 of the last 22 years.

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. In addition to the third year clerkship mentioned above 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 2020 was the Respiratory Disease module co-lead 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.

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. 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. Cardiology also involved several internal medicine residents in their scholarly activities over the past year.

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. Infectious disease continues its efforts in care of the HIV patient through a grant funded by the Health Resources and Services Administration. 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.

With the Pandemic there were pauses, re-evaluations, and restructuring of many research protocols. Department members took advantage of new opportunities for participation in COVID-19 related trials. Dr. Brian Fouty, Professor in Pulmonary Critical Care, was particularly active in this arena.

Service

The Department continues to deliver excellent clinical service. The Department has grown along with the growth in USA Health. This academic year resulted in the highest levels of clinical billing in the Department's history. The department has met considerable increases in clinical services at the USA Health University Hospital and in our ambulatory practices. The Department of Medicine's inpatient teams and MICU teams handled almost

all of the care of patients with COVID-19 in USA Health University Hospital. The residents and fellows in our department were the front line for this response.

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). Likewise, Dr. Jack DiPalma and Dr. Jorge Herrera, Professors in the Division of Gastroenterology, serve their national societies at high levels.

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.

2019-2020
Summary of Scholarly Activities
Department of Microbiology and Immunology

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Driscoll TP, Verhoeve VI, Gillespie JJ, Johnston JS, Guillotte ML, Rennoll-Bankert KE, Rahman MS, Hagen D, Elsik CG, Macaluso KR, Azad AF. A chromosome-level assembly of the cat flea genome uncovers rampant gene duplication and genome size plasticity. *BMC Biol.* 2020 Jun 19;18(1):70.

Esteves E, Fongsaran C, Langohr IM, Riley SP, Labruna MB, Daffre S, Fogaça AC, Macaluso KR. Comparative analysis of infection by *Rickettsia rickettsii* Sheila Smith and Tiaiaçu strains in a murine model. *Pathogens.* 2020 Sep 10;9(9):E744.

Hermance ME, Hart CE, Esterly AT, Reynolds ES, Bhaskar JR, Thangamani S. Development of a small animal model for deer tick virus pathogenesis mimicking human clinical outcome. *PLoS Negl Trop Dis.* 2020 Jun 15;14(6):e0008359.

Morisette JT, Macaluso KR, Burgiel SW. Overview of a special issue on geospatial analysis of invasive arthropod alien species. *Ann Entomol Soc Am.* 2020 Mar;113(2),67-70.

Okaro U, George S, Valdes S, Macaluso K, Anderson B. A non-coding RNA controls transcription of a gene encoding a DNA binding protein that modulates biofilm development in *Bartonella henselae*. *Microb Pathog.* 2020 Oct;147:104272.

Ramelli SC, Comer BS, McLendon JM, Sandy LL, Ferretti AP, Barrington R, Sparks J, Matar M, Fewell J, Gerthoffer WT. Nanoparticle delivery of anti-inflammatory LNA oligonucleotides prevents airway inflammation in a HDM model of asthma. *Mol Ther Nucleic Acids.* 2020 Mar 6;19:1000-1014.

Renema P, Hardy KS, Housley N, Dunbar G, Annamdevula N, Britain A, Spadafora D, Leavesley S, Rich T, Audia JP, Alvarez DF. cAMP signaling primes lung endothelial cells to activate caspase-1 during *Pseudomonas aeruginosa* infection. *Am J Physiol Lung Cell Mol Physiol.* 2020 May 1;318(5):L1074-L1083.

Rieske RR, Kutcher ME, Audia JP, Carter KT, Lee YL, Tan YB, Gillespie MN, Capley GC, Tatum DM, Smith AA, Duchesne JC, Simmons JD. Analysis of plasma products for cellular contaminants: comparing two standard preparation methods. *J Am Coll Surg.* 2020 Apr; 230(4):569-602.

Sanderford V, Barna BP, Barrington RA, Malur A, Mohan A, Leffler N, Soliman E, Thomassen MJ. PPAR γ deficiency in carbon nanotube-elicited granulomatous inflammation promotes a Th17 response to a microbial antigen. *J Nanomed Nanotechnol.* 2020;11(1):541.

Solodushko V, Bitko V, Barrington R, Fouty B. A DNA vaccine in which the RSV-F ectodomain is covalently linked to the *Burkholderia pseudomallei* antigens TssM and Hcp1 augments the humoral and cytotoxic response in mice. *Front Immunol*. 2019 Oct 11;10:2411.

Voth S, Gwin M, Francis CM, Balczon R, Frank DW, Pittet JF, Wagener BM, Moser SA, Alexeyev M, Housley N, Audia JP, Piechocki S, Madera K, Simmons A, Crawford M, Stevens T. Virulent *Pseudomonas aeruginosa* infection converts antimicrobial amyloids into cytotoxic prions. *FASEB J*. 2020 Jul;34(7):9156–9179.

Wagener BM, Anjum N, Christiaans SC, Banks ME, Parker JC, Threet AT, Walker RR, Isbell KD, Moser SA, Stevens T, Alexeyev MF, Audia JP, Richter W, Hardy KS, Saleh LA, Morgan C, Pittet JF. Exoenzyme Y contributes to end-organ dysfunction caused by *Pseudomonas aeruginosa* pneumonia in critically ill patients: an exploratory study. *Toxins (Basel)*. 2020 Jun 4;12(6):369.

II. PUBLISHED ABSTRACTS

Kerr SM, Wood RR, McCreddie J, Rayner JO. A statewide survey of the tick fauna and associated pathogens in Alabama. 31st Annual Alabama Vector Management Society Meeting; 2020 Mar 5-6; Orange Beach, AL. Abstract no. 1.

Kerr SM, Wood RR, McCreddie J, Rayner JO. A statewide survey of the tick fauna and associated pathogens in Alabama. Vector Control Collaborative at Vector Week; 2020 Feb 24-28; Fort Collins, CO. Abstract no. 2.

Macaluso K. The biology of emerging *Rickettsia felis* rickettsiosis. 2nd Asia Pacific Rickettsia Conference; 2019 Nov 3-6; Chian Rai, Thailand. p. 44. Abstract no. 43.

Saleh LA, Aragon IV, Boyd A, McDonough W, Koloteva A, Spadafora D, Mneimneh W, Barrington RA, Richter W. Ablation of PDE4B protects from lung injury in a mouse model of acute *P. aeruginosa* infection. *Am J Respir Crit Care Med*. 2020;201:A6543. Available from: https://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2020.201.1_MeetingAbstracts.A6543.

Saleh LA, Aragon IV, Boyd A, McDonough W, Koloteva A, Spadafora D, Mneimneh W, Barrington RA, Richter W. Ablation of PDE4B protects from lung injury in a mouse model of acute *P. aeruginosa* infection. *FASEB J*. 2020 Apr;34(S1):05664. Available from: <https://faseb.onlinelibrary.wiley.com/doi/abs/10.1096/fasebj.2020.34.s1.05664>.

Suwanbongkot C, Langohr I, Fongsaran C, Dittmar W, Harris E, Christofferson R, Lamason R, Macaluso K. Infection and transmission dynamic of spotted fever group rickettsia in *Amblyomma maculatum*. 2nd Asia Pacific Rickettsia Conference; 2019 Nov 3-6; Chian Rai, Thailand. p. 48. Abstract no. 56.

Voth S, Madera K, Gwin M, Frank DW, Francis CM, Barrington R, deWeever A, Pittet JF, Wagener BM, Moser S, and Stevens T. Infection generated cytoprotective amyloids function in endothelial trained immunity and biofilm prevention. Gordon Research Conference, Biology of Acute Respiratory, Balancing Inflammation During Lung Infection; 2020 Feb 15-16; Galveston, TX.

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

Macaluso KR. Invited speaker. Rickettsial determinants for arthropod infection and transmission. West Virginia University, Department of Biology; 2019 Oct 7; Morgantown WV.

Macaluso KR. Invited speaker. The biology of emerging *Rickettsia felis* rickettsiosis. 2nd Asian Pacific Rickettsia Conference, 2019 Nov 5; Chiang Rai, Thailand.

Rayner JO. Invited speaker. Ticks in Alabama. 2020 Convocation of Southern State Epidemiologists. 2020 Feb 12; Mobile, AL.

Rayner JO. Invited speaker. Presence and prevalence of ticks and tick-borne infectious diseases in Alabama. Mississippi State University; 2020 Feb 3; Starkville, MS.

Rayner JO. Invited speaker. Efficacy of annexin V treatment against chikungunya virus infection in immunocompetent C57BL/6J mice. CaliConf; 2019 Oct 18; Cali, Columbia.

V. NATIONAL PROFESSIONAL RECOGNITION

Audia JP: Grant Reviewer: National Institutes of Health (NIH) - R13/U13 Support for Conferences and Scientific Meetings, Study Sections ZAI1 MFH-D-M2 and ZAI1 AZ-D-S1; NIH/National Heart Lung Blood Institute R01/R21 Study Section for Respiratory Integrative Biology and Translational Research [RIBT]; NIH/National Institute of Aging P01 Study Section ZAG1 ZIJ-3 (J1) for Proteostasis and the Aging Lung. Journal Editor: Frontiers in Cellular and Infection Microbiology. Journal Review: Clinica Chimica Acta, PLoS ONE, PLoS Neglected Tropical Diseases.

Barrington RA: Journal Editor: Frontiers in B cell biology. Journal Review: Immunohorizons, PLoS One, Journal of Experimental Medicine, The Ochsner Journal, AJP-Lung Cellular and Molecular Physiology, Cytometry, European Journal of Immunology, Journal of Immunology, Journal of DNA and Cell Biology.

Kim JH: Review: BioRender contest judge.

Macaluso KR: Grant Reviewer: National Institutes of Health (NIH) - NIAID – Study Section for Targeted Prevention for Tick-borne Diseases (R01); OD ZRG1 MOSS-R NIH Director’s New Innovator Award (DP2). Journal Editor: Journal of Medical Entomology. Journal Review: 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; Scientific Reports; Emerging Infectious Diseases (CDC). Professional Society: President, American Society for Rickettsiology. Advisory Committee: Member, Tick-Borne Disease Working Group, Federal Advisory Committee, Department of Health and Human Services.

Rayner JO: Journal Editor: Did you Know Editorial Series. Journal Review: Nature Communications, Science Translational Medicine, Emerging Infectious Diseases, The American Journal of Tropical Medicine and Hygiene, Antiviral Research, PLoS Neglected Tropical Diseases. Professional Society: Elected to American Committee on Arthropod-borne Viruses.

VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS

The 2019-2020 academic year for the Department was dynamic. Major changes included Dr. Macaluso accepting the position of Professor and Chair for the Department; Dr. Audia was promoted to Full Professor; Dr. Wood was granted Professor Emeritus; and, Dr. Meghan Hermance joined the faculty in May as a tenure-track Assistant Professor. The Department remains highly active in the education mission of the College. Dr. Audia continued to oversee the graduate student teaching by coordinating the Infectious Diseases and Host Defense Track (IDHD). The Department now has seven graduate students in the IDHD track and the faculty mentor graduate students across all tracks in the College of Medicine. Dr. Audia continues to serve as the Module Director for the Infectious Disease and Immunology (IDI) course and Dr. Barrington received the Scarlet Sash, for the second time, in recognition of his effort to the medical education experience. The faculty were active in research and scholarship with fifteen peer-reviewed papers published and seven invited presentations. Additionally, faculty were invited to review grants and papers in their fields signifying recognition of their expertise in research. Faculty in the department also received awards for 37 percent of the applications submitted for extramural research support from state/federal agencies and industry. Coinciding with the COVID-19 outbreak, faculty remained active with several funded projects aimed at combating the virus. Complimenting ongoing research activities, newly developed arthropod containment space in the Laboratory of Infectious Diseases will allow several faculty members to provide training opportunities in a high-containment laboratory setting. 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 serve on committees (*e.g.*, IACUC and IBC) and organizations (Faculty Senate) throughout the year. The faculty stepped up with service in response to the pandemic, with Drs. Macaluso and Rayner serving on subcommittees for research and reopening. Drs. Audia and Macaluso continued with community outreach by contributing to St. Luke's Episcopal basic science instructional activities and by mentoring senior students from St. Paul's Episcopal in the laboratory. Dr. Barrington remains actively involved with Lions Club which supports components of his research program. These activities are considered essential to our service mission.

2019-2020
Summary of Scholarly Activities
Department of Neurology

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Bhat JN, Maertens P. Low function of natural killer cells in treated classic Menkes disease. Turk J Pediatr. 2020;62(3):498-500.

Bhat R, Zayek M, Maertens P, Eyal F. A single-dose indomethacin prophylaxis for reducing perinatal brain injury in extremely low birth weight infants: a non-inferiority analysis. J Perinatol. 2019 Nov;39(11):1462-1471.

Bhat R, Zayek M, Maertens P, Eyal F. Correction to: A single-dose indomethacin prophylaxis for reducing perinatal brain injury in extremely low birth weight infants: a non-inferiority analysis. J Perinatol. 2020 Jan;40(1):176.

Cordina SM, Afarian S, Gerthoffer WT, Martino A, Wilson R, Naritoku DK. Novel *in vivo* assessment of unruptured intracranial aneurysm inflammatory factors. Front Neurol. 2020 Jun 3;11:439.

Darbin O, Hatanaka N, Takara S, Kaneko N, Chiken S, Naritoku D, Martino A, Nambu A. Parkinsonism differently affects the single neuronal activity in the primary and supplementary motor areas in monkeys: an investigation in linear and nonlinear domains. Int J Neural Syst. 2020 Feb;30(2):2050010.

Darbin O, Hatanaka N, Takara S, Kaneko M, Chiken S, Naritoku D, Martino A, Nambu A. Local field potential dynamics in the primate cortex in relation to Parkinsonism revealed by machine learning: A comparison between the primary motor cortex and the supplementary area. Neurosci Res. 2020 Jul;156:66-79.

Fraser-Rini J, Ochoa J. Panic attack as the sole manifestation of epilepsy localized to the nondominant temporal region. J Neuropsychiatry Clin Neurosci. 2020 Summer;32(3):309-311.

Nguyen TN, Abdalkader M, Jovin TG, Nogueira RG, Jadhav AP, Haussen DC, Hassan AE, Novakovic R, Sheth SA, Ortega-Gutierrez S, Panagos PD, Cordina SM, Linfante I, Mansour OY, Malik AM, Narayanan S, Masoud HE, Chou SH, Khatri R, Janardhan V, Yavagal DR, Zaidat OO, Greer DM, Liebeskind DS. Mechanical thrombectomy in the era of the COVID-19 pandemic: emergency preparedness for neuroscience teams: a guidance statement from the Society of Vascular and Interventional Neurology. Stroke. 2020 Jun;51(6):1896-1901.

Rini J, Ochoa J. Pharyngeal dysesthesias as aura in epilepsy localized to the non-dominant frontal operculum misdiagnosed as non-epileptic seizures. Neurocase. 2020 Aug;26(4):227-230.

Rini JF, Ochoa J. Behavioral implications of temporal lobe epilepsy on social contingency. *Epilepsy Behav.* 2020 Jun 22;110:107101.

II. PUBLISHED ABSTRACTS

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

Bassam B. Invited speaker. Approach to patients with myopathies. Lebanon Neurology Grand Rounds; 2019 Aug 8; American University of Beirut, Beirut, Lebanon.

Bassam B. Invited speaker. Nerve conduction pitfalls. 2019 American Association of Neuromuscular & Electrodiagnostic Medicine Annual Meeting; 2019 Oct 16; Austin, TX.

Bassam B. Invited speaker. Emerging therapies in rare neuromuscular diseases. 2019 American Association of Neuromuscular & Electrodiagnostic Medicine Annual Meeting; 2019 Oct 17; Austin, TX.

Bassam B. Invited speaker. Myasthenia gravis: diagnostic challenges and management update. Southern Clinical Neurological Society 46th Annual Meeting. 2020 Jan 22; Naples, FL.

V. NATIONAL PROFESSIONAL RECOGNITION

Bassam Bassam: Course Chair, NCS Pitfalls, AANEM Annual Meeting.

Bassam Bassam: Workshop, Emerging Therapies and Controversies, AANEM Annual Meeting.

Bassam Bassam: Moderator, Neuromuscular, Neuroimmunology & Autonomic, SCNS Annual Meeting.

Naritoku Dean K: Workshop, Diagnosing the Patient with Epilepsy, J. Kiffin Penry Epilepsy Minifellow Network, Residents Epilepsy Program.

Naritoku Dean K: Workshop, Identification and Management of Non-Epileptic Seizures, J. Kiffin Penry Epilepsy Minifellow Network, Residents Epilepsy Program.

Naritoku Dean K: Workshop, The Art of AED Management, J. Kiffin Penry Epilepsy Minifellow Network, Residents Epilepsy Program.

Naritoku Dean K: Workshop, Epilepsy in the Multiply Handicapped, J. Kiffin Penry Epilepsy Minifellow Network, Residents Epilepsy Program.

Naritoku Dean K: Workshop, Faculty Case Workshop, J. Kiffin Penry Epilepsy Minifellow Network, Residents Epilepsy Program.

Naritoku Dean K: Workshop, Seizure Mechanisms & Experimental Models, J. Kiffin Penry Epilepsy Minifellow Network, Residents Epilepsy Program.

Naritoku Dean K: Workshop, Evening Case Sessions, J. Kiffin Penry Epilepsy Minifellow Network, Residents Epilepsy Program.

Naritoku Dean K: Workshop, Classification of Seizure & the Epilepsies, J. Kiffin Penry Epilepsy Minifellow Network, Residents Epilepsy Program.

Naritoku Dean K: Workshop, Mechanisms of Seizures, J. Kiffin Penry Epilepsy Minifellow Network, Residents Epilepsy Program.

Naritoku Dean K: Workshop, Experimental Models of Epilepsy, J. Kiffin Penry Epilepsy Minifellow Network, Residents Epilepsy Program.

VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS

2019-2020
Summary of Scholarly Activities
Department of Neurosurgery

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Kim D, Davis DD, Menger RP. Spine sagittal balance. [Updated 2020 Aug 11]. In: StatPearls [Internet]. Treasure Island, FL: StatPearls Publishing; 2020 Jan-. Available from: <https://www.ncbi.nlm.nih.gov.libproxy.usouthal.edu/books/NBK534858/>

Kim D, Viswanathan VK, Menger RP. C1 fractures. [Updated 2020 May 27]. In: StatPearls [Internet]. Treasure Island, FL: StatPearls Publishing; 2020 Jan-. Available from: <https://www.ncbi.nlm.nih.gov.libproxy.usouthal.edu/books/NBK534091/>

LeFever D, Menger RP. Infantile and juvenile scoliosis. [Updated 2020 Aug 26]. In: StatPearls [Internet]. Treasure Island, FL: StatPearls Publishing; 2020 Jan-. Available from: <https://www.ncbi.nlm.nih.gov.libproxy.usouthal.edu/books/NBK519498/>

LeFever D, Whipple SG, Menger RP. Hangman's fractures. [Updated 2020 Mar 25]. In: StatPearls [Internet]. Treasure Island, FL: StatPearls Publishing; 2020 Jan-. Available from: <https://www.ncbi.nlm.nih.gov.libproxy.usouthal.edu/books/NBK519496/>

Menger R, Esfahani DR, Heary R, Ziu M, Mazzola CA, LeFever D, Origitano T, Barnes T, Cozzens J, Taylor S. Contract negotiation for neurosurgeons: a practical guide. Neurosurgery. 2020 Sep 15;87(4):614-619.

Menger R, LeFever DC, Zuckerman SL, Robbins JW, Bell R. Analysis of factors and conditions influencing military neurosurgery recruitment and retention. Mil Med. 2020 Jan 7;185(Suppl 1):583-589.

Menger R, Sin A. Commentary on surgical treatment of scoliosis-associated with syringomyelia: the role of syrinx size. Neurol India. 2020 Mar-Apr;68(2):305-306.

Menger RP, Davis DD, Bryant JH. Spinal osteotomy. [Updated 2020 Jun 23]. In: StatPearls [Internet]. Treasure Island, FL: StatPearls Publishing; 2020 Jan-. Available from: <https://www.ncbi.nlm.nih.gov.libproxy.usouthal.edu/books/NBK499872/>

Menger RP, Rayi A, Notarianni C. Klippel Feil syndrome. [Updated 2020 Sep 27]. In: StatPearls [Internet]. Treasure Island, FL: StatPearls Publishing; 2020 Jan-. Available from: <https://www.ncbi.nlm.nih.gov.libproxy.usouthal.edu/books/NBK493157/>

Menger RP, Sin AH. Adolescent and idiopathic scoliosis. [Updated 2020 Aug 21]. In: StatPearls [Internet]. Treasure Island, FL: StatPearls Publishing; 2020 Jan-. Available from: <https://www.ncbi.nlm.nih.gov.libproxy.usouthal.edu/books/NBK499908/>

Menger RP, Viswanathan VK, Notarianni C. C2 fractures. [Updated 2020 Mar 24]. In: StatPearls [Internet]. Treasure Island, FL: StatPearls Publishing; 2020 Jan-. Available from: <https://www.ncbi-nlm-nih-gov.libproxy.usouthal.edu/books/NBK482287/>

II. PUBLISHED ABSTRACTS

Kim D, Prevost M, Templeton K, Foster F, Menger R, Martino A, Rusyniak G. Outcomes following occipital-cervical fusion for complex spine trauma: optimal fusion angle and construct design critical to prevent dysphagia and revision surgery. Spine: Base to Summit Course; 2020 Jan 23-26; Vail, CO.

Lin JD, Osorio JA, Baum GR, Menger RP, Reid PC, Amorosa LF, Sardar ZM, Mandigo CE, Dyrszka MD, Kelly MP, Cerpa M, Lenke LG. A new modular classification of adult idiopathic scoliosis as an extension of the Lenke classification of adolescent idiopathic scoliosis. Virtual 27th International Meeting on Advanced Spine Techniques; 2020 Jul 10-11, 18, 25, Aug 1, 8, 15, 22; Athens, Greece. p. 31. Abstract no. 31.

Menger R, Beauchamp E, Alexiades N, Szpilka R, Anderson R. Neonatal halter traction for severe cervical spine deformity: technical notes. American Association of Neurological Surgeons Virtual 2020; 2020 Apr 25-29; Rolling Meadows, IL. Abstract no. 1924. Available from: <https://www.aans.org/Online-Program/Eposter?eventid=49170&itemid=EPOSTER&propid=50000>

Menger R, Park P, Cerpa M, Bixby E, Marciano G, Roye D, Roye B, Vitale M, Lenke L. Correction of pelvic obliquity with fusion to pelvis in the ambulatory pediatric patient. American Association of Neurological Surgeons Virtual 2020; 2020 Apr 25-29; Rolling Meadows, IL. Abstract no. 1741. Available from: <https://www.aans.org/Online-Program/Eposter?eventid=49170&itemid=EPOSTER&propid=49993>

Menger R, Shaw T, Bunch J, Barry J, Marciano G, Menger A, Martino A, Lenke L, Vitale M. Healthcare lobbying, political action committees, and spine surgery. American Association of Neurological Surgeons Virtual 2020; 2020 Apr 25-29; Rolling Meadows, IL. Abstract no. 1830. Available from: <https://www.aans.org/Online-Program/Eposter?eventid=49170&itemid=EPOSTER&propid=50005>

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

V. NATIONAL PROFESSIONAL RECOGNITION

Anthony M. Martino: Chair Neurosurgery, USAMC Medical Executive Committee, Clinical Chairs Committee, Operation Committee, Infection Control Committee, The Student Promotion and Evaluation Committee, Surgery Committee, Chartis Dyad Strategic Leader Development, Red Sash, Promoted to Professor.

Jai Deep Thakur: won Gold Award for virtual poster presentation Minimally Invasive Surgical Treatment of Intracranial Meningioma in Elderly Patients (≥ 65 years): Outcomes, Readmissions, and Tumor Control at the 2020 Annual Meeting of the American Association of Neurological Surgeons held virtually on September 26, 2020.

Richard Menger: was a “20 under 40” Spine Surgeon Recipient in Oct 2019 recognized by the North American Spine Society. He was also featured Feb 2020 in Becker’s Spine Review as “Spine Surgeon Leader to Know”

VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS

The Department of Neurosurgery has continued its growth this past year. With the addition of a new faculty member (Dr. Jai Deep Thakur) we are projected to go over 1000 cases annually. Dr. Thakur has a fellowship in minimally invasive and skull base surgery and already has developed a robust practice centered on pituitary pathology. Dr. Menger was called to the Navy reserves in March 2020 and ran a Covid ICU in New York City for three months. Following his return, he has been very busy clinically and is developing a spine institute incorporating pain management. This includes streamlined processes for access to the spine provider along with protocols for care with defined quality measures. We are excited to bring this to the community to improve spine care.

Dr. Rusyniak continues to collaborate with neurology in the regions only epilepsy surgery program. We hope to have preliminary surgery residents dedicated to neurosurgery starting in July 2021. We are currently in the process of adding those positions. We expect to add a 5th faculty member in the next two years which will position us to apply for a residency here at USA.

2019-2020
Summary of Scholarly Activities
Department of Obstetrics & Gynecology

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Deshmukh SK, Srivastava SK, Poosarla T, Dyess DL, Holliday NP, Singh AP, Singh S. Inflammation, immunosuppressive microenvironment and breast cancer: opportunities for cancer prevention and therapy. *Ann Transl Med.* 2019 Oct;7(20):593.

La Rosa M, Omere C, Webb C, Goldman B, Laird R, Munn M, Saade GR, Olson Koutrouvelis G. Quality improvement initiative to reduce time from regional anesthesia placement to delivery for cesarean delivery. *Am J Perinatol.* 2020 Feb;37(3):241-244.

II. PUBLISHED ABSTRACTS

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

Baker SL. Invited speaker. Maternal mortality: overview and potential areas for improvement. 28th Annual University of South Alabama Obstetrics and Gynecology Conference; 2019 Oct 10; Mobile, AL.

Munn MB. Invited speaker. Maternal early warning systems. 28th Annual University of South Alabama Obstetrics and Gynecology Conference; 2019 Oct 10; Mobile, AL.

Roth T, Gelpi B. Invited speakers. Enhanced recovery and surgery. 28th Annual University of South Alabama Obstetrics and Gynecology Conference; 2019 Oct 10; Mobile, AL.

Varner STF. Invited speaker. Workup for vulvovaginal complaints. 28th Annual University of South Alabama Obstetrics and Gynecology Conference; 2019 Oct 10; Mobile, AL.

V. NATIONAL PROFESSIONAL RECOGNITION

VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS

- Carey Winkler, MD, has been appointed as the Director of Maternal Fetal Medicine
- Nicolette Holliday, MD has been appointed as Associate Professor for the OB/GYN Department
- Tracy Roth, MD passed the PAG Certification Exam
- Katherine Grette, MD was hired in July 2020 as a Generalist for the OB/GYN Department.

- Candace Holliday, MD was selected to be the Administrative Chief Resident and Taylor Twiggs was selected to be the Education Resident this academic year.
- We welcomed our new residents this year: Hannah Alford, MD; Columbia, TN, East Tennessee State University School of Medicine; Grant Barry, Chattanooga, TN; Lincoln Memorial Osteopathic, Hayden Kassels, Decatur, AL; University of South Alabama School of Medicine, and SaraAnne Stringfellow, Mountainbrook, AL; University of South Alabama School of Medicine.

2019-2020
Summary of Scholarly Activities
Department of Orthopaedic Surgery

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Kim DC, Cutchen W, Teachey W, Brewer J, Nimityongskul P. Pediatric olecranon osteochondral flap fractures with subtle radiographic abnormality. J Hand Surg Am. 2020 May 15:S0363-5023(20)30173-8.

Williams RD, Honeycutt MW, Mancini EA, Nimityongskul P. Pediatric tenosynovial giant cell tumor of the flexor hallucis longus tendon sheath: a case report. JBJS Case Connect. 2020 Apr-Jun;10(2):e0519.

II. PUBLISHED ABSTRACTS

Johnson A, Honeycutt MW, Johnson A, Zieman D, Nimityongskul P. Pediatric tibial eminence fractures: a novel treatment using a bioabsorbable screw. 16th International Pediatric Orthopaedic Symposium; 2019 Dec 3-7; Orlando, FL. Abstract no. 14.

Prevost MA, Cutchen W, Honeycutt MW, Young P, Barousse P, Muelar M, Brewer J. Decreased infection rate in open tibia fractures with the use of intra-operative vancomycin/tobramycin powder. Southern Orthopaedic Association 37th Annual Meeting; 2020 Jul 23; Virtual Meeting. Abstract no. 18.

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

V. NATIONAL PROFESSIONAL RECOGNITION

Albert Pearsall. Virtual Oral Examiner: 2020 *American Board of Orthopaedic Surgery (ABOS) Board Examinations*. Editorial Board Member, *JSES/AJSM*. National clinical guidelines development for: *ABOS, JSES, AJSM, AOA and AANA*.

Mark Perry. Virtual Oral Examiner, 2020 *American Board of Orthopaedic Surgery (ABOS) Board Examinations*. Online Editor for www.footeducation.com.

VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS

Brewer, Jeffrey. In August 2020, Dr. Brewer was appointed Program Director of the University of South Alabama Orthopaedic Surgery Residency Program. Additionally, 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 Bradly. In November 2019, Dr. Clay was appointed Assistant Director of the University of South Alabama Orthopaedic Surgery Residency Program. Additionally, he was appointed Medical Student Education Director. Dr. Clay has 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 450 Acting Internship in Orthopaedic Surgery, Fall 2019 and the M3 Selective Course, Spring 2020 at the University of South Alabama College of Medicine. Dr. Clay is a reviewer for *The American Journal of Sports Medicine*.

Madison, Randall Drew. In November 2019, Dr. Madison was appointed Faculty Development Director for the University of South Alabama Department of Orthopaedic Surgery Residency Program. Dr. Madison has presented grand rounds lectures regarding orthopaedic trauma surgical conditions and procedures for the University of South Alabama Department of Orthopaedic Surgery Residency Program.

Nimityongskul, Prasit. In August 2019, Dr. Nimityongskul was appointed Interim Department Chairman for the University of South Alabama Department of Orthopaedic Surgery. 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 Atmore, Alabama and Brewton, Alabama. Dr. Nimityongskul has continued his longitudinal research regarding “Schmid-type metaphyseal chondrodysplasia in a large single genetic lineage” study which has included previous and current residents in the University of South Alabama Department of Orthopaedic Surgery Residency Program.

Pearsall, Albert. During last quarter of 2019, and continuing into 2020 Dr. Pearsall mentored numerous University of South Alabama medical residents as well as surgical residents. Dr. Pearsall continued his ongoing research while providing orthopaedic services to University of South Alabama athletes and sports teams and serves as a team physician for University of South Alabama Athletics Department. In July 2020, Dr. Pearsall served as a virtual exam proctor for the Associate of American Orthopaedic Society Board Examinations. Dr. Pearsall serves as journal reviewer for several noted Orthopaedic journals including: *Journal of Shoulder and Elbow Surgery*, *Archives of Physical Medicine and Rehabilitation*, *Orthopaedics*, *The American Journal of Sports Medicine*, and *The Journal of Musculoskeletal Medicine*.

Perry, Mark. Dr. Perry was elected to the Alabama Orthopaedic Society Board of Directors: service dates 2020-2022. Dr. Perry was appointed to the American Orthopaedic Foot &

Ankle Society Policy Committee: service dates 2019-2021. In July 2020, Dr. Perry served as a virtual exam proctor for the Associate of American Orthopaedic Society Board Examinations and serves on the society's Resolutions Committee. Dr. Perry served as University of South Alabama Orthopaedic Surgery Department Representative and Crimson Liaison for University of South Alabama Health System. Additionally, Dr. Perry serves as a reviewer for *Foot & Ankle International* and *Foot & Ankle Orthopaedics* publications, and serves as editor of an online publication <http://www.footeducation.com>.

2019-2020
Summary of Scholarly Activities
Department of Pathology

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Cheng M, Gu X, Turbat-Herrera EA, Herrera GA. Tubular injury and dendritic cell activation are integral components of light chain-associated acute tubulointerstitial nephritis. Arch Pathol Lab Med. 2019 Oct;143(10):1212-1224.

Deshmukh SK, Srivastava SK, Poosarla T, Dyess DL, Holliday NP, Singh AP, Singh S. Inflammation, immunosuppressive microenvironment and breast cancer: opportunities for cancer prevention and therapy. Ann Transl Med. 2019 Oct;7(20):593.

Frankel AE, Deshmukh S, Reddy A, Lightcap J, Hayes M, McClellan S, Singh S, Rabideau B, Glover TG, Roberts B, Koh AY. Cancer immune checkpoint inhibitor therapy and the gut microbiota. Integr Cancer Ther. 2019 Jan-Dec;18:1534735419846379.

Gopinath A, Mubeen A, Baskovich B, Ginn A, Shukri A, Menes M, Kenneth K, Makary R, Herrera GA, Masood S, Alkhasawneh A. Ultrastructural characteristics of gallbladder epithelial inclusions mimicking cystoisospora. Am J Clin Pathol. 2020 Jan 1;153(1):88-93.

Gurnee EA, Phung TL, Guo E, Fong A, Tollefson M, Nguyen H, Brandling-Bennett HA, Moriarty N, Paller AS, Huynh T, Lawley LP. Neurocognitive dysfunction and anaphylaxis in pediatric maculopapular cutaneous mastocytosis. J Allergy Clin Immunol Pract. 2020 Jan;8(1):409-410.

Herrera GA. The value of ultrastructural evaluation in medical renal diseases (editorial). Ultrastruct Pathol. 2019;43(6):225-228.

Herrera GA. From the editor in chief (editorial). Ultrastruct Pathol. 2020 Jan 2;44(1):1. Iacobas I, Adams DM, Pimpalwar S, Phung T, Blei F, Burrows P, Lopez-Gutierrez JC, Levine MA, Trenor CC 3rd. Multidisciplinary guidelines for initial evaluation of complicated lymphatic anomalies-expert opinion consensus. Pediatr Blood Cancer. 2020 Jan;67(1):e28036.

Kelley J, Patil P, Kennedy A, Singh L, Peditto S, Cardona DM. Developing pathology measures for the quality payment program-part II: overcoming challenges with data capture to maximize reimbursement. Arch Pathol Lab Med. 2020 Jun;144(6):697-705.

Khan MA, Patel GK, Srivastava SK, Carter JE, Pierce JY, Rocconi RP, Singh S, Singh AP. Looking at cancer health disparities without the colored lenses. Cancer Health Disparities. 2019;3:e1-e9. Available from: <https://companyofscientists.com/index.php/chd/article/view/89/72>

Khan MA, Srivastava SK, Zubair H, Patel GK, Arora S, Khushman M, Carter JE, Gorman GS, Singh S, Singh AP. Co-targeting of CXCR4 and hedgehog pathways disrupts tumor-stromal crosstalk and improves chemotherapeutic efficacy in pancreatic cancer. *J Biol Chem*. 2020 Jun 19;295(25):8413-8424.

Khan MA, Zubair H, Anand S, Srivastava SK, Singh S, Singh AP. Dysregulation of metabolic enzymes in tumor and stromal cells: role in oncogenesis and therapeutic opportunities. *Cancer Lett*. 2020 Mar 31;473:176-185.

Mirza R, Dela Cruz N, Herrera GA. Thyroid-like low-grade nasopharyngeal papillary adenocarcinoma with biphasic histology. *Case Rep Pathol*. 2020 Jan 16;2020:3275916.

Patton MC, Zubair H, Khan MA, Singh S, Singh AP. Hypoxia alters the release and size distribution of extracellular vesicles in pancreatic cancer cells to support their adaptive survival. *J Cell Biochem*. 2020 Jan;121(1):828-839.

Royal V, Leung N, Troyanov S, Nasr SH, Écotière L, LeBlanc R, Adam BA, Angioi A, Alexander MP, Asunis AM, Barreca A, Bianco P, Cohen C, Drosou ME, Fatima H, Fenoglio R, Gougeon F, Goujon JM, Herrera GA, Knebelmann B, Lepori N, Maletta F, Manso R, Motwani SS, Pani A, Rabant M, Rennke HG, Rocatello D, Rosenblum F, Sanders PW, Santos A, Soto K, Sis B, Touchard G, Venner CP, Bridoux F. Clinicopathologic predictors of renal outcomes in light chain cast nephropathy: a multicenter retrospective study. *Blood*. 2020 May 21;135(21):1833-1846.

Saranyutanon S, Srivastava SK, Pai S, Singh S, Singh AP. Therapies targeted to androgen receptor signaling axis in prostate cancer: progress, challenges, and hope. *Cancers (Basel)*. 2019 Dec 23;12(1):51.

Smith RJ, Metry D, Deardorff MA, Heller E, Grand KL, Iacobas I, Rubin AI, Phung TL, Lopez-Terrada D, Steicher J, Cahill AM, Low D, Treat JR. Segmental congenital hemangiomas: three cases of a rare entity. *Pediatr Dermatol*. 2020 May;37(3):548-553.

Zubair H, Patel GK, Khan MA, Azim S, Zubair A, Singh S, Srivastava SK, Singh AP. Proteomic analysis of MYB-regulated secretome identifies functional pathways and biomarkers: potential pathobiological and clinical implications. *J Proteome Res*. 2020 Feb 7;19(2):794-804.

II. PUBLISHED ABSTRACTS

Anand S, Zubair H, Khan MA, Singh S, Singh AP. Expression and clinicopathological association of RABs in pancreatic cancer. *Cancer Res*. 2020 Aug 13;80(16 Suppl):2601. Abstract no. 2601.

Chau A, Pimpalwar S, Cleveland H, Karlberg H, Tran T, Phung T. IR vascular anomalies without borders at Ho Chi Minh, Vietnam: 10 years in the making of Vietnam Vascular

Anomalies Center. 23rd International Society for the Study of Vascular Anomalies Workshop; 2020 May 14-15; Vancouver, British Columbia, Canada.

Choi JM, Jin F, Jain A, Saltzman AB., Malovannaya A, Du W, Phung T, Jung SY. Differentially activated signaling pathways in lymphatic anomalies cells. 68th American Society for Mass Spectrometry Conference on Mass Spectrometry and Allied Topics Conference; 2020 Jun 1-5; Houston, Texas.

Deshmukh SK, Srivastava SK, Zubair H, Singh AP, Singh S. LIN28A-mediated repression of Let-7a is involved in resistin-induced STAT3 upregulation in breast cancer cells and supports growth and stemness properties. *Cancer Res.* 2020 Aug 13;80(16 Suppl):5070. Abstract no. 5070.

Hawryluk EB, Moustafa D, Bartenstein D, Brahmabhatt M, Cordoro K, Gardner L, Gauthier Grossman AD, Gupta D, Hunt RD, Jen M, Kao PC, Kruse LL, Lawley LP, London WB, Mansour D, O'Haver JA, Phung T, Pope E, Price HN, Rogers T, Shah SD, Wolner Z, Huang J, Marghoob AA. A retrospective multicenter study of fatal pediatric melanoma. American Academy of Dermatology Annual Meeting; 2020 Mar 20-24; Denver, CO.

Kanchanapally R, Khan MA, Srivastava SK, Deshmukh SK, Singh S, Singh AP. Honokiol-loaded exosomal preparation for enhanced cellular uptake and anti-tumor efficacy: O'Neal Comprehensive Cancer Center at University of Alabama at Birmingham 21st Annual Research Retreat; 2019 Oct 11; Birmingham, AL.

Khan MA, Kanchanapally R, Deshmukh SK, Srivastava SK, Singh S, Singh AP. Exosomal formulation escalates cellular uptake of honokiol leading to enhanced anti-tumor efficacy in pancreatic cancer. *Cancer Res.* 2020 Aug 13;80(16 Suppl):6259. Abstract no. 6259.

Li H, Patil P, Kakar S, Yeh M, Torbenson M, Strazzabosco M, Zhang X, Jain D, Vilarhino S, Wu TT. A clinicopathologic study of multiple hepatocellular adenomas in North America. *Mod Pathol.* 2020 Mar; 33(Suppl 2):1531. Abstract no. 1625.

Patil P, Li H, Kakar S, Wu TT, Yeh M, Torbenson M, Zhang X, Jain D. Multi-institutional study of clinicopathological features of hepatocellular adenomas in the United States. *Mod Pathol.* 2020 Mar; 33(Suppl 2):1543. Abstract no. 1639.

Patil P, Romulo C, Jain D, Zhang X. HNF-1 β immunohistochemistry is more sensitive and specific than CRP in the diagnosis of cholangiocarcinoma. *Mod Pathol.* 2020 Mar; 33(Suppl 2):1542. Abstract no. 1638.

Patil PA, Torres R, Jain D, Romulo C. 3D morphology using CHiMP system multiphoton microscopy is equivalent to light microscopy to report liver biopsies. *Mod Pathol.* 2020 Mar;33(Suppl 2):1707. Abstract no. 1824.

Phung T, Iacobas I, Lopez-Terrada D, Metry D. Segmental involuting congenital hemangioma: an unusual case as characterized by pathogenic GNA11 mutation. *J Mol*

Diagn. 2019 Nov;21(6):1222. Abstract no. ST125. Available from: [https://www.jmdjournal.org/article/S1525-1578\(19\)30391-5/pdf](https://www.jmdjournal.org/article/S1525-1578(19)30391-5/pdf)

Srivastava SK, Zubair H, Patel GK, Khan MA, Deshmukh SK, Singh S, Andrews J, Wang B, Carter JE, Singh AP. A novel MYB-AR crosstalk promotes castration-resistance in prostate cancer. O'Neal Comprehensive Cancer Center at University of Alabama at Birmingham 21st Annual Research Retreat; 2019 Oct 11; Birmingham, AL.

Singh A. Extracellular nanovesicles: potential applications in cancer diagnosis, prognosis and therapy. 36th Southern Biomedical Engineering Conference 2020; 2020 Mar 6-8; Kenner, LA.

Singh S, Saranyutanon S, Khan MA, Srivastava SK, Singh S, Singh AP. Exosomes are key players in nicotine-induced angiogenesis. Cancer Res. 2020 Aug 13;80(16 Suppl):1489. Abstract no. 1489.

Zubair H, Patel GK, Srivastava SK, Azim S, Zubair A, Khan MA, Singh S, Singh AP. Proteomic analysis of MYB-regulated secretome identifies functional pathways and biomarkers: potential pathobiological and clinical implications. O'Neal Comprehensive Cancer Center at University of Alabama at Birmingham 21st Annual Research Retreat; 2019 Oct 11; Birmingham, AL.

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

del Pozo-Yauner L. Invited speaker. Elucidating the mechanism of immunoglobulin light chain amyloid aggregation. International Symposium on Pathomechanisms of Amyloid Diseases; 2020 Dec 18; Miami, FL.

Herrera GA. Invited speaker. Glomerular and vascular amyloidogenesis: the role of mesangial cells and pericytes in al-amyloidosis. International Symposium on Pathomechanisms of Amyloid Diseases; 2019 Dec 18; Miami, FL.

Patil P. Invited speaker. Pathologic manifestations of gastrointestinal and hepatobiliary injury in immune checkpoint inhibitor therapy. City of Hope Cancer Center; 2020 Mar 30; Duarte, CA.

Patil P. Invited speaker. Pathologic manifestations of gastrointestinal and hepatobiliary injury in immune checkpoint inhibitor therapy. East Carolina Brody School of Medicine; 2020 Mar 16; Greenville, NC.

Patil P. Invited speaker. Pathologic manifestations of gastrointestinal and hepatobiliary injury in immune checkpoint inhibitor therapy. Wake Forest Baptist Medical Center, Department of Pathology; 2020 Mar 13; Winston-Salem, NC.

Patil P. Invited speaker. Pathologic manifestations of gastrointestinal and hepatobiliary injury in immune checkpoint inhibitor therapy. University of Pittsburgh Medical Center, Department of Pathology; 2020 Feb 19; Pittsburgh, PA.

Patil P. Invited speaker. Pathologic manifestations of gastrointestinal and hepatobiliary injury in immune checkpoint inhibitor therapy. MD Anderson Cancer Center, Department of Pathology; 2020 Jan 27; Houston, TX.

Patil P. Invited speaker. Benign hepatocellular neoplasms and tumor-like lesions. University of Oklahoma, Department of Pathology; 2020 Jan 17; Oklahoma City, OK.

Patil P. Invited speaker. Benign hepatocellular neoplasms and tumor-like lesions. University of Mississippi, Department of Pathology; 2019 Oct 28; Oklahoma City, OK.

Phung T. Invited speaker. Molecular and genomic diagnosis of vascular anomalies. International Society for the Study of Vascular Anomalies Online Workshop; 2020 May 14; Online Workshop; Vancouver, British Columbia, Canada.

Phung T. Invited speaker. Inflammatory dermatoses in children. First Annual Meeting of the Asian Society of Dermatopathology; 2019 Nov 15; New Delhi, India.

Singh A. Invited speaker. MYB, a novel determinant of racial disparity in prostate cancer. Indo-US Conference on Human Diversity and Health Disparities, Center for Cellular and Molecular Biology; 2020 Jan 18; Hyderabad, India.

Singh A. Invited speaker. Extracellular nanovesicles: potential applications in cancer diagnosis, prognosis and therapy. 36th Southern Biomedical Engineering Conference 2020; 2020 Mar 7; Kenner, LA.

V. NATIONAL PROFESSIONAL RECOGNITION

Pallavi Patil: **Committee Membership** - American Society of Clinical Pathology Social Media Committee, July 2019 onwards, United States and Canadian Academy of Pathology Social Media Committee, April 2019, American Society of Clinical Pathology American Proficiency Institute Editorial Advisory Board, November 2018, College of American Pathologists Engaged Leadership Academy and Network, November 2018, American Society of Clinical Pathology Career Ambassador 2.0, June 2018, Digital Pathology Association Website Committee, June 2018. **Editorial Board Membership** -Editorial Board, American Society of Clinical Pathology American Proficiency Institute Editorial Advisory Board 2018, Editorial Board, Journal of Cytology and Histology 2018 onwards, Editorial Board, BMJ Case Reports 2015 onwards, Editorial Board, Laboratory Medicine 2016, Student Editor, Journal of Postgraduate Medicine 2003 to 2005

Thuy Phung: First Annual Conference of the Asian Society of Dermatopathology, New Delhi, India (Conference Planning Committee), Sturge-Weber Foundation International Family Conference, Wilmington, DE, July 2019 (Conference Planning Committee),

Cancer Research, Editorial Board (by invitation) (term 2015-2019) <http://cancerres.aacrjournals.org/site/misc/edboard.xhtml>, Scientist Reviewer, FY19 Department of Defense Congressionally-Directed Medical Research Programs (CDMRP) Peer Reviewed Cancer Research Program for Rare Cancers, 2019, Scientist Reviewer, Department of Defense (DOD) Congressionally Directed Medical Research Programs (CDMRP) peer review panel for Vascular Malformations, 2019, Grant Reviewer, University of Pennsylvania Orphan Disease Center, 2019 Million Dollar Bike Ride pilot grant program for research on rare diseases, 2019, Director of Pathology Strategies, Sturge-Weber Foundation (SWF), to lead a national effort across multiple SWF clinical care centers in the U.S. to establish a tissue biorepository for research in vascular anomalies (2018-Present), Elected Secretary-General of the Asian Society of Dermatopathology (ASD) to enhance the quality of the practice of skin pathology and promote the development and advancement of dermatopathology as a clinical specialty in Asia (term 2019-2021), Association for Molecular Pathology (AMP) Publications Committee, which serves an advisory role to AMP 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 (term 2019- 2022).

Ajay Singh: Member, Organizing Committee, 7th Annual NanoBio Summit, organized by Clark Atlanta University (CAU) in collaboration with Alabama Universities, Atlanta, Georgia. Selected for the inclusion in the 73rd edition of Marquis Who's Who in America., Invited to serve as an external examiner of the Ph.D. thesis by Aligarh Muslim University, Aligarh, India, Reviewer, Veteran Affairs Research, Louis Stokes Cleveland VA Medical Center, Scientist Reviewer, The Wellcome Trust-DBT India Alliance Fellowship Program, Scientist Reviewer, Genomic Applications Partnership Program, Phase I, Genome Canada, Canada, Editorial board member: *Journal of Steroids and Hormonal Science*, *Journal of Integrative Oncology*, *Oncology*, *Gastroenterology*, *Hepatology Reports*, *PLoS ONE*, *Heliyon*, *Cancer Medicine* (Clinical Cancer Research section), *Frontiers in bioscience*, Associate Editor - *American Journal of Clinical and Experimental Urology*, *Journal of Ovarian research*, *Cancer Medicine* (Cancer Biology Section), Guest Editor- *Cancers*, Special Issue on 'Prostate Cancer', Guest Editor, *Cancer Letters*, Special Issue on 'Exosomes', Reviewer for several scientific journals including *Clin. Cancer Res*, *Mol. Cancer Ther*, *BBA Rev in Cancer*, *Mol Cancer*, etc.

Seema Singh: **Honors And Awards** - 2019 Thematic Issue Editor, "Revisiting Platinum-Resistant Ovarian Cancer: Advances in Therapy, Molecular Biomarkers, and Clinical Outcomes." *Seminars in Cancer Biology*, Elsevier Journal, Impact factor 10.502 , 2019 Special Issue Editor, "Exosomes: The emerging front-runners in Cancer." *Cancer Letters*, Elsevier Journal, Impact factor 6.491, 2019 NIH research proposal (R01- *Impact of social factors on breast cancer biology in African American Women*) ranked at 6.0 percentile in scientific merit review. **Editorial Board Member** - Editorial Board Member: *Cancers* (Impact factor: 6.162), 2020-present, Guest Editor: *Seminars in Cancer Biology* (Impact factor 10.502), 2019-2020, Editorial Board Member: *Cancer Letters* (Impact factor: 6.491), 2019-present; Editorial Board Member: *Scientific Reports* (Impact factor: 4.122), 2019-present, Associate Editor: *Frontiers In Oncology* (Impact

factor: 4.416), 2019-present, Associate Editor in Chief: Cancer Management and Research (Impact factor: 3.70) 2019-present, Associate Editor: Journal of Ovarian Research (Impact factor: 2.367) 2019-present, Editorial Board Member: Breast Cancer: Targets and Therapy, (Impact factor: 1.57) 2019-present, Guest Editor: Frontiers in Bioscience (Impact factor 2.486) 2017, Editorial board member: PLOS ONE (Impact factor: 2.766), 2013-present. **Advisory Committee Member** -Committee Member: Graduate Executive Committee At-Large, University of South Alabama, Mobile, Alabama, 2019-2021, Committee Member: M.D. with Research Honors Committee, University of South Alabama, Mobile, Alabama, 2019-present, Committee Member: Institutional Biosafety Committee (IBC), University of South Alabama, Mobile, Alabama, 2019-2022, Advisory Committee Member: Flow Cytometry Core, University of South Alabama, 2019-present, Committee Member: Graduate Committee of Kelly Smith. Basic Medical Science, University of South Alabama. Major Professor: Dr. Natalie Gassmann, 2018-present, Committee Member: Graduate Committee of Lana Vakadin, Basic Medical Science, University of South Alabama. Major Professor: Dr. Erin Ann, 2018-present, Committee Member: Graduate Committee of Orlandric Miree. Basic Medical Science, University of South Alabama. Major Professor: Dr. Ajay Singh, 2017-present, Committee Member: Graduate Committee of Mary Patton. Basic Medical Science, University of South Alabama. Major Professor: Dr. Ajay Singh, 2016-present, Committee Member: Institutional Animal Care and Use Committee (IACUC), University of South Alabama, Mobile, Alabama, 2019, Inspection committee Member: Institutional Animal Care and Use Committee (IACUC), University of South Alabama, Mobile, Alabama, 2016-2019. **Grants And Thesis Reviewer** - Panel Member (Scientist Reviewer): Department of Defense-COVID-T-6, July, 2020, Panel Member (Scientist Reviewer): La Caixa Foundation, Barcelona, April 2020, Panel Member (Scientist Reviewer), Mary Kay Foundation, University of South Alabama Internal review, 2020, Panel Member (Scientist Reviewer): Department of Defense-Prostate Cancer Research Program (PCRP), November 2019, Panel Member (Scientist Reviewer): Department of Defense-Prostate Cancer Research Program (PCRP), September 2019.

VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS

Three residents completed the residency program this year. Dr. Nadia Hameed entered a surgical/gynecologic pathology fellowship at the University of Texas, MD Anderson Cancer Center. Dr. Monira Haque has entered into a surgical/hematopathology fellowship at Baylor College of Medicine. Dr. Krutika Patel has entered into a surgical/gastrointestinal & hepatobiliary pathology fellowship program at Vanderbilt University.

Once again, the department had a successful residency recruiting year with three residents joining the department: Dr. Travis Berry from Touro University Nevada College of Osteopathic Medicine, Nevada, Dr. Mohamed Masoud from Ain Shams University, Egypt and Dr. Yusu Ozcelik from Istanbul Üniversitesi, Cerrahpasa Tıp Fakültesi, Turkey.

The Department of Pathology welcomed four new faculty members: Dr. Carlos Galliani, M.D. as Director, Division of Pediatric Pathology. Dr. Galliani comes from Children's Minnesota and brings a wealth of knowledge. Carlina Madelaire, MD joined our faculty from LSU Health-Shreveport to work as an Assistant Professor in renal pathology. Pallavi

Patil, MD joined our faculty from her fellowship in GI Pathology at Yale University. Thuy Phung, MD, PhD has joined our department from Baylor University. Dr. Phung is quite an accomplished triple threat pathologist. Her qualifications, which include being a boarded dermatopathologist and molecular pathologist, are quite fitting for our department. This group will complete a wide range of subspecialty pathologist to place our department at the helm of the latest developments in pathology and will help tremendously with patient care here at USA.

We also recruited a new Residency Program Coordinator, Farhana Akther. She is an excellent addition to our team.

2019-2020
Summary of Scholarly Activities
Department of Pediatrics

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Atkins AI, Cole JG. A 5-year-old child who presents to the general pediatric clinic for a well-child check is found to be in hypoxic respiratory distress. *Clin Pediatr (Phila)*. 2020;59(12):1123-1125.

Bhat R, Zayek M, Maertens P, Eyal F. Correction to: A single-dose indomethacin prophylaxis for reducing perinatal brain injury in extremely low birth weight infants: a non-inferiority analysis. *J Perinatol*. 2020 Jan;40(1):176.

Davis SL, Harmon CM, Baker Urquhart B, Moore B, Sprague R. Women and infants in the deep south receiving perinatal and neonatal palliative and supportive care services. *Adv Neonatal Care*. 2020 Jun;20(3):216-222.

Dolma K, Freeman AE, Rezonzew G, Payne GA, Xu X, Jilling T, Blalock JE, Gaggar A, Ambalavanan N, Lal CV. Effects of hyperoxia on alveolar and pulmonary vascular development in germ free mice. *Am J Physiol Lung Cell Mol Physiol*. 2020 Feb 1;318(2):L421-L428.

Eyal FG. Air leak syndromes. In: Gomella TL, Eyal FG, Bany-Mohammed F, editors. *Gomella's neonatology: management, procedures, on call problems, diseases, and drugs*. 8th ed. New York: McGraw-Hill Education; 2020. Chapter 87, p. 808-814.

Eyal FG. Anemia. In: Gomella TL, Eyal FG, Bany-Mohammed F, editors. *Gomella's neonatology: management, procedures, on call problems, diseases, and drugs*. 8th ed. New York: McGraw-Hill Education; 2020. Chapter 88, p. 815-822.

Eyal FG. Coagulation disorders. In: Gomella TL, Eyal FG, Bany-Mohammed F, editors. *Gomella's neonatology: management, procedures, on call problems, diseases, and drugs*. 8th ed. New York: McGraw-Hill Education; 2020. Chapter 92, p. 838-852.

Eyal FG. Fluid and electrolytes. In: Gomella TL, Eyal FG, Bany-Mohammed F, editors. *Gomella's neonatology: management, procedures, on call problems, diseases, and drugs*. 8th ed. New York: McGraw-Hill Education; 2020. Chapter 10, p. 117-124.

Eyal FG. Hydrocephalus and ventriculomegaly. In: Gomella TL, Eyal FG, Bany-Mohammed F, editors. *Gomella's neonatology: management, procedures, on call problems, diseases, and drugs*. 8th ed. New York: McGraw-Hill Education; 2020. Chapter 97, p. 885-890.

Eyal FG. Respiratory management. In: Gomella TL, Eyal FG, Bany-Mohammed F, editors. Gomella's neonatology: management, procedures, on call problems, diseases, and drugs. 8th ed. New York: McGraw-Hill Education; 2020. Chapter 9, p. 97-116.

Eyal FG. Sedation and analgesia. In: Gomella TL, Eyal FG, Bany-Mohammed F, editors. Gomella's neonatology: management, procedures, on call problems, diseases, and drugs. 8th ed. New York: McGraw-Hill Education; 2020. Chapter 81, p. 743-748.

Eyal FG. Temperature regulation. In: Gomella TL, Eyal FG, Bany-Mohammed F, editors. Gomella's neonatology: management, procedures, on call problems, diseases, and drugs. 8th ed. New York: McGraw-Hill Education; 2020. Chapter 8, p. 92-96.

Gonzalez JC, Singhapakdi K, Martino AM, Rimawi BH, Bhat R. Unilateral open-lip schizencephaly with tonsillar herniation in a preterm infant. *J Pediatr Neurosci*. 2019 Oct-Dec;14(4):225-227.

Gulati R, Smith T, Siow M, Batten L. Isolated right superior vena cava drainage into the left atrium: an uncommon cause of persistent hypoxia in a neonate. *Echocardiography*. 2020;37(4):641-645.

Lal CV, Dolma K, Ambalavanan N. The airway microbiome and bronchopulmonary dysplasia. In: Kallapur SG, Pryhuber GS, editors. Updates on neonatal chronic lung disease. Amsterdam: Elsevier; 2019. Chapter 10, p. 151-162.

Lee JY, Fagan KA, Zhou C, Batten L, Cohen MV, Stevens T. Biventricular diastolic dysfunction, thrombocytopenia, and red blood cell macrocytosis in experimental pulmonary arterial hypertension. *Pulm Circ*. 2020 May 26;10(2):2045894020908787.

Moore B, Sprague R, Harmon CM, Davis S. Walk with me: a bridge program for assisting families expecting babies with fetal anomalies and/or a terminal diagnosis. *Neonatal Netw*. 2020 Jan 1;39(1):24-28.

Nehls PE, Bhat R, Batten LA. Terbutaline-induced neonatal ventricular tachycardia: a case report and review of literature. *Ann Pediatr Cardiol* 2020 Apr-Jun;13:147-149.

Peevy KJ. Polycythemia and hyperviscosity. In: Gomella TL, Eyal FG, Bany-Mohammed F, editors. Gomella's neonatology: management, procedures, on call problems, diseases, and drugs. 8th ed. New York: McGraw-Hill Education; 2020. Chapter 116, p. 1040-1042.

Sharma K, Geagan N, Tengsupakul S. Severe acute interstitial nephritis secondary to minocycline use in an adolescent girl. *SAGE Open Med Case Rep*. 2020 Jul 21;8:2050313X20943069.

Whitehurst RM. ABO incompatibility. In: Gomella TL, Eyal FG, Bany-Mohammed F, editors. Gomella's neonatology: management, procedures, on call problems, diseases, and drugs. 8th ed. New York: McGraw-Hill Education; 2020. Chapter 85, p. 801-802.

Whitehurst RM. Rh incompatibility. In: Gomella TL, Eyal FG, Bany-Mohammed F, editors. Gomella's neonatology: management, procedures, on call problems, diseases, and drugs. 8th ed. New York: McGraw-Hill Education; 2020. Chapter 119, p. 1056-1060.

Zayek M. Bronchopulmonary dysplasia/chronic lung disease. In: Gomella TL, Eyal FG, Bany-Mohammed F, editors. Gomella's neonatology: management, procedures, on call problems, diseases, and drugs. 8th ed. New York: McGraw-Hill Education; 2020. Chapter 90, p. 827-832.

Zayek M. Thrombocytopenia and platelet dysfunction. In: Gomella TL, Eyal FG, Bany-Mohammed F, editors. Gomella's neonatology: management, procedures, on call problems, diseases, and drugs. 8th ed. New York: McGraw-Hill Education; 2020. Chapter 128, p. 1092-1096.

Zayek M, Bhat J, Bonner K, Blake M, Peevy K, Jha OP, Gulati R, Bhat R. Implementation of a modified neonatal early-onset sepsis calculator in well-baby nursery: a quality improvement study. *Pediatr Qual Saf* 2020 Jul 7;5(4):e330.

II. PUBLISHED ABSTRACTS

Bahakel HK, Estrada B. Multiplex polymerase chain reaction for detection of gastrointestinal pathogens in children at the University of South Alabama Children's and Women's Hospital. *J Investig Med*. 2020 Feb;68(2):649. Abstract no. 526.

Balakumar N, Totapally B, Keshavamurthy PRS, Sehgal M. Non-anesthetic-triggered malignant hyperthermia in an infant with RyR1 mutation. *Crit Care Med*. 2020 Jan;48(1 Suppl):308. Abstract no. 656.

Bhat R, Jha OP, Eyal F, Zayek M. Trends in survival and neurodevelopmental outcomes of periviable infants: a single-center study. *Pediatric Academic Societies 2020 Meeting*; 2020 Apr 29-May 6; Philadelphia, PA. Abstract no. 765.

Chinchilla C, Marri P, Imran H, Ilonze C. Mycoplasma pneumonia infection associated with multiple deep venous thrombi. *Pediatr Blood Cancer*. 2020 Jun;67(S2):S73. Abstract no. 230.

Davis S, Harmon CM, Sprague R, Urquhart B. Examining women and infants in the Deep South requiring perinatal and neonatal palliative and supportive care. *Southern Nursing Research Society 34th Annual Conference*; New Orleans, LA, 2020 Mar 18-20.

Freeman A, Dolma K, Rezonzew G, Qiao L, Lal CV. Germ-free mice are protected but humanized mice with diseased lung microbiome develop severe lung injury in hyperoxia. *J Investig Med*. 2020 Feb;68(2):626. Abstract no. 469.

Geagan N, Sharma KP, Tengsupakul S. Analysis of CSF multiplex PCR in a pediatric population. *J Investig Med*. 2020 Feb;68(2):648. Abstract no. 523.

Jafar B, Imran H, Marri P. Incidental finding of para-testicular epididymal rhabdomyoma in a 22-month-old African-American male. *J Investig Med*. 2020 Feb;68(2):511. Abstract no. 192.

Mao A, Gavan BS, Turner CW. An incidental case of transient erythroblastopenia of childhood. *J Investig Med*. 2020 Feb;68(2):517. Abstract no. 206.

Marri P, Imran H, Ilonze C, Al-Sayagh, Sayyad Z. Mesenchymal hamartoma of the liver with a unique cytogenetic abnormality t (15;19) (q15; q13.3). *Pediatr Blood Cancer*. 2020 Jun;67(S2):S135. Abstract no. 541.

Murray C, Ponnambalam AM. Duodenal Intramural hematoma causing acute pancreatitis and partial obstruction due to elective diagnostic endoscopy in a child. *J Investig Med*. 2020 Feb;8(2):491. Abstract no. 142.

Parker K, Zayek M, Eyal F, Bhat R, Rifai A. Bevacizumab for retinopathy in preterm infants: two-year developmental follow-up. *J Investig Med*. 2020 Feb;68(2):588. Abstract no. 382.

Pessia JL, Foust A, Custodio H. Reducing antibiotic usage in hospitalized culture negative young febrile infants: a quality improvement project. *J Investig Med*. 2020 Feb;68(2):649. Abstract no. 527.

Reno A, Sanchez O, Maertens P. Post-streptococcal posterior reversible encephalopathy syndrome. *J Investig Med*. 2020 Feb;68(2):653. Abstract no. 537.

Rifai A, Bowden B, Gulati R, Lawrence A. A retrospective review of the clinical course and different treatments used for ROP in infants born at 22-23 weeks. *American Academy of Ophthalmology*; 2019 Oct 12-15; San Francisco. p. 127. Abstract no. PO353.

Sharma KP, Hack-Prestinary IV, Vidal R. High-frequency oscillatory ventilation as a rescue for severe asthma crisis in a child. *Am J Respir Crit Care Med* 2020;201:A1921. Abstract no. A51. Available from: https://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2020.201.1_MeetingAbstracts.A1921.

Singhapakdi K, Batten L. Capnocytophaga endocarditis. *J Investig Med*. 2020 Feb;68(2):570. Abstract no. 341.

Singhapakdi K, Batten L. Transient post-operative left ventricular outflow tract obstruction mimicking hypertrophic cardiomyopathy. *J Investig Med*. 2020 Feb;68(2):570. Abstract no. 342.

Singhapakdi K, Preud'homme D. Using 24-hour ambulatory blood pressure monitoring to optimize the treatment of pediatric hypertension. *J Investig Med*. 2020 Feb;68(2):460. Abstract no. 65.

Smith T, Gulati R, Siow M, Batten L. Isolated right superior vena cava drainage into the left atrium: an uncommon cause of persistent hypoxia in a neonate. J Investig Med. 2020 Feb;68(2):445. Abstract no. 25.

Sprague R, Davis S, Isom M, Baker B, Miles HC. The Bridge Program: palliative and support care for women, infants, and families. 33rd Annual Gravens Conference on the Environment of Care for High Risk Newborns; 2020 Mar 4-7; Clearwater, FL.

Thai L, Gavrilita C, Sharma KP. Spontaneous renal vein thrombosis in a previously healthy child: a case report. J Investig Med. 2020 Feb;68(2):619. Abstract no. 460.

Thai L, Goslings S, Tengsupakul S. Decreasing antibiotic usage and standardizing the evaluation and treatment of children with suspected urinary tract infections: a quality improvement project. J Investig Med. 2020 Feb;68(2):683. Abstract no. 609.

Thai L, Sanchez O. Chronic cough gone bad: a 2-year-old with undiagnosed anomalous left coronary artery from the pulmonary artery (ALCAPA) that presented with severe cardiac dysfunction during outpatient work up for cough. J Investig Med. 2020 Feb;68(2):571. Abstract no. 345.

Todd AW, Roca Garcia MR. Pneumomediastinum secondary to cannabinoid hyperemesis syndrome in an adolescent with irritable bowel syndrome. J Investig Med. 2020 Feb;68(2):630. Abstract no. 480.

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

Gremse D. Invited speaker. Baby has a BRUE: what do you do? Pediatric Grand Rounds, Ochsner Medical Center; 2019 Oct 31; New Orleans, LA.

Kirk J, Crummie K, Pryor F, Lott A, Vidal R. Invited speakers. Child abuse panel on acute and long term needs of affected children in our community. Be Better, Be Greater, Be Extraordinary in Pediatric Care, Pediatric Symposium; 2020 Jan 17; Mobile, AL.

Marri P. Invited speaker. Long term survival issues in children with cancer. Be Better, Be Greater, Be Extraordinary in Pediatric Care, Pediatric Symposium; 2020 Jan 17; Mobile, AL.

Ponnambalam A. Invited speaker. Chronic constipation in children. University of South Alabama Med School Café; 2019 Nov 22; Mobile, AL.

V. NATIONAL PROFESSIONAL RECOGNITION

Stephanie Anderson: Member, American Academy of Pediatrics, Council on Children with Disabilities & Section on Developmental and Behavioral Pediatrics; Member, Society

for Developmental and Behavioral Pediatrics, Education Committee; Member, Alabama Interagency Autism Coordinating Council (AIACC) Standards of Practice Committee, Diagnostics and Health Work Group.

Lynn Batten: Member, Alpha Omega Alpha Medical Honor Society; Fellow, American College of Cardiology; Fellow, American Academy of Pediatrics; Member, American Heart Association; Member, Council on Medical Student Education in Pediatrics (COMSEP); Reviewer: *MedEd Portal*. Add: board member of Mobile Society of Mobile County

Roger Berkow: Member, American Academy of Pediatrics; American Pediatric Society, American Society of Pediatric Hematology/Oncology, Association of Pediatric Program Directors, Children's Oncology Group, Editor-in-Chief: AAP PREP-SA, Alabama task force on Pediatric Palliative and End of Life Care, Reviewer: Pediatrics, Pediatrics in Review, Pediatric Blood and Cancer.

Ramachandra Bhat: Member, American Academy of Pediatrics; Member, Southern Society of Pediatric Research; Member, American Medical Association. Reviewer: *American Journal of Perinatology, Pediatric Quality and Safety and Abstract reviewer for Pediatric Academic Societies Meeting 2019*.

Samar Bhowmick: Fellow, American Academy of Pediatrics; Member, American Association of Clinical Endocrinologists; Fellow, American College of Endocrinology; Member, American Diabetes Association; Member, The Endocrine Society; Member, The Lawson Wilkins Pediatric Endocrine Society. Reviewer: *Pediatrics, Clinical Pediatrics, Journal of Southern Medical Association, Asian Journal of Andrology*.

Kari Bradham: Member, Educational Scholars Program, Academic Pediatric Association; Fellow, American Academy of Pediatrics; Fellow, Alabama Early Hearing Detection; Fellow, Intervention Champion; Member, Children with Medical Complexity Collaborative Improvement and Innovation Network (CMC CoIIN). Review: *MedEd Portal*.

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

LaDonna Crews: Member, Academy of Breastfeeding Medicine; Member, Academic Pediatric Association; Fellow, American Academy of Pediatrics; Board, American Academy of Pediatrics, Alabama Chapter; 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).

Karen Crissinger: Member, American Academy of Pediatrics; Member, American Gastroenterological Association; Member, North American Society for Pediatric Gastroenterology, Hepatology, & Nutrition; Member, Society for Pediatric Research;

Member, Southern Society for Pediatric Research. Reviewer: *Journal of Pediatric Gastroenterology & Nutrition*.

Haidee Custodio: Fellow, American Academy of Pediatrics; CME Chair, Alabama Chapter, American Academy of Pediatrics; Member, Infectious Diseases Society of America; Member, Pediatric Infectious Diseases Society; Member, Association of Pediatric Program Directors. Reviewer: *Pediatric Academic Societies Meeting, Clinical Pediatrics, Global Pediatric Health*.

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

Kalsang Dolma: Fellow, American Academy of Pediatrics (AAP); Member, American Medical Association (AMA); Member, Trainees and Early Career Neonatologist (TECaN); Member, Vermont Oxford Network Data Base; Member, Indian Academy of Pediatrics; Member, American Thoracic Society (ATS)

Benjamin Estrada: Member, Alpha Omega Alpha Medical Honor Society; Fellow, American Academy of Pediatrics (AAP); Member, Association of American Medical Colleges (AAMC); Institutional Representative, COMSEP task force on curriculum development; Member, Council on Medical Student Education in Pediatrics (COMSEP); Member, Gold Humanism Honor Society; Member, Infectious Diseases Society of America (IDSA); Fellow of the Pediatric Infectious Diseases Society (PIDS); Member, Society for Healthcare Epidemiology of America (SHEA); Institutional Representative, Southern Society for Pediatric Research (SSPR); 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: Member, Advisory Board, Penelope House Domestic Violence Shelter; Fellow, American Academy of Pediatrics; Member, Critical Care Section, Society of Critical Care Medicine.

Brian Gavan: Fellow, American Academy of Pediatrics.

Cristina Gavrilita: Member, Alabama Baby Coalition; Fellow of the American Academy of Pediatrics; Member, Board of Directors, Ronald McDonald House; Member, Society of Critical Care Medicine; Member, Mobile Pediatric Society.

Sophia Goslings: 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, American Medical Association; Member, Indian Academy of Pediatrics; Member, Vermont Oxford National Data Base; Member, Society for Pediatric Research; Abstract Reviewer: *2019 Eastern Society of Pediatrics Research Meeting*. Reviewer: *Journal of Neonatology and Clinical Pediatrics*.

Charles Miles Harmon: Fellow, American Academy of Pediatrics; Member, American Academy of Pediatrics Section on Perinatal Pediatrics; Member, Palliative Care Research Cooperative Group; Member, Society for Pediatric Research; Member, Vermont Oxford National Data Base.

Chibuzo Ilonze: Fellow, American Academy of Pediatrics; Member, American Society of Pediatric Hematology-Oncology; Member, Children's Oncology Group (COG); Member, American Society of Hematology (ASH); Member, American Society of Clinical Oncology (ASCO).

Hamayun Imran: Fellow, 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; Speakers Bureau, Octapharma Pharmaceuticals.

Om Jha: Fellow, American Academy of Pediatrics; Member, American Medical Association; Member, Indian Academy of Pediatrics; Member, Vermont Oxford National Data Base. Reviewer: *Journal of Medical Devices*

Anne-Marie Kaulfers: Fellow, American Academy of Pediatrics; Member, American Diabetes Association; Member, The Endocrine Society; Member, The Medical

Association of the State of Alabama; Member, The Lawson Wilkins Pediatric Endocrine Society; Board, Southeastern Diabetes Education Services (SDES). Reviewer: *Clinical Pediatrics*.

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

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

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.

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

Keith Peevy: Member, Alabama Baby Coalition Task Force; Member; Member, Alabama Society of Neonatology; Member, Alabama State Medical Society; Member, Alpha Omega Alpha Medical Honor Society; Member, American Medical Association; Affiliate Member, European Society for Pediatric Research; Member, Medical Society of Mobile County; Member, Medical Association of the State of Alabama (MASA); Member, Southern Society for Pediatric Research; Member, Southeastern Association of Neonatologists, Inc.; Member, Southern District of Alabama Human Trafficking Task Force Committee.

Melody Petty: Member, American Academy of Pediatrics, Member, Alabama Chapter, 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

Anand Ponnambalam: Fellow, American Academy of Pediatrics (FAAP); Member, American College of Gastroenterology (ACG); Member, American Gastroenterological Association (AGA); 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: Member, Quality Improvement Coach and Faculty, Alabama Child Health Initiative Alliance (ACHIA); Fellow, American Academy of Pediatrics; Reviewer: *Clinical Pediatrics*.

Katrina Roberson-Trammell: Fellow, American Academy of Pediatrics; Board, Gulf Regional Early Childhood Services (GRECS); 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, American Academy of Pediatrics, Pediatrics Section on Hospital Medicine; Member, College of Surgeons and Physicians of Guatemala; Member, Mobile Pediatric Society.

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

Mukul Sehgal: Member, American Academy of Pediatrics; Member, Society of Critical Care Medicine; Reviewer: *Journal Club at PedsCCM.org*, Reviewer: Society of Critical Care Medicine Congress Abstracts, 2020.

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

Supatida Tengsupakul: Member, American Academy of Pediatrics; 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®).

Curtis Turner: Member, American Academy of Pediatrics; Member, Children's Oncology Group.

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

Richard Whitehurst: Member, Alabama Physicians Wellness Committee; Member, Alabama Society of Neonatology; Member, American Academy of Pediatrics; Member, American Medical Association; 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.

Felicia Wilson: Member, Prevention, Early Detection Subcommittee, Alabama Comprehensive Cancer Control Coalition; Fellow, American Academy of Pediatrics, Member Section on Hematology/Oncology; Member, American Society of Hematology; Board Member, Camp Rap-A-Hope; Member, Medical Association of the State of

Alabama; Member, Mobile Pediatric Society; Speaker's Bureau, Novartis Pharmaceuticals Corporation; Laboratory Medical Director, Sickle Cell Disease Association of America, Mobile Chapter; Member, Southern Society for Pediatric Research; Co-Chair, Hemoglobinopathy Subcommittee, State of Alabama Newborn Screening Advisory Committee; Member, Alabama Sickle Cell Oversight and Regulatory Commission; President, Aubreigh's Army Foundation 328 Board of Directors; Member, Children's Oncology Group.

Michael Zayek: Member, Alabama Society of Neonatology; Member, American Academy of Pediatrics (AAP); Member, Southeastern Association of Neonatologists, Inc.; 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. Lim and Amritphale.

Dr. Lim joined the faculty as Assistant Professor of Pediatrics in the Division of Pediatric Endocrinology in August 2020 after completing her fellowship at the University of Connecticut. Dr. Lim received her medical degree from the International Medical University in Kuala Lumpur, Malaysia and received her pediatric residency training at the Hurley Medical Center of Michigan State University in Flint, MI.

Dr. Amritphale joined the faculty as Assistant Professor of Pediatrics in the Division of General Pediatrics after completing her pediatric residency at the University of South Alabama. Dr. Amritphale received her medical degree from the Netaji Subhash Chandra Bose Medical College in Jabalpur, India. She completed her pediatric internship and second year of residency training at the Texas Tech University Health Sciences Center in El Paso, TX.

Drs. Lynn Batten, LaDonna Crews, Benjamin Estrada, Anna Foust, Anne-Marie Kaulfers, Melody Petty, and Daniel Preud'Homme were recognized by the USACOM Class of 2020 as Distinguished Faculty at the Honors Convocation. The twenty-third recipient of the Hollis J. Wiseman Award for Excellence in Pediatrics during the Pediatric Clerkship for the Class of 2020 was Maria Siow. Five of the graduating medical students in the USACOM Class of 2020 chose residencies in Pediatrics or combined Medicine-Pediatrics.

Of the pediatric housestaff completing residency training in 2017, nine entered private practice, two entered into fellowship training, and two remained in the department as Pediatric Chief Resident. The two graduating Medicine-Pediatrics residents entered private practice. Twelve new first year residents entered the pediatric residency program, and two first-year residents entered the combined Medicine-Pediatrics Residency Program. Drs. Laurie McCann and Phil Nehls completed their terms as Pediatric Chief Residents and Drs. Hannah Bahakel and Lauren Thai took over duties as the Pediatric Chief Residents for the 2020-2021 academic year.

The scholarly activities by the faculty of the Department of Pediatrics this year included 13 original articles, 10 book chapters, and 11 published abstracts. Departmental faculty were active in mentoring pediatric residents in clinical research. There were 18 abstracts presented at regional and national meetings by pediatric residents who were the first authors with senior authorship by members of the pediatric faculty.

Quality improvement efforts to advance patient care for the 2018-19 academic year included the renewal for the USA Department of Pediatrics as an ABP Portfolio Sponsor of Quality Improvement Activities. The University of South Alabama is the only medical school in the State of Alabama to approve a project as an ABP Portfolio Sponsor. Dr. Daniel Preud'Homme, who Chairs the Quality Improvement Team Leadership Committee, leads the departmental quality improvement portfolio project.

Dr. LaDonna Crews is the medical director for our site which participates in the Children with Medical Complexity Collaborative Improvement and Innovation Network (COIIN) that is a 10 state collaboration for the care of children with special healthcare needs. Grant funding for this project is administered through a center in Boston as a pilot project. The State of Alabama is one of the 10 states. Dr. Crews practice has the largest concentration of medically complex children of any clinic in Alabama was identified as a model practice for the coordination of care for medically complex children.

Facilities to support the BRIDGE program are expanding with the opening of the Supportive Care Unit at USA Children's and Women's Hospital. This 6 bed unit adjacent to the Pediatric Intensive Care Unit provides an environment for a higher level of medical care in an environment conducive to supporting the counseling and the BRIDGE network of staff to support families who have children with medical complexity.

The USA Department of Pediatrics congratulates Myria Mack-Williams, MD, FAAP and Haidee Custodio, MD, FAAP for organizing the Inaugural Diversity Dinner "Celebrating Cultural Diversity" in Mobile on December 11, 2019. LaTasha Williams, our Pediatric Residency Program Coordinator, was also instrumental in planning the event. Dr. Mack-Williams conceived of the event after a survey of the residents found gaps in understanding of cultural norms among patients and staff. Organizing a gathering allowing all to showcase their cultural traditions outside of work will increase awareness and respect of our uniqueness. Dr. Custodio added the event was an opportunity to "celebrate our similarities and differences."

The University of South Alabama Department of Pediatrics and the Office of Continuing Medical Education hosted the 2020 Pediatric Symposium, "Be Better, Be Greater, Be Extraordinary in Pediatric Care," that convened at the Strada Patient Care Center at the USA Children's and Women's Hospital campus on January 17, 2020. Dr. Haidee Custodio, organized and was the CME Chair for the event.

2019-2020
Summary of Scholarly Activities
Department of Pharmacology

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Alexeyev M, Geurts AM, Annamdevula NS, Francis CM, Leavesley SJ, Rich TC, Taylor MS, Lin MT, Balczon R, Knighten JM, Alvarez DF, Stevens T. Development of an endothelial cell-restricted transgenic reporter rat: a resource for physiological studies of vascular biology. *Am J Physiol Heart Circ Physiol*. 2020 Aug 1;319(2):H349-H358.

Al-Wabli RI, Almomen AA, Almutairi MS, Keeton AB, Piazza GA, Attia MI. New isatin-indole conjugates: synthesis, characterization, and a plausible mechanism of their in vitro antiproliferative activity. *Drug Des Devel Ther*. 2020 Feb 3;14:483-495.

Barnhill EC, Crucello A, Houserova D, King VM, Amin SV, Roberts JT, Zambrano ME, DeMeis JD, Dahmer DJ, Ijaz Z, Barchie AA, Watters BC, Prusak JE, Dean MA, Holton NW, Ferreira-Filho JA, Sant'Ana AS, Spector MP, Borchert GM. Characterization of novel small RNAs (sRNAs) contributing to the desiccation response of *Salmonella enterica* serovar Typhimurium. *RNA Biol*. 2019 Nov;16(11):1643-1657.

Devadoss D, Long C, Langley RJ, Manevski M, Nair M, Campos MA, Borchert G, Rahman I, Chand HS. Long noncoding transcriptome in chronic obstructive pulmonary disease. *Am J Respir Cell Mol Biol*. 2019 Dec;61(6):678-688.

ElHady AK, Shih SP, Chen YC, Liu YC, Ahmed NS, Keeton AB, Piazza GA, Engel M, Abadi AH, Abdel-Halim M. Extending the use of tadalafil scaffold: development of novel selective phosphodiesterase 5 inhibitors and histone deacetylase inhibitors. *Bioorg Chem*. 2020 May;98:103742.

Emmanouilidi A, Casari I, Gokcen Akkaya B, Maffucci T, Furic L, Guffanti F, Brogginini M, Chen X, Maxuitenko YY, Keeton AB, Piazza GA, Linton KJ, Falasca M. Inhibition of the lysophosphatidylinositol transporter ABCB1 reduces prostate cancer cell growth and sensitizes to chemotherapy. *Cancers (Basel)*. 2020 Jul 23;12(8):2022.

Favreau PF, Deal JA, Harris B, Weber DS, Rich TC, Leavesley SJ. Label-free spectroscopic tissue characterization using fluorescence excitation-scanning spectral imaging. *J Biophotonics*. 2020 Feb;13(2):e201900183.

Giroud-Gerbetant J, Joffraud M, Giner MP, Cercillieux A, Bartova S, Makarov MV, Zapata-Pérez R, Sánchez-García JL, Houtkooper RH, Migaud ME, Moco S, Canto C. A reduced form of nicotinamide riboside defines a new path for NAD⁺ biosynthesis and acts as an orally bioavailable NAD⁺ precursor. *Mol Metab*. 2019 Dec;30:192-202.

Hayat F, Migaud ME. Nicotinamide riboside-amino acid conjugates that are stable to purine nucleoside phosphorylase. *Org Biomol Chem*. 2020 Apr 15;18(15):2877-2885.

Hewes JL, Lee JY, Fagan KA, Bauer NN. The changing face of pulmonary hypertension diagnosis: a historical perspective on the influence of diagnostics and biomarkers. *Pulm Circ*. 2020 Feb 4;10(1):2045894019892801.

Kasukurthi MV, Zhang D, Housevera M, Huang Y, Tan S, Ma B, Li D, Benton R, Lin J, Li S, Borchert GM, Huang J. SURFr: algorithm for identification and analysis of ncRNA-derived RNAs. 2019 IEEE International Conference on Bioinformatics and Biomedicine (BIBM); 2019 Nov 18-21; San Diego, CA. p. 1504-1507. Available from: <https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=8983074>.

Kim SJ, Cheresh P, Jablonski RP, Rachek L, Yeldandi A, Piseaux-Aillon R, Ciesielski MJ, Ridge K, Gottardi C, Lam AP, Pardo A, Selman M, Natarajan V, Kamp DW. Mitochondrial 8-oxoguanine DNA glycosylase mitigates alveolar epithelial cell PINK1 deficiency, mitochondrial DNA damage, apoptosis, and lung fibrosis. *Am J Physiol Lung Cell Mol Physiol*. 2020 May 1;318(5):L1084-L1096.

Kulikova V, Shabalin K, Nerinovski K, Yakimov A, Svetlova M, Solovjeva L, Kropotov A, Khodorkovskiy M, Migaud ME, Ziegler M, Nikiforov A. Degradation of extracellular NAD⁺ intermediates in cultures of human HEK293 cells. *Metabolites*. 2019 Nov 29;9(12):293.

Lee JY, Francis CM, Bauer NN, Gassman NR, Stevens T. A cancer amidst us: the plexiform lesion in pulmonary arterial hypertension. *Am J Physiol Lung Cell Mol Physiol*. 2020 Jun 1;318(6):L1142-L1144.

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Lydon EC, Henao R, Burke TW, Aydin M, Nicholson BP, Glickman SW, Fowler VG, Quackenbush EB, Cairns CB, Kingsmore SF, Jaehne AK, Rivers EP, Langley RJ, Petzold E, Ko ER, McClain MT, Ginsburg GS, Woods CW, Tsalik EL. Validation of a host response test to distinguish bacterial and viral respiratory infection. *EBioMedicine*. 2019 Oct;48:453-461.

Ma B, Li C, Wu Z, Huang Y, van der Zijp-Tan AC, Tan S, Li D, Fong A, Basetty C, Borchert GM, Benton R, Wu B, Huang J. Muscle fatigue detection and treatment system driven by internet of things. *BMC Med Inform Decis Mak*. 2019 Dec 23;19(Suppl 7):275.

Ma B, Wu Z, Li S, Benton R, Li D, Huang Y, Kasukurthi MV, Lin J, Borchert GM, Tan S, Yang M, Huang J. A SVM-based algorithm to diagnose sleep apnea. 2019 IEEE International Conference on Bioinformatics and Biomedicine (BIBM); 2019 Nov 18-21; San Diego, CA. p. 1556-1560. Available from: <https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=8983201>.

Makarov MV, Harris NW, Rodrigues M, Migaud ME. Scalable syntheses of traceable ribosylated NAD⁺ precursors. *Org Biomol Chem*. 2019 Oct 14;17(38):8716-8720.

Mattox TE, Chen X, Maxuitenko YY, Keeton AB, Piazza GA. Exploiting RAS nucleotide cycling as a strategy for drugging RAS-driven cancers. *Int J Mol Sci*. 2019 Dec 24;21(1):141.

Migaud M, Gandotra S, Chand HS, Gillespie MN, Thannickal VJ, Langley RJ. Metabolomics to predict antiviral drug efficacy in COVID-19. *Am J Respir Cell Mol Biol*. 2020 Sep;63(3):396-398.

Piazza GA, Ward A, Chen X, Maxuitenko Y, Coley A, Aboeella NS, Buchsbaum DJ, Boyd MR, Keeton AB, Zhou G. PDE5 and PDE10 inhibition activates cGMP/PKG signaling to block Wnt/ β -catenin transcription, cancer cell growth, and tumor immunity. *Drug Discov Today*. 2020 Aug;25(8):1521-1527.

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II. PUBLISHED ABSTRACTS

Annamdevula NS, Alexeyev M, Leavesley S, Guerts AM, Francis CM, Rich T, Taylor M, Lin M, Balczon R, Alvarez DF, Stevens T. Generation of an endothelial-restricted transgenic reporter rat reveals vascular microheterogeneity with age-dependent loss of VE-cadherin expression. *Am J Resp Crit Care Med*. 2020;201:A5399. Available from: https://www.atsjournals.org/doi/pdf/10.1164/ajrccmconference.2020.201.1_MeetingAbstracts.A5399.

Borchert G. *Salmonella* sRNAs drive the decision between active stress resistance and persist cell dormancy. National Science Foundation Division of Molecular and Cellular Biosciences 1st Annual CAREER Awardee Conference; 2019 Oct 28-29; Alexandria, VA. Abstract no. 11.

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Langley RJ, Daly GT, Pastukh VM, Aggen CZ, Groark SC, Francis CM, Houserova D, Simmons JD, Borchert GM, Kutcher ME, Gillespie MN. Characterization of proinflammatory mitochondrial DNA damage associated molecular patterns in plasma from human patients by deep sequencing. Am J Respir Crit Care Med. 2020;201:A2616. Available from: https://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2020.201.1_MeetingAbstracts.A2616

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Yuzefovych LV, Pastukh VM, Richards WO, Rachek LI. Effect of bariatric surgery on plasma mtDNA DAMPs levels, inflammation and insulin sensitivity. Obesity Week; 2019 Nov 3-7; Atlanta, GA. Abstract no. 144. Available from: <https://tos.planion.com/Web/User/AbstractDet?ACCOUNT=TOS&ABSID=23346&CO NF=OW2020&ssoOverride=OFF&CKEY=>.

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

Borchert GM. Invited speaker. Fully mining RNA seq. National Science Foundation Division of Molecular and Cellular Biosciences 1st Annual CAREER Awardee Conference; 2019 Oct 29; Alexandria, VA.

Gillespie MN. Invited speaker. Mitochondrial DNA repair drugs. United Therapeutics; 2020 Jan 27; Silver Springs, MD.

Langley RJ. Invited speaker. Genetic associations with endotypes. International Science Foundation Stephen F. Lowry Colloquia; 2019 Nov 7; Boston, MA.

Sobol RW. Invited speaker. High throughput next generation CometChip platform for assessment of fish and human genome stability following exposure to harmful algal toxins. 10th US Symposium on Harmful Algae; 2019 Nov 8; Orange Beach, AL.

Sobol RW. Invited speaker. Temporal regulation of base excision repair protein complex assembly in cancer cells. University of North Carolina Charlotte Department of Biological Sciences; 2019 Nov 22; Charlotte, NC.

Sobol RW. Invited speaker. Uncovering mechanisms of BER regulation in human cells. National Institutes of Health DNA Repair Videoconference Series; 2020 Jun 16; Bethesda, MD.

V. NATIONAL PROFESSIONAL RECOGNITION

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

Bauer, N. Featured on annual ATS Early Career Professionals #WomanCrushWednesday via Twitter. 2020 Jun 10. <https://t.co/MnvSf2DvL7>. Reviewer, RFA HL-20-029 Limited Competition NHLBI. Reviewer, NHLBI Physician Scientist Early Stage Investigator R01 Special Emphasis Panel. Standing member, Respiratory Integrative Biology and Translational Research study section 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*. Member, American Thoracic Society Pulmonary Circulation Assembly Representative to the ATS PhD Working Group. Member, ATS PC Assembly Executive Committee.

Borchert, GM. Invited to represent faculty researchers at the Alabama Supercomputer Authority Board of Directors meeting on supercomputer importance to academic research and teaching. Dr. Borchert gave a short presentation explaining how his lab utilizes the

Alabama Supercomputer in their work and how it is used in his bioinformatics courses. Reviewer, NSF GRFP Virtual Panelist, NSF IUSE Virtual Panelist. Member, PEER J editorial board. Reviewer, *Nucleic Acids Research*, *RNA Biology*, *DNA Repair Scientific Reports*, *Cancer Medicine*.

Clark, J. Reviewer, *Cancer Drug Resistance*, *DNA Repair*, *PLOS ONE*.

Fang, Q. Reviewer, *Nucleic Acid Research*, *Mutation Research*, *Life Sciences*, *Aging*, *Biomolecules*, *Cells*, *Journal of Neuro-Oncology*, *Cancer Drug Research*, *LJMS*.

Gillespie, MN. Co-Director and Executive Committee member, UAB Clinical and Translational Sciences Award. Site lead, UAB CCTS sub-award. Member, Alabama Rare Disease Advisory Council. Member, NIH Prevention and early treatment of acute lung injury Protocol Review Panel. Grant reviewer, Center for Clinical and Translational Sciences. Reviewer, *Nucleic Acids Research*, *American Journal of Physiology Lung Cell and Molecular Physiology*, *Cell Metabolism*.

Keeton, AB. Editorial board member, *Current Drug Targets*. Reviewer, *European Medical Journal*, *Current Drug Targets*, *PLOS ONE*.

Koczor, C. Reviewer, *PLOS ONE*, *DNA Repair*, *Journal of Neuro-Oncology*, *Archives of Oral Biology*, *Mutagenesis*.

Langley, RJ. Reviewer, *American Journal of Physiology – Lung Cellular and Molecular Physiology*, *BMJ-Open*, *Critical Care*, *DNA Repair*, *Frontiers in Physiology*, *Infection and Drug Resistance*, *Intensive Care Medicine Experimental*, *Molecular Genetics and Metabolism Reports*, *PLOS ONE*, *Scientific Reports*, *Journal of Gerontology: Biological Sciences*, *Journal of the American Medical Association*, *Journal of Proteome Research*, *Science Translational Medicine*. Member, ATS Critical Care Committee.

Li, J. Editor, *Medicine*, *Journal of Vaccines*, *Immunology and Immunopathology*. Reviewer, *Journal of Neuro-Oncology*, *DNA Repair*, *Life Sciences*, *PLOS ONE*, *Cells*, *Computational and Structural Biotechnology Journal*.

Migaud, ME. Invited editor for special theme edition, *Molecules*. Invited editor for special edition, NAD⁺ Metabolism as a Novel Target Against Infection, *Frontiers in Molecular Biosciences*. Grant reviewer, European Commission-Chemistry Panel. Editorial board member, *Frontiers*, *DMPI*, *Molecules*. Reviewer, *DMPI*, *American Chemical Society Journal*, *Royal Chemical Society Journal*. Chair, Local Section of the American Chemical Society.

Piazza, GA. Fellow, National Academy of Inventors.

Rachek, LI. Editorial board member, *Open Endocrinology Journal*, *New Journal of Science*, *Journal of Pharmaceutical Sciences and Experimental Pharmacology*. Review board member, *Nutrients*. Reviewer, *Nutrients*, *Antioxidants*, *Journal of Physiology and*

Pharmacology, Molecules, International Journal of Environmental Research and Public Health, Experimental Physiology, Cardiovascular Drugs and Therapy, Cancer Medicine, Cells.

Rich, TC. Grant reviewer, AHA TPA Cardiac Basic Sciences 1, NSF. Reviewer, *Optics and Lasers in Engineering, MICRO-Chemical Journal, Cellular Signaling, Agriculture Water Management.*

Ruchko, M. Reviewer, *Amino Acids, Journal of Endocrinology.*

Sobol, RW. Chair, Cancer Etiology Study Section, National Institutes of Health. External reviewer, *Fondation pour la Recherche Médicale.* Reviewer, Cell and Molecular Biology-1 (CBM-1) peer review panel of the 2020 Lung Cancer Research Program for the Department of Defense Congressionally Directed Medical Research Programs, Belgium Fund for Scientific Research. Ad hoc reviewer, 2019/10 ZES1 JAB-D (SF) 1 (NIEHS P42). Invited editor, *Proceedings of the National Academy of Sciences of the USA.* Associate Editor, *DNA Repair.* Editor, Special Edition “DNA Repair & Cancer”, *DNA Repair.* Member, *The Open Toxicology Journal* Editorial Advisory Board, *Journal of Carcinogenesis & Mutagenesis* Editorial Board, *American Journal of Cancer Research* Associate Editorial Board, *Mutation Research – Fundamental and Molecular Mechanisms of Mutagenesis* Editorial Board, *PLOS ONE* Editorial Board, *Molecular & Cellular Oncology* Editorial Board, *MedCrave Online Journal of Toxicology* Editorial Board, *Environmental and Molecular Mutagenesis* Editorial Board. Reviewer, *Biomolecules, Nucleic Acids Research, Biochemistry, ALTEX, PNAS, DNA repair, YABBI, FASEB J, Mutagenesis, Scientific Reports, eLife, Advanced Genetics, Aging Cell, Cancer Research, Cells, Communications Biology, Haematologica, JBC, JMB, PLOS ONE.*

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

VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS

Our Department’s roster was stable this year; there were no retirements or recruitments of new faculty. But, as enumerated below, advances have been made and accomplishments were recognized along a number of fronts.

In terms of our educational mission, Professor Abu-Bakr Al-Mehdi, M.D., Ph.D. - a perennial recipient of the Red Sash and other forms of recognition for excellence in teaching - was awarded Tenure this year. This is a particularly important achievement, not only in light of the lofty requirements necessary to attain this status, but also because Dr. Al-Mehdi was Tenured in the Educator Track. This is clear evidence of his sustained and innovative contributions to the College’s undergraduate medical curriculum and reflects and unwavering commitment by the Department and the College to nurturing a cadre of “master educators” to serve our instructional programs.

Other Department faculty also were recognized for their accomplishments in teaching. For example, Associate Professor Glen Borchert was selected as “most influential professor” by USA Student Scholar-Athletes. Dr. Borchert’s laboratory trained almost 30 students last year, many of whom were undergraduates.

The Department’s research programs remained robust and productive, despite the interruption and inconveniences imposed by the Pandemic. Our funding portfolio expanded, 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. Among multiple examples of this type of “team science”, a group of USA investigators led by Professor Tom Rich, Ph.D., secured large-scale funding to acquire a state-of-the-art microscope system that will benefit many here on our campus. 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, as exemplified by the recent appointment of Associate Professor Natalie Bauer, Ph.D., to a National Institute of Health review committee dealing with grants for research on lung diseases. Department faculty also review manuscripts submitted for publication to all notable scientific journals relevant to their areas of expertise. In terms of community-type service, one example is Dr. Borchert’s role as a faculty advisor to the USA Student Sustainability and USA Food Recovery Network. The COVID Pandemic also presented opportunities for other types of service contributions by Department faculty. For example, Dr. Bauer was a member of the University Research Ramp-up Committee charged with developing policies to ensure that a safe return to research work after the COVID crisis abated. Dr. Sobol and others also participated on the USA Task Force to develop in-house clinical testing capacity for Sars-CoV-2 and COVID-19.

2019-2020
Summary of Scholarly Activities
Department of Physiology & Cell Biology

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Alexeyev M. Mitochondrial DNA: the common confusions. *Mitochondrial DNA A DNA Mapp Seq Anal*. 2020 Mar;31(2):45-47.

Alexeyev M. On separation and coding capacity of mtDNA strands. *Protein Sci*. 2020 May;29(5):1070.

Alexeyev M, Geurts AM, Annamdevula NS, Francis CM, Leavesley SJ, Rich TC, Taylor MS, Lin MT, Balczon R, Knighten JM, Alvarez DE, Stevens T. Development of an endothelial cell-restricted transgenic reporter rat: a resource for physiological studies of vascular biology. *Am J Physiol Heart Circ Physiol*. 2020 Aug 1;319(2):H349-H358.

Baldwin BM, Angus-Barker GV, Joseph S, Figarola MS, Cohen MV, Malozzi CM, Kar J. Fully automated, MRI-based left-ventricular contractility analysis in breast cancer patients following chemotherapy. *IEEE Signal Process Med Biol Symp*. 2019 Dec;2019:1-6. Available from: <https://ieeexplore.ieee.org/document/9037829> (Subscription required).

Cohen MV, Downey JM. What are optimal P2Y₁₂ inhibitor and schedule of administration in patients with acute coronary syndrome? *J Cardiovasc Pharmacol Ther*. 2020 Mar;25(2):121-130.

Favreau PF, Deal JA, Harris B, Weber DS, Rich TC, Leavesley SJ. Label-free spectroscopic tissue characterization using fluorescence excitation-scanning spectral imaging. *J Biophotonics*. 2020 Feb;13(2):e201900183.

Haldar B, Hamilton CL, Solodushko V, Abney KA, Alexeyev M, Honkanen RE, Scammell JG, Cioffi DL. S100A6 is a positive regulator of PPP5C-FKBP51-dependent regulation of endothelial calcium signaling. *FASEB J*. 2020 Feb;34(2):3179-3196.

He X, Feng S, Hawkins C, Lawley L, Fan W, Xu Y, Zha XM, Fang J. G protein-coupled receptor 68 increases the number of B lymphocytes. *Am J Blood Res*. 2020 Apr 15;10(2):15-21.

Hewes JL, Lee JY, Fagan KA, Bauer NN. The changing face of pulmonary hypertension diagnosis: a historical perspective on the influence of diagnostics and biomarkers. *Pulm Circ*. 2020 Feb 4;10(1):2045894019892801.

Kar J, Baldwin BM, Cohen MV, Joseph S, Chowdhry A, Figarola MS, Malozzi C. A case-study in MRI-based automated detection of left-ventricular cardiotoxicity in a breast cancer patient after chemotherapy treatment. *Society for Cardiovascular Magnetic Resonance*

(SCMR): Case of the Week. 2019;19-01. Available from: <https://scmr.org/page/COW1901>.

Kar J, Cohen MV, McQuiston SA, Figarola MS, Malozzi CM. Can post-chemotherapy cardiotoxicity be detected in long-term survivors of breast cancer via comprehensive 3D left-ventricular contractility (strain) analysis? *Magn Reson Imaging*. 2019 Oct;62:94-103.

Kar J, Cohen MV, McQuiston SA, Figarola MS, Malozzi CM. Fully automated and comprehensive MRI-based left-ventricular contractility analysis in post-chemotherapy breast cancer patients. *Br J Radiol*. 2020 Jan;93(1105):20190289.

Kozhukhar N, Alexeyev MF. Limited predictive value of TFAM in mitochondrial biogenesis. *Mitochondrion*. 2019 Nov;49:156-165.

Kozhukhar N, Mitta S, Alexeyev MF. Unusual mtDNA control region length heteroplasmy in the COS-7 cell line. *Genes (Basel)* 2020 May 30;11(6):607.

Lee JY, Fagan KA, Zhou C, Batten L, Cohen MV, Stevens T. Biventricular diastolic dysfunction thrombocytopenia and red blood cell macrocytosis in experimental pulmonary arterial hypertension. *Pulm Circ*. 2020 May 26;10(2):2045894020908787.

Lee JY, Francis CM, Bauer NN, Gassman NR, Stevens T. A cancer amidst us: the plexiform lesion in pulmonary arterial hypertension. *Am J Physiol Lung Cell Mol Physiol*. 2020 Jun 1;318(6):L1142-L1144.

Lee KJ, Pieltz CG, Andrews JF, Mann E, Nagel ZD, Gassman NR. Defective base excision repair in response to DNA damaging agents in triple negative breast cancer. *PLoS One*. 2019 Oct 9;14(10):e0223725.

Lee KJ, Mann E, da Silva LM, Scalici J, Gassman NR. DNA damage measurements within tissue samples with Repair Assisted Damage Detection (RADD). *Curr Res Biotechnol*. 2019 Nov;1:78-86.

McFarland SJ, Weber DS, Choi CS, Lin MT, Taylor MS. Ablation of endothelial TRPV4 channels alters the dynamic Ca²⁺ signaling profile in mouse carotid arteries. *Int J Mol Sci*. 2020 Mar 22;21(6):2179.

Patel G, Xu N, Nguyen A, Alvarez DF, Fredberg JJ, Stevens T, Tambe DT. Mechanical signaling in a pulmonary microvascular endothelial cell monolayer. *Biochem Biophys Res Commun*. 2019 Nov 5;519(2):337-343.

Patel NG, Nguyen A, Xu N, Ananthasekar S, Alvarez DF, Stevens T, Tambe DT. Unleashing shear: role of intercellular traction and cellular moments in collective cell migration. *Biochem Biophys Res Commun*. 2020 Feb 5;522(2):279-285.

Renema P, Hardy KS, Housley N, Dunbar G, Annamdevula N, Britain A, Spadafora D, Leavesley S, Rich T, Audia JP, Alvarez DF. cAMP signaling primes lung endothelial cells to activate caspase-1 during *Pseudomonas aeruginosa* infection. *Am J Physiol Lung Cell Mol Physiol*. 2020 May 1;318(5):L1074-L1083.

Renema P, Kozhukhar N, Pastukh V, Spadafora D, Paudel SS, Tambe DT, Alexeyev M, Frank DW, Stevens T. Exoenzyme Y induces extracellular active caspase-7 accumulation independent from apoptosis: modulation of transmissible cytotoxicity. *Am J Physiol Lung Cell Mol Physiol*. 2020 Aug 1;319(2):L380-L390.

Scott AM, Jager AC, Gwin M, Voth S, Balczon R, Stevens T, Lin MT. Pneumonia-induced endothelial amyloids reduce dendritic spine density in brain neurons. *Sci Rep*. 2020 Jun 9;10:9327.

Voth S, Gwin M, Francis CM, Balczon R, Frank DW, Pittet JF, Wagener BM, Moser SA, Alexeyev M, Housley N, Audia JP, Piechocki S, Madera K, Simmons A, Crawford M, Stevens T. Virulent *Pseudomonas aeruginosa* infection converts antimicrobial amyloids into cytotoxic prions. *FASEB J*. 2020 May 15;34(7):9156-9179.

Wagener BM, Anjum N, Christiaans SC, Banks ME, Parker JC, Threet AT, Walker RR, Isbell KD, Moser SA, Stevens T, Alexeyev MF, Audia JP, Richter W, Hardy KS, Saleh LA, Morgan C, Pittet JF. Exoenzyme Y contributes to end-organ dysfunction caused by *Pseudomonas aeruginosa* pneumonia in critically ill patients: an exploratory study. *Toxins (Basel)* 2020 Jun 4;12(6):369.

Yang J, Qiu L, Strobel M, Kabel A, Zha XM, Chen X. Acid-sensing ion channels contribute to type III adenylyl cyclase-independent acid sensing of mouse olfactory sensory neurons. *Mol Neurobiol*. 2020 Jul;57(7):3042-3056.

II. PUBLISHED ABSTRACTS

Annamdevula NS, Alexeyev M, Leavesley S, Guerts AM, Francis CM, Rich T, Taylor M, Lin M, Balczon R, Alvarez DF, Stevens T. Generation of an endothelial-restricted transgenic reporter rat reveals vascular microheterogeneity with age-dependent loss of VE-Cadherin expression. *Am J Respir Crit Care Med*. 2020;201:A5399. Available from: https://www.atsjournals.org/doi/abs/10.1164/ajrccmconference.2020.201.1_MeetingAbstracts.A5399.

Baldwin B, Cohen MV, Joseph S, Poorsala T, McQuiston SA, Malozzi C, Kar J. A novel tool for MRI-based automated left-ventricular chamber quantification and 3D strain analysis. 2020 Society for Cardiovascular Magnetic Resonance 23rd Annual Scientific Sessions; 2020 Feb 12-15; Orlando, FL. Abstract no. P240. Available from: <https://www.eventscribe.com/2020/SCMR/fsPopup.asp?efp=SkJBUE9PSFI2NzY0&PosterID=253025&rnd=0.1699191&mode=posterinfo>.

Baldwin B, Kakish R, Revere C, Poosarla T, Zhong X, McQuiston S, Malozzi CM, Cohen

MV, Kar J. Application of deep learning for fully automated left-ventricular chamber quantification and three-dimensional strain analysis. 2020 42nd Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC) in conjunction with the 43rd Annual Conference of the Canadian Medical and Biological Engineering Society; 2020 Jul 20-24. Abstract no. MoAT14.219.

Baldwin BM, Joseph S, Zhong X, Kakish R, Revere C, Poosarla T, Malozzi CM, McQuiston S, Cohen MV, Kar J. A deep learning approach to left-ventricular chamber quantification for fully automated three dimensional strain analysis in cardiotoxicity. American Heart Association Basic Cardiovascular Sciences Scientific Sessions 2020; 2020 Jul 27-30. Abstract no. 224-2020. Available from: <https://bcvs.apprisor.org/epsView.cfm?Cu90dphW5U8xxJMfLDucYL5IUCF6j6yH7SiBbkpJPwB0vojoUBzPC8J695r7NOIVncOnBqwozs%3D>.

Cohen MV, Yang XM, Downey JM. All caspase-1-dependent myocardial infarction occurs in the first 10 minutes of reperfusion. *Circulation*. 2019 Nov 11;140(Suppl 1):A12336. Available from: https://www.ahajournals.org/doi/10.1161/circ.140.suppl_1.12336.

Daly G, Houserova D, Francis MC, Andrews J, Langley RJ, Pastukh VM, Bass HW, Borchert GM, Gillespie MN. The genome-wide landscape of oxidative base damage in hypoxia; potential role in metabolic reprogramming in chronic lung disease. *FASEB J*. 2020 Apr;34(S1):04056. Available from: <https://doi.org/10.1096/fasebj.2020.34.s1.04056>.

deWeever A, Gwin MS, Voth SB, Balczon R, Stevens T. Unraveling the autofluorescence properties of pulmonary amyloids: prelude to a point-of-care detection method in critically ill patients. *Am J Respir Crit Care Med*. 2020;201:A5274. Available from: https://www.atsjournals.org/doi/abs/10.1164/ajrccmconference.2020.201.1_MeetingAbstracts.A5274.

Durdanovic I, Scott A, Lin MT. *Pseudomonas aeruginosa* elicits amyloid production and tau aggregation in the brain. 1st Annual Center for Neuroscience Initiative Symposium & Retreat; 2020 Feb 28; Auburn, AL.

Gwin MS, Voth SB, Paudel SS, Onanyan N, Darby A, Francis CM, Stevens T. Essential role for gamma secretase activating protein (GSAP) in infection-elicited endothelial proteinopathy. *Am J Respir Crit Care Med*. 2020;201:A5275. Available from: https://www.atsjournals.org/doi/abs/10.1164/ajrccmconference.2020.201.1_MeetingAbstracts.A5275.

He X, Hawkins C, Lawley L, Xu Y, Zha XM, Fang J. Loss of Gpr68 enhances hematopoietic stem cell function during aging. *Blood*. 2019 Nov 13;134(Suppl 1):3719.

He X, Hawkins C, Lawley L, Wunderlich M, Mizukawa B, Zha XM, Halene S, Fang J. The GPR68/BCL2 axis remodels metabolism in AML by relocating calcium. *Blood*. 2019 Nov 13;134(Suppl 1):2661.

Knigheten J, Philips V, Taylor M, Townsley M, Francis CM. Mitochondria amplify TRPV4-dependent calcium dynamics within the pulmonary microvascular endothelium. *FASEB J*. 2020 Apr;34(S1):05650. Available from: <https://doi.org/10.1096/fasebj.2020.34.s1.05650>

Knigheten JM, Rayburn T, Sankey T, Dinerman A, Fonseca A, Francis CM. Image analysis enables quantitation of metastatic risk in pancreatic intraductal papillary mucinous neoplasms. *FASEB J*. 2020 Apr;34(S1):05635. Available from: <https://doi.org/10.1096/fasebj.2020.34.s1.05635>

Lin MT, Jager AC, Greene M, Andrew-Fortune A, Scott AM. Bacterial pneumonia elicits structural damage to neurons. *Neuroscience* 2019; 2019 Oct 19-23; Chicago, IL. Abstract no. 389.06. Available from: <https://www.abstractsonline.com/pp8/#!/7883/presentation/63562>

Paudel SS, Tambe D, Stevens T. Substrate stiffness acts as a permeability-inducing mechanical stimulus in pulmonary arterial hypertension. *Am J Respir Crit Care Med*. 2020;201:A2084. Available from: https://www.atsjournals.org/doi/abs/10.1164/ajrccm-conference.2020.201.1_MeetingAbstracts.A2084.

Renema P, Spadafora D, Kozhukhar N, Pastukh V, Alexeyev M, Stevens T. A non-canonical role for caspase-7 in infection-induced transmissible cytotoxicity. *Am J Respir Crit Care Med*. 2020;201:A2613. Available from: https://www.atsjournals.org/doi/abs/10.1164/ajrccm-conference.2020.201.1_MeetingAbstracts.A2613.

Sayner S, Choi CS. Loss of AC10 impairs neutrophil recruitment into the lung following *Pseudomonas aeruginosa* infection. *FASEB J*. 2020 Apr;34(S1):02246. Available from: <https://doi.org/10.1096/fasebj.2020.34.s1.02246>.

Sosnowski JS, Engeriser L, Weber DS. Teaching health system science (HSS) and preventative care in medical school curriculum via a virtual patient continuity clinic. Association of American Medical Colleges 2020 Southern Group on Educational Affairs Annual Spring Meeting; 2020 Mar 12-14; Atlanta, GA.

Stevens R, Balczon R, Weintraub S, Zhou C, Koloteva A, Renema P, Gwin M, Voth SB, Stevens T, Lee J. Carbonic anhydrase IX is shed from pulmonary microvascular endothelial cells and increases in the plasma of rat and human pneumonia subjects. *Am J Respir Crit Care Med*. 2020;201:A7851. Available from: https://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2020.201.1_MeetingAbstracts.A7851.

Stevens R, Kash M, Stevens T, Lee J. KD025, a ROCK2 specific inhibitor, increases oxidative phosphorylation and inhibits aerobic glycolysis, intracellular pH, migration and network formation in pulmonary microvascular endothelial cells in a ROCK2 independent manner. *Am J Respir Crit Care Med*. 2020;201:A7850. Available from: https://www.atsjournals.org/doi/pdf/10.1164/ajrccm-conference.2020.201.1_MeetingAbstracts.A7850

Voth SB, Gwin MS, Darby A, Onanyan N, Francis CM, deWeever A, Stevens T. Deletion of endothelial gamma secretase activating protein (GSAP) protects innate amyloid function during virulent infection. *Am J Respir Crit Care Med*. 2020;201:A5280. Available from: https://www.atsjournals.org/doi/abs/10.1164/ajrccm-conference.2020.201.1_MeetingAbstracts.A5280.

Voth SB, Madera K, Gwin MS, Francis CM, deWeever A, Pittet J, Wagener B, Moser S, Stevens T. Cytoprotective amyloids function in endothelial trained immunity and biofilm prevention. *Am J Respir Crit Care Med*. 2020;201:A5254. Available from: https://www.atsjournals.org/doi/abs/10.1164/ajrccm-conference.2020.201.1_MeetingAbstracts.A5254

Voth SB, Zhou C, Simmons A, Gwin MS, Francis CM, deWeever A, Stevens T. Heterogeneity in production of infection-elicited amyloids among endothelial phenotypes: implications for the source of infection. *Am J Respir Crit Care Med*. 2020;201:A5276. Available from: https://www.atsjournals.org/doi/abs/10.1164/ajrccm-conference.2020.201.1_MeetingAbstracts.A5276.

Xu N, Ayers L, Stevens T, Tambe DT. Activation of store-operated Ca²⁺ entry increases the heterogeneity of cellular forces within a confluent endothelial monolayer. *Am J Respir Crit Care Med*. 2020;201:A5539. Available from: https://www.atsjournals.org/doi/abs/10.1164/ajrccm-conference.2020.201.1_MeetingAbstracts.A5539.

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

Sayner S. Invited speaker. Loss of AC10 impairs neutrophil recruitment into the lung following *Pseudomonas aeruginosa* infection. Experimental Biology 2020; 2020 Apr 5; San Diego, CA.

Stevens T. Invited speaker. Infectious proteinopathy of the lung. Brown University; 2019 Nov 6; Providence, RI.

Stevens T. Invited speaker. Infectious proteinopathy: from an endothelial innate immune surveillance to a transmissible cytotoxicity. University of Virginia; 2019 Dec 6; Charlottesville, VA.

Zha XM. Invited speaker. Molecular mechanisms underlying acidosis-induced spine remodeling and neuronal injury, University of Missouri; 2019 Oct 20; Kansas City, MO.

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*. Associate Editor, *Mitochondrial DNA*. Reviewer, *International*

Journal of Molecular Sciences, Molecular Therapy and Mitochondrial DNA. Grant Reviewer, NIH Study Section ZCA1 SRB K J2, NIH ZCA1 SRB-K M1, NIH ZCA1 SRB-K (O1), NIH ZGM1 RCB-9 (SC) SCORE Special Emphasis Panel, Natan Shock Center Pilot Award, Italian Ministry of Health.

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, Oxidative Medicine and Cellular Longevity*.

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

Natalie R. Gassman: Member, Environmental Mutagenesis and Genomics Society; Publication and Policy Committee, Environmental Mutagenesis and Genomics Society. Editorial Board, *Mutation Research Reviews*. Reviewer, *DNA Repair, Cancer Letters, PLoS One, Toxicology Letters, Environmental and Molecular Mutagenesis, Preventive Medicine, Environmental Research, Mutation Research Reviews, International Journal of Molecular Sciences, Radiation Research, Chemosphere, Journal of Molecular Biology*.

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*.

Sarah L. Sayner: Member, American Thoracic Society. Reviewer, *American Heart Association, American Journal of Physiology Lung Cell and Molecular Physiology, American Journal of Pathology, PLoS One*.

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 Brown University COBRE External Advisor.

Mark S. Taylor: Member, Gulf Coast Physiological Society, American Heart Association, American Physiological Society. Reviewer, *American Journal of Physiology, Nature, British Journal of Pharmacology, Journal of OB-GYN, Journal of Cellular and Molecular Medicine*.

David S. Weber: Member, American Physiological Society, American Heart Association. Editorial Board Member, *International Journal of Molecular Sciences*. Reviewer, *Journal of the American Heart Association, Hypertension, Journal of Molecular and Cellular*

Cardiology, Laboratory Investigation, Journal of Cardiovascular Pharmacology, Asian Journal of Medicine and Health, International Journal of Molecular Sciences, Nutrients, Arteriosclerosis, Thrombosis and Vascular Biology, Cardiology and Angiology: an International Journal of Molecular Sciences, Chinese Journal of Physiology, Marine Drugs, Current Medicinal Chemistry.

Xiangming Zha: Member, Society of Neuroscience. Editorial Board, *PLoS One, Molecular Brain, Frontiers in Cellular Biochemistry*. Reviewer, *Nature Communications, Molecular Therapy, Science Signaling, Molecular Brain*, International Stroke Conference 2020 Abstracts.

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. Stevens received two awards from the National Institutes of Health. One award was an R01 entitled "Lung endothelial A β in infectious proteinopathy". The second award was a P01 Diversity Administrative Supplement award for graduate student Althea deWeever entitled "Soluble adenylyl cyclases in pulmonary endothelial permeability". Dr. Mike Lin received an NIH R01 Administrative Supplement award entitled "Nosocomial pneumonias impair cognitive function".

Dr. Natalie Gassman received the Breast Cancer Research Foundation of Alabama Innovation Award for her project with Dr. Michelle Schuler entitled "Blockage of CHK1 and EGFR signaling in triple negative breast cancer to enhance anti-tumor efficacy". Dr. Gassman and Dr. Sarah Sayner both received the 2020 USA Center for Lung Biology Murray Bander Faculty Development Award. Dr. Gassman's research focuses on how electronic cigarettes cause lung injury and offers new information about the potentially compromised immune function in electronic cigarette users. Dr. Sayner's research seeks to understand why men are more susceptible to acute respiratory distress syndrome (ARDS) than women. Dr. Gassman was also the recipient of the 2019 Mayer Mitchell Award for Excellence in Cancer Research from the Mitchell Cancer Institute. A \$10,000 award is given each year to a promising scientist working in cancer research. Dr. Gassman was also recognized for her research by the USA National Alumni Association.

Dr. Amy Nelson from the University of Southern California has joined our department as an Assistant Professor. Her research focuses on Alzheimer's disease. Dr. Nelson has been awarded an NIH R00 grant entitled "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".

Penny Cook, department manager retired January 1, 2020 after 40 years of dedicated service. Her professionalism and hard work helped the department to excel within the College of 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 as well as Respiratory, Digestive, Endocrine/Reproductive, Musculoskeletal and Neuroscience/Behaviors modules for M2 students. Griffin Wright, a graduate student in Dr. Gassman's lab, received the USA College of Medicine Predoctoral Fellowship Award. Griffin is working with Dr. Gassman to study the response of DNA repair pathways following environmental exposures.

The faculty are actively involved in teaching within the Basic Medical Sciences Graduate Program. Dr. Gassman was course director for IDL560 "Cancer Biology". Dr. Sayner was course director of IDL630 "Lung Biology" and Dr. Stevens was course director of IDL631 "Lung Pathobiology". Many of the faculty taught extensively in various graduate courses. Drs. Stevens and Weber both received the Red Sash designation at the Honors Convocation held on May 8, 2020. Dr. Stevens also received the COM "Best Pre-Clerkship Educator for 2020" award. Dr. Phoibe Renema, a postdoctoral fellow in Dr. Stevens lab, was featured in the Med School Watercooler for "A day in the life of a postdoctoral research fellow" in January 2020.

Drs. Michael Francis and Mike Lin served as judges for the Mobile County Public School Regional Science and Engineering Fair. Dr. Francis also participated in the National Intercollegiate Bioethics Debate Competition.

Several faculty delivered lectures to professional societies and meetings this year. Dr. Stevens was an invited speaker at Brown University. Dr. Stevens was also an invited speaker at the University of Virginia. His seminar was entitled "Infectious proteinopathy: from an endothelial innate immune surveillance to a transmissible cytotoxicity". Dr. Zha was an invited speaker at the University of Missouri. His seminar was entitled "Molecular mechanisms underlying acidosis-induced spine remodeling and neuronal injury".

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.

2019-2020
Summary of Scholarly Activities
Department of Psychiatry

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

II. PUBLISHED ABSTRACTS

Burns B, Jackson T, Brooks WB. Is it time to add sleep studies to mental health workups? Alabama Psychiatric Physicians Association Spring Conference; 2020 Apr 3-5; Miramar Beach, FL. Abstract no. 20-1-9. Available from: http://www.alabamapsych.com/wp-content/uploads/2020/04/APPA-2020-Spring-poster-abstracts_web.pdf.

Loftin C, Jackson T, Brooks W. Anxiety as the presenting symptom for a neurological disorder: a case of Stiff Person Syndrome. Alabama Psychiatric Physicians Association Fall Conference; 2019 Oct 4-5; Birmingham, AL. Abstract no. 19-2-23. Available from: <http://www.alabamapsych.com/wp-content/uploads/2019/09/APPA-Fall-poster-abstracts-2019.pdf>.

Malone J, Lee S, Brooks B, Brooks WB. Mirtazapine induced nightmares in an adult female. Alabama Psychiatric Physicians Association Spring Conference; 2020 Apr 3-5; Miramar Beach, FL. Abstract no. 20-1-14. Available from: http://www.alabamapsych.com/wp-content/uploads/2020/04/APPA-2020-Spring-poster-abstracts_web.pdf.

Narahari P, Marshall M, Brooks B, Chavers E. Efficacy and cost analysis of Assisted Outpatient Treatment (AOT) program for severely mentally ill patients in a small Alabama community. Mobile Bay Psychiatric Society; 2019 Oct 10; Mobile, AL.

Sosnowski J, Engeriser JL, Weber D. Teaching health system science (HSS) and preventative care in medical school curriculum via a virtual patient continuity clinic. 2020 Southern Group on Educational Affairs Regional Conference; 2020 Mar 11-14; Atlanta, GA.

Ousley T, Scott J, Narahari P. Medication madness: aripiprazole-induced psychosis. Psych Congress 2019; 2019 Oct 3-6; San Diego, CA. Available from: <https://www.psychcongress.com/posters/medication-madness-aripiprazole-induced-psychosis>.

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

Engeriser JL. Invited speaker. Benzodiazepines and the diagnosis and treatment of anxiety disorders. 2019 Prescribing and Pharmacology of Controlled Drugs; 2019 Nov 23; Birmingham, AL.

Engeriser JL. Invited speaker. The neurobiology of addiction. 3rd Annual Conference on Ethics and Opioids; 2019 Nov 1; Mobile, Alabama.

Narahari P. Invited speaker. Efficacy and cost analysis of Assisted Outpatient Treatment (AOT) program for severely mentally ill patients in a small Alabama community. Mobile Bay Psychiatric Society; 2019 Oct 10; Mobile, AL.

V. NATIONAL PROFESSIONAL RECOGNITION

VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS

Departmental Educational Accomplishments:

The Department's 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 five years. The residency and Child Fellowship continue with maximum years of accreditation. In the spring of 2020, the Department's Addiction Fellowship achieved full accreditation, the first in Alabama and one of the first in the country. It will be interdisciplinary with Internal Medicine. The Department is in the process of recruiting its first fellows.

Clinical Programs:

The Department maintained psychiatric services at Student Health two afternoons per week, with demand for services continued to increase as the stigma associated with mental issues continues to lessen among the student body. All undergraduate and graduate students at USA are eligible to receive psychiatric services. This service utilizes PGY3 residents, who are directly supervised by the Department Chair, who serves as the attending physician.

Education:

The Department continues with its strong emphasis on education. The NBME and Step II scores continue to be well above average when compared to national norms as outlined above. The students' satisfaction with the second year neuro-behavioral 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 fold. This success is primarily due to the quality of the faculty teaching combined with the direct involvement in the successful treatment of psychiatric patients. The faculty also serve as effective role models and mentors for the students.

At the graduate level, the residency has seen a remarkable increase in the number of qualified applicants. The residency continues to be reviewed without any citations. The Child Fellowship likewise continues with maximum years of accreditation and welcomes back its former new program director, Eddie Finn. As one measure of the success of the program, the vast majority of graduates from both the residency and fellowship remain in Alabama, which has a severe shortage of psychiatrists, especially child psychiatrists. As

mentioned above, we are proud to begin our Addiction Fellowship in July, 2020. It will use an interdisciplinary approach with Internal Medicine to educate our fellows in comprehensive and collaborative approaches for the prevention and treatment of addiction disorders.

Research

Dr. Billett, Research Director for the Department, in collaboration with Dr. Mark Gillespie of Pharmacology, together with faculty from Nursing and Psychology, has shown that mitochondrial DNA is released during psychological stress in a sub-population of normal subjects. This release of mitochondrial DNA is similar, but not to the same degree, as measured is in patients suffering from physical trauma. Released mitochondrial DNA in response to trauma results in oxidative damage to lung tissue and serves as a predictor of recovery from the trauma incident. Its release under psychological stress could lead to unique drug development for mitigating the psychological reactions associated with post-traumatic stress disorder and other stress conditions. Studies are now underway with bipolar patients, acutely hospitalized, to determine their mitochondrial DNA levels. Grant funding will be sought during the coming academic year, pending the results of these preliminary studies. Other research efforts are focused on case reports and small clinical case studies involving students and residents to acquaint them with research methods in psychiatry. Most of this work is presented at regional and state medical and/or psychiatric meetings.

Clinical Activity

Our unique partnership with AltaPointe has brought together academic and clinical programs to enhance the comprehensive mental health services available to patients from early childhood to the elderly. 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. Added to this has been the merger of the MARC program in Mobile with AltaPointe, thereby expanding services to those with cognitive disabilities. In addition, AltaPointe is one of the first programs in the country to initiate collaborative care, which is psychiatric services integrated with primary care services in the same clinic. Studies have shown improved patient compliance and treatment outcome using this model, especially for patients suffering from chronic medical illnesses such as diabetes complicated with depression, as well as those with chronic mental illness who are much more likely to also suffer from serious medical problems. The first clinic opened in Bayou La Batre last year. An additional clinic started in west in Mobile this year with further expansion planned. AltaPointe has also added the region's first and only transcranial magnetic stimulation (TMS) treatment program for patients with treatment resistant depression. As mentioned above, the Department continues to offer psychiatric services to undergraduate and graduate USA students through the Student Health Clinic. The Chair, through his private outpatient practice, continued to offer psychiatric services to medical students, residents, and fellows, plus USA faculty, staff and their families, in addition to adult patients in the surrounding region.

Leadership

Dr. Luke Engeriser continued as President of the Alabama Psychiatric Physicians Association. In that capacity he has been instrumental in obtaining support from the Alabama Physicians Health Program to modify the disclosure form for physicians renewing their medical licenses each year. The change would require physicians only to disclose those psychiatric disorders that are currently active and would impair their ability to practice medicine. This change is in keeping with standards across the country and with legislation related to disclosing disabilities. A PGYIII resident finished her “fellowship” experience, working with the leadership of the American Psychiatric Association (APA) to improve access to psychiatric services, especially in rural communities. An adjunct faculty serves as Vice-Speaker to the APA Assembly.

2019-2020
Summary of Scholarly Activities
Department of Radiology

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Kar J, Cohen MV, McQuiston SA, Figarola MS, Malozzi CM. Fully automated and comprehensive MRI-based left-ventricular contractility analysis in post-chemotherapy breast cancer patients. Br J Radiol 2020 Jan;93(1105):20190289.

Kar J, Cohen MV, McQuiston SA, Figarola MS, Malozzi CM. Can post-chemotherapy cardiotoxicity be detected in long-term survivors of breast cancer via comprehensive 3D left-ventricular contractility (strain) analysis? Mag Reson Imaging. 2019 Oct; 62:94-103.

Mao A, Rana H N, Steffler B, Figarola S. Post-cesarean section abdominal wall endometrioma. Cureus. 2020 Aug 27;12(8):e10088.

Patel GK, Perry JB, Abdul-Rahim O, Frankel AE, Cameron D, Taylor W, Rocconi RP, Abushahin L, Nelson C, Singh AP, Khushman M. Epidermal growth factor receptor-activating mutation(E746_T751>VP) in pancreatic ductal adenocarcinoma responds to erlotinib, followed by epidermal growth factor receptor resistance-mediating mutation (A647T): a case report and literature review. J Cancer Res Ther. 2020 Jul-Sep;16(4):950-954.

Surinach A, Phung T, Abdul-Rahim O, Khushman M. Prolonged response to liposomal irinotecan in a patient with stage IV pancreatic/bile duct cancer previously treated with FOLFIRINOX and gemcitabine plus nab-paclitaxel. Curr Oncol. 2020 April;27(2):e222-e225.

II. PUBLISHED ABSTRACTS

Baldwin B, Cohen M, Joseph S, Poosarla T, McQuiston S, Malozzi C, Kar J. A novel tool for MRI-based automated left-ventricular chamber quantification and 3D strain analysis. Society for Cardiovascular Magnetic Resonance 23rd Annual Scientific Sessions; 2020 Feb 12-15; Orlando, FL. Abstract no. P240.

Baldwin BM, Joseph S, Zhong X, Kakish R, Revere C, Poosarla T, Malozzi CM, McQuiston S, Cohen MV, Kar J. A deep learning approach to left-ventricular chamber quantification for fully automated three dimensional strain analysis in cardiotoxicity. American Heart Association Basic Cardiovascular Sciences Scientific Sessions 2020; 2020 Jul 27-30. Abstract no. 224-2020. Available from: <https://bcvs.apprisor.org/epsView.cfm?Cu90dplhW5U8xxJMfLDucYL5lUCF6j6yH7SiBbkpJPwB0vojoUBzPC8J695r7NOlVncOnBqwozs%3D>.

Baldwin B, Kakish R, Revere C, Poosarla T, Zhong X, McQuiston S, Malozzi CM, Cohen MV, Kar J. Application of deep learning for fully automated left-ventricular chamber

quantification and three-dimensional strain analysis. 2020 42nd Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC) in conjunction with the 43rd Annual Conference of the Canadian Medical and Biological Engineering Society; 2020 Jul 20-24. Abstract no. MoAT14.219.

Ceballos D, Blanco D, Koichi A, Abdul-Rahim O. Biopsy-gauge size, patient, and lesional factors affecting iatrogenic pneumothorax rates for lung biopsies. Society of Interventional Radiology 45th Annual Scientific Meeting; 2020 Mar 28-Apr 2; Seattle, WA. p. 229. Abstract no. 523.

Manne A, Mulekar MS, Escobar DE, Prodduturvar P, Fahmawi Y, Henderson P, Abdul-Rahim O, Hussain Z, Liles S, Fonseca A, Howard JH, Mneimneh W, Gilbert R, Pai SG, Nelson C, Khushman MM. Compliance to the American Association for the Study of Liver Diseases (AASLD) guidelines and its impact on overall survival in patients with hepatocellular carcinoma. J Clin Oncol. 2020 May 25;38(15 Suppl):e16609. Abstract no. e16609. Available from: https://ascopubs.org/doi/abs/10.1200/JCO.2020.38.15_suppl.e16609

Rana H, Wiggins C, Abdul-Rahim O, Patten P, Hussain Z. Giant hemangioma: when to treat and how to do it. Society of Interventional Radiology 45th Annual Scientific Meeting; 2020 Mar 28-Apr 2; Seattle, WA.

Smith I, Feldman DE, Deveney MJ, McQuiston SA, Steffler BA, Wood BK, Patten PP. Implementing ACR-TIRADS to improve thyroid nodule reporting and management. Radiologic Society of North America (RSNA) 105th Scientific Assembly and Annual Meeting. November 30 – December 6, 2019;2019-Nov 30-Dec 6; Chicago, IL. Abstract no. SSA19-06. Available from: <https://meeting.rsna.org/program/index.cfm>.

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

V. NATIONAL PROFESSIONAL RECOGNITION

Osama Abdul-Rahim. Reviewer, *Journal of Abdominal Radiology*. Abstract Reviewer, 2020 *Society of Interventional Radiology* Annual Meeting.

Shikha Gupta. Reviewer, *American College of Radiology* for Nuclear Medicine and PET/CT program accreditation.

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*.

Samuel McQuiston. Question Writer, *Rad Exam* (American College of Radiology in-training exam). Angoff committee member, *American Board of Radiology*.

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

VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS

Dr. Osama Abdul-Rahim remains the section chief of interventional radiology and is a member of the cancer committee for the Mitchell Cancer Institute. In addition to his regular teaching duties, Dr. Abdul Rahim has provided grand round lectures for multiple departments on the types of IR services he can provide. He is the lead interventional radiologist for our ESIR teaching program (early specialization in interventional radiology). Once again Dr. Abdul-Rahim has provided leadership for trauma level one minimally invasive services, which has experienced significant growth over the last year. Dr. Abdul-Rahim developed and implemented protocols for IR section for COVID19 safety.

Dr. Gregg Delgado joined the department of diagnostic radiology in January 2019. He served as the section chief of musculoskeletal radiology, a subspecialty area required for ACGME residency training and accreditation. He gave regular resident lectures in musculoskeletal radiology. He served as the radiology representative to the Emergency Department Committee. He went from a full FTE to prn faculty in December 2019.

Dr. Shikha Gupta is chief of the nuclear medicine section, and has excelled 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 cancer. She is working with the department of Surgical Oncology, on a quality initiative to standardize structured reporting on pancreas protocol CT scans and to measure its impact on consensus among surgeons. These skills and expertise allow her to work closely with the MCI oncologists, hepatologists and surgeons to provide a team approach to oncology diagnosis and treatment. Dr. Gupta chairs the Radiation Safety Committee and is a member of the COM Curriculum Committee and Medical School Admission Committee. She is co-director for the radiology rotation for M3 and M4 medical students. Practice based initiatives that she has introduced include the initiation of GA 68 Dototate PET scans to diagnosis and stage neuroendocrine tumors. She is also certified to perform Xofigo injections for evaluating disseminated osseous metastases.

Dr. Zeiad Hussain remains an integral member of our department as a fellowship trained interventional radiologist. He provides outstanding minimally invasive services for our patients. His additional skillset working alongside Dr. Rahim has contributed to department growth with increased clinical volume and billing. He has assisted in outreach and education to further clinical referrals. In addition, Dr. Hussain is providing lectures on interventional radiology to our residents and teaching in the IR rotation. He is an essential part of our ESIR (early specialization in interventional radiology) education program.

Dr. Ian Malcolm remains section chief of chest radiology, a subspecialty area required for ACGME residency training and accreditation. He gives regular resident lectures in

cardiothoracic radiology. He continues to work with an interdisciplinary team at MCI to establish a high-resolution CT lung cancer screening program.

Dr. Brett Martin is an energetic and engaged section chief of neuroradiology. As a fellowship-trained neuroradiologist, Dr. Martin provides resident lectures, an updated curriculum, and advanced imaging protocols to the department. In addition, he is the associate program director for the radiology residency program. He gives regular lectures on neuroradiology to our residents and leads the multidisciplinary radiology and neuroradiology weekly meetings, where he presents advanced imaging to students, residents, and faculty. He was the principal advisor for four medical students, with one finishing a peer-reviewed ACR Case in Point. Dr. Martin's service contributions include chairing the program evaluation committee and MRI safety committee for the department of radiology. He also serves on the trauma and ER peer review committees and the stroke steering committee for the USA Health System.

Dr. Samuel McQuiston, associate professor, provides invaluable contributions to the education, service and leadership in the department of radiology in addition to his service. As program director for the department of radiology, Dr. McQuiston continues to provide excellent guidance and leadership for the residents, ensuring that the residency program meets all of the ACGME standards required for accreditation. He is very active in mentoring medical students, serves as faculty advisor for the College of Medicine radiology interest group, and has received the Red Sash award recognizing his outstanding teaching. Dr. McQuiston's scholarly activity includes numerous publications and presentations as well as grand rounds and workshops for multiple clinical departments. He has been a major contributor to many service activities including numerous committee assignments for the department and College of Medicine.

Dr. Margaret Mowry remains a great asset to the department. In particular, she provides expertise in interpreting studies and teaching in many areas where we have a faculty shortfall including breast imaging, body imaging, and PET-CT. As our only body fellowship trained radiologist, she provides resident lectures in this area. She also continues to provide contributions to MRI teaching and supervision. She is one of our radiology representatives for MCI Oncology Tumor Boards.

Dr. Elizabeth Park, our fellowship trained breast imager, has played a key role in her contributions to the department and women's imaging center over the last year. She continues to provide excellent clinical service and resident education. The clinical volume and billing has increased significantly over the last year under Dr. Park's leadership. She is part of the multidisciplinary breast cancer treatment team made up of USA surgeons and oncologists. Dr. Park's teaching contributions include providing a monthly mammography lecture to the residents. She was voted Teacher of the Year by the senior radiology residents. She is also a member of the departmental program evaluation committee and clinical competency committee for the residency program. Dr. Park was a speaker at the USA annual breast conference last fall.

Dr. Patrick Patten joined our department as an Assistant Professor in the summer of 2019. He graduated from our USA radiology residency program in 2018 and then completed a fellowship in interventional radiology at UAB in Birmingham, Alabama. Dr. Patten contributes to both interventional and diagnostic radiology. He has assisted in outreach and education to further clinical referrals. In addition, Dr. Patten provides lectures on interventional radiology to our residents and teaching in the IR rotation. He is an essential part of our ESIR (early specialization in interventional radiology) education program.

Dr. Todd Standley is an outstanding fellowship trained pediatric radiologist with an added Certificate of Additional Qualification. His contributions to the pediatric radiology department at Children's and Women's hospital have been vital in clinical service and resident education. As one of the few subspecialty certified pediatric radiologists in the region, Dr. Standley provides higher level interpretations on all pediatric imaging studies performed in the USA Health System. Dr. Standley is the pediatric radiology faculty advisor at the monthly Pediatric Tumor Board and Children with Special Needs conferences. He is the director for the pediatric radiology rotation for the M3 and M4 medical students. He is also a member of and advisor for the Quality Improvement Committee for the radiology department.

Dr. Brad Steffler provides excellence in teaching, education and clinical service to the radiology department as the chief of 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. He provides monthly resident lectures in body imaging and has been mentoring a resident research project regarding retrograde urethrography. His administrative duties include a three-year term on the CME Committee for the College of Medicine.

Our senior residents matched in prestigious and highly competitive fellowship programs that include the University of Alabama at Birmingham, Emory University in Georgia, VCU Health in Virginia, Brown Breast Radiology in Rhode Island and UMMC in Mississippi. We have also had great success in our residency recruitment, with five new residents who joined us on July 1, 2020.

Our five new residents are: Dr. Jose “Alex” Alejandro Bregni Ibarra, who graduated from the Universidad Francisco Marroquín Facultad de Medicina, and completed his preliminary year in Internal Medicine at the University of South Alabama; Dr. Thomas Brim, who graduated from the Alabama College of Osteopathic Medicine, and completed his preliminary year in Internal Medicine at the University of South Alabama; Dr. Brice Burke, who graduated from the American University of Antigua College of Medicine and completed his preliminary year in Internal Medicine at the University of South Alabama; Dr. Austen Lawrence, who graduated from the Western University of Health Sciences College of Osteopathic Medicine of the Pacific, and completed his preliminary year in Internal Medicine at Bingham Memorial; Dr. Frank Weng, who graduated from St. George's University School of Medicine and completed a transitional year at Brandon Regional Hospital/UCA Healthcare.

We have also had many successes in the department overall this year. The department has continued to increase our volumes and charges, with average monthly charges more than doubling since 2017 and average monthly collections increasing 165% since 2016. We have successfully contracted new after hour services with Gulf Coast Imaging, a private practice group in South Mississippi, to provide increased clinical services and decreased turnaround times.

We have successfully recruited a new division chief for musculoskeletal radiology. Dr. Rosemary Klecker received her fellowship training in musculoskeletal radiology at Brigham and Women's Hospital in Boston, MA. She is an associate professor, with her prior academic appointment at the Cleveland Clinic Hospitals from 2006-2018. We have improved faculty scholarly activity since the previous academic year with multiple publications, funded research projects, as well as national and regional presentations. Radiology remains a leader in the Cerner implementation and ACR Clinical Decision Support thanks to the outstanding service of key people including Greg House our head of IT and technical directors Tessie Johnson, Eduardo Rel and Joey Baggett. Our Director of Operations, Barry Porter provided outstanding support in recruitment, credentialing and department finances. In June 2020, Jennifer Russell was appointed to the Director of Operations position. Our Assistant Administrators Alice Johnson and Elizabeth Kirby also greatly facilitate meeting the radiology departments' needs as we continue to grow. A new 1.5 Tesla Philips Ingenia became operational. We continue our space planning collaboration with University Hospital administration as well as plans for additional imaging services. We have begun new and innovative clinical practices/protocols in multiple areas including nuclear medicine, neuroradiology and musculoskeletal radiology.

In addition, we had our first graduate of the accredited Early Specialization in Interventional Radiology training program. We continue working towards final accreditation by the National Accreditation Program for Breast Centers. As a new breast imaging service, a Faxitron localization system is now being used in conjunction with the breast surgeons, allowing for improved billing and more efficient patient scheduling. Another new departmental service is UroNav MRI/US mapping, providing urologists intraoperative guidance for prostate cancer treatment. We anticipate further growth in the coming year with our new faculty hires and look forward to new opportunities to advance our clinical service, teaching and research missions.

As with many other departments, our department spent much time responding to the needs of the Covid-19 pandemic. The faculty and residents worked as a team in meeting the new demands. The department chair worked with the residency program director to organize new teaching methods for our residents that would maintain appropriate social distancing and cultivate learning in a safe environment.

2019-2020
Summary of Scholarly Activities
Department of Surgery

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Butts CC, Holmes JH, Carter JE. Surgical escharotomy and decompressive therapies in burns. *J Burn Care Res.* 2020 Feb 19;41(2):263-269.

Deshmukh SK, Srivastava SK, Poosarla T, Dyess D, Holliday NP, Singh AP, Singh S. Inflammation, immunosuppressive microenvironment and breast cancer: opportunities for cancer prevention and therapy (review). 2019 Oct; 7, *Ann Transl Med.* 2019 Oct;7(20):539.

Gamboa AC, Ethun CG, Switchenko JM, Lipscomb J, Poultides GA, Grignol V, Howard JH, Gamblin TC, Roggin KK, Votanopoulos K, Fields RC, Maithel SK, Delman KA, Cardona K. Lung surveillance strategy for high-grade soft tissue sarcomas: chest x-ray or CT scan? *J Am Coll Surg.* 2019 Nov;229(5):449-457.

Huett W, Roy J, Rutigliano F, Hunter J, Rider P, Grimm L. Loop ileostomy creation: an educational and instructional video [video]. University of South Alabama College of Medicine, producer. Surgical Council on Resident Education (Score). 2020 Jan. Available from: <https://www.surgicalcore.org/Search.aspx?q=Loop%20Ileostomy%20Creation>.

Mudyadzo TA, Hunter JD 3rd, Rider PF, Richards WO. An evaluation of robotic ventral hernia repair. *Am Surg.* 2020 Jan 1;86(1):e45-e46.

Rieske RR, Kutcher ME, Audia JP, Carter KT, Lee YL, Tan YB, Gillespie MN, Capley GC, Tatum DM, Smith AA, Duchesne JC, Simmons JD. Analysis of plasma products for cellular contaminants: comparing standard preparation methods. *J Am Coll Surg.* 2020 Apr;230(4):596-602.

Rutigliano F, Edwards W, Heslin R, Huett W, Roy J, Rider P, Hunter J, Grimm L. Stapled Loop Ileostomy Reversal: an Educational and Instructional Video [video]. University of South Alabama College of Medicine, producer. Surgical Council on Resident Education (Score). 2020 Jan. Available from: <https://www.surgicalcore.org/Search.aspx?q=Stapled%20Loop%20Ileostomy%20Reversal>

Yuzefovych LV, Pastukh VM, Ruchko MV, Simmons JD, Richards WO, Rachek LI. Plasma mitochondrial DNA is elevated in obese type 2 diabetes mellitus patients and correlates positively with insulin resistance. *PLoS One.* 2019 Oct 10;14(10):e0222278.

II. PUBLISHED ABSTRACTS

Ficarino H, Caposole M, Mullen P, Butts C, Brevard S, Simmons J, Bright A. Video presentation of a disruptive innovation: autologous cell solution for skin grafting in the

burn patient. Southeastern Surgical Congress 2020 Annual Scientific Meeting; 2020 Feb 8-11; New Orleans, LA. p. 28. Abstract no. C5.

Roy J, Hensley L, Sheehan K, Kaelin T, Liles J, Howard J. Center of excellence designation is associated with melanoma referral patterns. Southeastern Surgical 2020 Annual Scientific Meeting; 2020 Feb 8-11; New Orleans, LA. p. 96. Abstract no. P 319.

Manne A, Escobar DE, Proddaturvar P, Henderson P, Abdul-Rahim O, Hussain Z, Liles S, Fonseca A, Howard JH, Mneimneh W, Gilbert R, Pai SG, Khushman MM. The adherence to The American Association for The Study of Liver Disease (AASLD) guidelines in treating patients with hepatocellular carcinoma: institutional experience. J Clin Oncol. 2020 Feb 1;38(4 Suppl):496. Abstract no. 496.

Ricks W, Alemayehu H. Bullet aspiration after a gunshot wound in a child: a case report and literature Review. Southeastern Surgical Congress 2020 Annual Scientific Meeting; 2020 Feb 8-11; New Orleans, LA. p. 82. Abstract no. P 209.

Roberts CE, Ricks WA, Roy JD, Hartin CW, Alemayehu H. Testicular workup for ischemia and suspected torsion in pediatric patients and resource utilization. 15th Annual Academic Surgical Congress; 2020 Feb 4-6; Orlando, FL. p. 16. Abstract no. 13.02.

Robert CE, Ricks WA, Roy JD, Hartin CW, Alemayehu H. Streamlining the care of pediatric patients with simple cutaneous abscesses. 15th Annual Academic Surgical Congress; 2020 Feb 4-6; Orlando, FL. p. 95. Abstract no. 101.07.

Roy J, Hensley L, Sheehan K, Kaelin T, Liles J, Howard J. Center of excellence designation is associated with melanoma referral patterns. Southeastern Surgical 2020 Annual Scientific Meeting; 2020 Feb 8-11; New Orleans, LA. p. 96. Abstract no. P 319.

Rutigliano FR, Heslin R, Rider P, Hunter J, Grimm L. Improving rectal cancer outcomes through regionalization of surgical care. Dis Colon Rectum. 2020 Jun;63(6):e407-e408. Abstract no. P1579.

Liu SS, Patel K, Dyess DL, Kahn A. Primary smooth muscle tumor of breast: an unusual case presentation. Am J Clin Pathol. 2019 Oct;152(Suppl 1):S41.

Walls J, Hardy WJ, Alemayehu H. Laparoscopic inguinal hernia repair in a 941-gram extremely low birth weight infant. Southeastern Surgical Congress 2020 Annual Scientific Meeting; 2020 Feb 8-11; New Orleans, LA. p. 69. Abstract no. P 112.

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

Alemayehu H. Invited speaker. Pitfalls in mentorship - trainee perspective. Southeastern Surgical Annual Meeting 2020; 2020 Feb 8; New Orleans, LA.

Bright A. Invited speaker. Challenges in burns General Surgery Resident Conference / Grand Rounds, Kessler Air Force Base; 2019 Nov 20; Biloxi, MS.

Bright A. Invited speaker. Modern burn care – applications for primary care. Tennessee Osteopathic Medical Association; 2020 Apr 5; Knoxville, TN.

Dyess L. Invited speaker. Continuing education breast disease. Poarch Creek Tribal Health Clinic; 2019 Nov 28; Atmore, AL.

Liles S. Invited speaker. Bringing world class cancer care to Baldwin County. Presentation to the MCI Advisory Board. USA-Fairhope Campus MCI Surgical Oncology; 2019 Nov 6; Fairhope AL.

Rider P. Invited speaker. Update on rectal cancer staging, Alabama Cancer Registrars Association, 40th Annual Educational Conference; 2019 Oct 10; Birmingham, AL

Rider P. Invited speaker. Commission on cancer-what's going on. Alabama Cancer Registrars Association; 40th Annual Educational Conference; 2019 Oct 10; Birmingham, AL.

Rider P. VE309 General Surgery IV – Oncology, American College of Surgeons Clinical Congress; 2019 Oct 20; San Francisco, CA.

Simmons J. Invited speaker. Research in progress. 2019 American College of Surgeons (ACS) Trauma Quality Improvement Program (TQIP®) Annual Scientific Meeting and Training; 2019 Nov 16; Dallas, TX.

Simmons J. Invited speaker. When the bleeding hasn't stopped, but the blood products have. Eastern Association for the Surgery of Trauma 33rd Annual Scientific Assembly; 2020 Jan 16; Orlando, FL.

V. NATIONAL PROFESSIONAL RECOGNITION

Rider P. VE309 General Surgery IV – Oncology, American College of Surgeons Clinical Congress 2019 Oct 20; San Francisco, CA.

VI. BRIEF SUMMARY OF ACTIVITIES AND PROGRESS

Medical Student Education: The Department of Surgery continues to have a leadership role in all aspects of student education. In June 2018, Dr. Grimm relinquished his position as Clerkship Director to take the position as Program Director of the General Surgery residency. Linda Ding, MD and John Hunter, MD were named as the Co-Directors of the Surgery clerkship.

Drs. Ding, and Hunter, and the clerkship coordinator Jenneice White were instrumental in creating the environment and redesign of the clerkship to continue the excellence in student education created in past years under leadership of Dr. Grimm.

In May 2020, John Hunter, MD, Ron Brooks, MD, Annabelle Fonseca, MD, Linda Ding, MD, Lee Grimm, MD, Spencer Liles, MD, Jon Simmons, MD and William Richards, MD were awarded the red sash award by the senior medical students for their significant contributions to the graduating medical students' education.

Students continued to perform well on the NBME while participating in the Team-based learning modules designed by Linda Ding MD, John Hunter MD and the faculty of the DOS. The students on average are performing much better than average compared to national performance. We attribute the excellent performance on the NBME scores and the 100% match into general surgery residency programs to the curriculum and teaching of the Co-Directors of the clerkship and the faculty of the DOS. In April 2020, the COM sent all medical students out of in person clinical education because of the Covid-19 pandemic. Dr. Hunter was instrumental in creating and enacting distance learning via ZOOM and other platforms to enable the USA medical students to learn during the pandemic and to maintain social distancing and not to be exposed to Covid 19. He was very successful in engaging the students and maximizing their education during the months they were not physically present in the hospital or clinics.

General Surgery Residency Training: In June 2018, Dr. Simmons was named the Chief of the Division of Trauma, Acute Care Surgery, Surgical Critical Care, and Burns. He relinquished his position as Program Director of the General Surgery Residency program and Dr. Lee Grimm took over as Program Director. In the 2 years, Dr. Grimm has been the program Director of the General Surgery residency training program we have witnessed advances in academics, ABSITE performance, and educational activities of the Department of Surgery. The graduating residents continue to match into competitive fellowship programs or to successfully transition to private practice in general surgery. Drs. Hanna Alemayehu and Harrison Howard were appointed 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.

The Covid-19 pandemic created fundamental challenges for the residents and faculty in General surgery to provide essential emergency care while protecting the residents from exposure to Covid 19. The surgical residency rotation schedule Dr. Grimm designed became the model schedule that Department of Orthopedics and OB/GYN residencies adopted. Dr. Grimm implemented distance learning with ZOOM meetings for resident teaching and for surgical grand rounds. The results of his planning and foresight enabled the surgical residents and faculty to weather a very tough several months during State mandated lockdown. No residents nor any attending surgeon was hospitalized or became seriously ill from Covid 19 despite the disease striking multiple hospital and clinic employees.

Dorothy Dickinson has provided outstanding leadership in her role as the General Surgery Residency and Program Coordinator. She also serves on the Executive Committee as President Elect of the Association of Administrators in Surgery. Tyronda Rogers serves as an assistant Program Coordinator for General Surgery and is 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.

Recruitment: The Department was able to recruit several outstanding surgeons to continue the clinical, academic, and educational missions of the Department. Katrina Weaver, MD finished her Pediatric surgery fellowship in December 2019 and started as faculty in Pediatric Surgery in January 2020. Caleb Butts, MD, finished a fellowship in Surgical Critical Care and Acute care surgery at Wake Forest University and joined the Trauma/Acute Care Surgery Division in September 2019. Larry Lee, MD finished Surgical Critical Care and acute care surgery fellowship training at Johns Hopkins and joined Trauma/Acute Care Surgery Division in September 2019. What is remarkable about these three surgeon recruits is that they all trained in General surgery at University of South Alabama General Surgery program and were accepted into top-notch fellowship programs but were lured back to USA to continue the excellence in surgical care, education and research.

Division of Traumatology/Surgical Critical Care/Acute Care Surgery: Dr. Brevard stepped down from being the Chief of the Division and after a national search was conducted by Paul Rider, MD which led to the selection of Jon Simmons, MD to be the Chief of the Division in June 2018. During this past 2 years, Dr. Simmons has expanded the number of patients seen and the wRVU's by 34% through decrease in diversion time, and expansion into additional critical care coverage in the Neuro ICU. During the Covid-19 pandemic, the Trauma division saw more patients and took care of many who were admitted with acute surgical emergencies amidst the constant worry of Covid 19 transmission while performing aerosolizing procedures.

Dr. Brevard directed multiple courses of Advanced Trauma Life Support Training, and hosted the regional competition the Alabama Chapter of the American College of Surgeons Committee on trauma resident paper competition. Dr. Sid Brevard and Chris Kinnard, MD served as the Director and Assistant Director of the Surgical Critical care Fellowship. Chris Kinnard developed Surgical Critical care and ultrasound curriculum for the fellow and residents. He also pioneered new surgical treatments for rib fractures including rib plating which he demonstrated had significant positive outcomes.

Burn Surgery: Steve Kahn, MD left the burn unit in 2019 while Andrew Bright took over leadership of the burn unit. With the help of New recruit Caleb Butts and Sid Brevard 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). During the last quarter of 2019 the Arnold Luteran Regional Burn unit was ranked 41 percentile of burn units in the nation for the observed to expected mortality ratio of 0.74. Moreover, USA had substantially more cases than eight of the top 10 burn units did while length of stay O/E (0.84) went down while serving more patients than in the year prior, which is a tribute to all of the burn surgeons, critical care faculty, residents, nurse practitioners, physician assistants and staff, who worked in the burn unit. Burn research and presentations to regional and national meetings increased from the previous year. Seminal studies performed by Dr. Bright in the use of chemical debridement of burn

wounds using Nexobrid have shown dramatic improvement in improved debridement specificity, mitigation of septic response, and mitigation of blood loss associated with surgical debridement.

Pediatric Surgery: The Division was able to recruit Chip Hartin, M.D. FACS, a USA COM graduate to take over the responsibilities as Chief of the Division in July 2016 and he has done a remarkable job expanding the number of surgical cases, improving patient care, and improving the educational experience for residents and students. Dr. Hartin was able to recruit two other full time outstanding surgical faculty. Hanna Alemayehu, MD joined the faculty in Pediatric surgery after completion of their fellowship training in September 2018. Dr. Alemayehu has done an outstanding job and has develop a center for chest wall reconstruction for children with Pectus Excavatum deformities. Dr. Alemayehu was also honored as one of the 40 most influential people in Mobile under age 40 in 2019. Dr. Alemayehu was 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 Director in the General Surgery resident training program. In January 2020, Katrina Weaver, MD started as a faculty member in pediatric surgery. 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. Randall Powell, M.D., FACS established the Randall W. Powell, M.D. Lectureship in Pediatric Surgery at the USA College of Medicine. Dr. Powell an Alpha Omega Alpha medical honor society graduate joined the department of Surgery as an Assistant Professor in 1984 and was promoted to Professor in 1991 and served in that role until he retired in 2009. Dr. Shawn St. Peter a distinguished Pediatric Surgeon gave two outstanding lectures: *“Training, Medical Decision Making and Autonomy While Minimizing Variation through Protocols.”* and *“Equipoise, Innovation and the Role of Comparative Studies,”*

Colorectal Surgery: Dr. Rider in his fifth year as the Chief of the Division of Colorectal Surgery continued the development of the colorectal surgery division. Dr. Rider also served as President of the Alabama Chapter 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 establishment of the colorectal cancer MDT in October 2015, this multi-disciplinary team has treated hundreds of patients. The team is applying 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. With the recruitment of the third colorectal surgeon John Hunter, MD, the USA Department of Surgery is increasingly recognized for its clinical expertise in colorectal and gastro-intestinal surgery. Much of the credit for the general surgery improvement in observed to expect mortality in 2019 is related to the superior care the colorectal service delivers while performing major small and large bowel resections. In the 4th quarter of 2019 the Vizient data show an observed to expected mortality rate of 0.19 that ranked at the two

percentile among 169 university hospitals. Dr. Hunter in particular has been instrumental in improving resident flexible endoscopy and robotic training needed to graduate from general surgical residency programs.

Dr. Rider coordinated a plan of action to reduce Surgical Site Infections including compliance with national guidelines, accurate accounting of wound classification, and condition present at time of operation and technical means of prevention of surgical site infections (SSI). This has led to a significant decrease in SSI's at University 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 for (0.81) that was substantially better than expected. This better than average performance has been consistent for the entire last 4 quarters and is an accomplishment made possible through excellence in provision of patients care by all the surgeons, residents, and clinical staff of the DOS.

There has been a continual increase in patients' referrals to the surgical service from the community recognizing the improvement in surgical expertise and care of colorectal, cancer, gastrointestinal, and bariatric patients. The increase in the number and complexity of the patients being referred to the USA surgical service has led to improvements in education for the students, and residents. The residents in General Surgery honored William Richards, MD as the 2019-2020 Teacher of the Year Award.

John Hunter, MD was named the director of the Robotic Surgery at USAMC, and quickly trained Paul Rider, MD and William Richards, MD. Dr. Hunter also established robust training for the residents on the robot system using the simulator and developed a competition and prizes for the residents. This proved to be highly entertaining while increasing resident technical skills and participation in simulation training. One of the prizes given to the winners of the robotic competition was a Charles Rodning bobble head doll complete with red beret, green scrubs, glasses and long locks of hair.

Breast and Endocrine: Spencer Liles, M.D. completed his third year providing surgical oncology expertise in breast, melanoma and endocrine cancer. Over the course of the past year, he has passed his boards in Complex General Surgical Oncology and has expanded the faculty expertise in oncology with special emphasis on Breast/endocrine and Melanoma. He was awarded a USA Faculty Development Award to pursue a novel study "Investigation of DNA repair mechanisms in Invasive Melanoma" and as the Director of the USA-MCI, biobank has redone the entire IRB protocol in order to improve the storage techniques, protocols, enrollment and matching clinical data for this essential translational research infrastructure project.

Drs. Spencer Liles and Lynn Dyess, MD 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. Additionally Dr. Dyess serves as the Governor representing the State of Alabama Chapter of the American College of Surgeons to the National ACS Organization.

Plastic and Reconstructive Surgery: Ron Brooks, M.D. in his fourth year as faculty member established himself as an expert plastic and reconstructive surgeon who was able to collaborate with many of our faculty in the care of trauma, cancer, and infectious wounds. He has added very valuable expertise in the reconstruction after breast cancer, melanoma, and rectal cancer surgery. Dr. Curtis Harris continues to provide expert care of patients needing plastic and reconstructive surgery and will retire in December 2020. Kelsey McKee, MD has been recruited to join the faculty in plastic/reconstructive surgery in September 2020. She is one more example of an outstanding graduate of the USA general surgery training who has trained in plastic surgery at University of Indiana.

Gastrointestinal and Bariatric surgery: The Bariatric surgery program 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. A new surgical procedure was performed for the first time in the upper Gulf Coast and Dr. Richards is one of only 245 surgeons who have been trained to perform the procedure in the US. The LINX procedure treats severe GERD through laparoscopic implantation of custom fitted magnetic beads to augment the Lower Esophageal Sphincter. Complex Bariatric and GI surgical procedures are increasingly being performed using the Da Vinci robotic system.

Surgical Oncology: Spencer Liles, MD is in his third year as a faculty member has increased the number of gastrointestinal, pancreatic, liver, breast, melanoma, and endocrine cancer patients seen in his clinic. Dr. Liles was also recruited to be 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. Two surgical Oncologists (Annabelle Fonseca, MD and Harrison Howard, MD), were recruited to take Dr. Tan's place and joined the Department in October 2018. Harrison Howard, MD has added significantly to treatment of patients with sarcoma, parotid tumors, and melanoma. Dr. Fonseca has added expertise in the treatment of pancreatic and liver tumors. She has trained in robotic pancreatic and liver surgery and has started to use the DaVinci robotic system to perm solid organ resection in a minimally invasive fashion. The division has increased charges by 65% in the last year reflecting the excellent care the expert surgical oncologist have added to our system.

Humanitarian Efforts: Drs. Simmons, Grimm, and Bright led a group of USA surgery residents and USA medical students to Rwanda in 2018 on mission trips to provide medical care.

Hanna Alemayehu, MD spoke passionately at the White Coats for Black lives event organized by the medical students on June 10, 2020 at Children's and Women's' Hospital and at University hospital about issues facing black physicians in America.

Andrew Bright gave the oath of office for the senior medical students graduating in May 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: The research collaboration between Jon Simmons, MD and the Chair of Pharmacology Mark Gillespie, PhD. has been very fruitful. Dr. Jon Simmons is in the last year of a 4 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" aims to explore a potential pharmacologic treatment that addresses the underlying etiology of remote organ failure in trauma and sepsis. Amazing science is coming from this collaborative effort, which is also incorporating surgical residents such as Dr. Richard Rieske a PGY2 resident in surgery who has taken a year away from clinical training to work in Dr. Simmons' lab.

Collaboration between Luda Racheck, PhD in department of pharmacology and William Richards, M.D., F.A.C.S. was very fruitful and resulted in submission of NIH grants to investigate the link between insulin resistance and Mitochondrial DNA DAMPs.

Paul Rider, M.D., F.A.C.S. Dr. Rider executed several randomized clinical studies investigating "a new drug for treatment of postoperative bowel dysfunction and for 2 types of hemorrhoid surgery. These randomized clinical studies are instrumental in giving level one evidence to determine best treatment in surgical patients.

Lee Grimm, M.D., FACS involved a medical student during the summer research program to study the impact of the surgery curriculum changes had on NBME and Step 2 CK on student performance. This research also helps to identify the best practices for education and to improve the educational experience and outcomes for the medical students. The improvement in NBME Surgery Shelf exams and in Step II scores are impressive and attributable in large part to Dr. Grimm's and Surgical faculty efforts and total redesign of the third-year surgical clerkship.

Larry Lee, MD in his first year was awarded a \$50,000 grant from the American Association Study of Trauma for his research project "Immunomodulatory Effects of Cellular Contamination in Plasma Products for Transfusion".

Harrison Howard brought several multiinstitutional clinical trials to USA including: 1801 Clinical Trial: A phase II randomized study of adjuvant verse neoadjuvant MK-3475 (pembrolizumab) for clinically detectable stage II-IV high risk melanoma and SWOG 1607 Clinical Trial: A phase II study of combining talimogene laherparepvec (T-VEC) and MK-3475 in pateints with advanced melanoma who has progressed on anti-PD1/L 1 based therapy.

William Richards, M.D., F.A.C.S. was the local principal -investigator on The Caliber Study a randomized multicenter clinical trial investigating the outcomes after LINX or

magnetic sphincter augmentation verses double-dose PPI for Gastroesophageal Reflux Disease. The study found that magnetic sphincter augmentation was much better at objective and subjective improvement of GERD symptoms compared to increasing doses of PPI.

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 clinical expertise in critical care, shock; the faculty in the Department has developed gastrointestinal physiology, cancer, and wound healing. Increasingly the Department of Surgery is recognized for our expertise in the care of trauma, burns, colorectal cancer, hepatic-pancreatic-biliary cancer, breast cancer, melanoma, and esophageal disorders.

2019-2020
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 45 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 three 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 *Infectious Proteinopathy: From an endothelial innate immune surveillance to a transmissible cytotoxicity*; Dr. Mike Lin, Professor, Department of Physiology and Cell Biology, presented *Neurotoxicity of Lung-Derived Amyloids*; Dr. Brian Fouty, Professor, Department of Internal Medicine, presented *Gene Therapy*.

Extramural Funding

In the past year, CLB principal investigators submitted 47 grant applications to the American Heart Association (AHA), National Institutes of Health (NIH), and other foundations/industries. To date, nine applications from the previous fiscal year were awarded generating over \$3.6 million in new revenue over the next five years.

Dr. Mike Lin, Associate Professor, Department of Physiology and Cell Biology received the following NIH R01 Administrative Supplement award entitled *Nosocomial pneumonias impair cognitive function*. Dr. Troy Stevens, Professor and Chair, Department of Physiology and Cell Biology, Director, Center for Lung Biology received the following two awards NIH P01 Diversity Administrative Supplement award (Graduate Student-Althea deWeever) entitled *Soluble adenylyl cyclases in pulmonary endothelial permeability* and NIH R01 award entitled *Lung Endothelial A β in infectious proteinopathy*. Dr. Thomas Rich, Professor, Department of Pharmacology received an NIH S10 award entitled *Zeiss LSM 980 Airyscan confocal microscope*. Lina Abou Saleh, Graduate Student, Department of Biochemistry (Mentor Dr. Wito Richter) received an Cystic Fibrosis Foundation – CFF Student Fellowship entitled *Inactivation of PDE4B protects from P. aeruginosa-induced lung injury*. Dr. Raymond Langley, Assistant Professor, Department of Pharmacology received an NIH CCTS KL2 award with UAB entitled *Metabolic Energy Crisis Signature Predict Quality of Life in Survivors of Acute Respiratory Failure*. Dr. Mark Gillespie, Professor and Chair, Department of Pharmacology received the following NIH CCTS TAI Special Announcement award entitled *Production of Mitochondrial (mt)-targeted DNA Repair Proteins*. Dr. Glen Borchert, Associate Professor, Department of Pharmacology received the following two awards an NIH R21 Administrative Supplement with Florida International University – FIU entitled *Effect of SARS-CoV-2 proteins on Airway Mucous Response and Associated LncRNAs*, and NSF RAPID Response (COVID-19) award entitled *RAPID: Exosomal tRNA fragments constitute an innate viral defense*.

Education

The CLB's NIH-funded T32 training grant on *Cell Signaling and Lung Pathobiology*, directed by Drs. Thomas Rich and Troy Stevens, is currently in its 17th and final year of funding. This T32 supports 6 pre-doctoral trainees in the Lung Biology track per year.

During this academic year, 20 predoctoral fellows trained in the laboratories of CLB faculty and other affiliated with the Lung Biology track in the Basic Medical Sciences Doctoral Program. Two Lung Biology trainees completed requirements for the Ph.D. within this academic year (Joshua Deal and Barnita Haldar). Joshua Deal is a Bioscience Sales Specialist with Nikon Instruments; and Barnita Haldar is an Associate Physician Scientist at EMS Pandemic Response Research Lab. Four Lung Biology trainees are supported by individual predoctoral fellowships (Abigail Boyd-COM Intermural Grant, Althea deWeever-NIH P01 Diversity Administrative Supplement, Meredith Gwin-AHA Predoctoral Fellowship, and Sarah Voth-NIH F31 Predoctoral Fellowship).

Pre/Postdoctoral trainees in the CLB authored one new article in the CLB "Did you know?" series during this past year: lung microbiome (Phoibe Renema). This series, now in its

eighteenth year, provides trainees in the Center for Lung Biology the opportunity to author an historical perspective reviewing influential discoveries that led to the modern understanding of pulmonary and critical care medicine. Further, as the trainees work with faculty on the Editorial Board, they gain experience in the peer review and editorial processes.

2019-2020
Summary of Scholarly Activities
Center for Healthy Communities

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Crook ED, Pierre K, Arrieta MA. Identifying and overcoming roadblocks that limit the translation of research findings to the achievement of health equity. *J Health Care Poor Underserved*. 2019;30(4S):43-51.

II. PUBLISHED ABSTRACTS

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

Arrieta MI. Invited speaker. Community engagement & community engaged research: do they hold value for translational scientists? University of Alabama at Birmingham Center for Clinical and Translational Science Training Academy; 2020 May 6; Birmingham, AL.

V. NATIONAL PROFESSIONAL RECOGNITION

Errol Crook, MD: Grant Reviewer, NIH Special Emphasis Panel, Chronic Disease and the Reduction of Health Disparities (2019) (ZRG1 PSE-C (50)), NCI Special Emphasis Panel, L60 Loan Repayment Program (2020) (ZCA/PCRB-W (A2))

Martha I. Arrieta; MD, MPH, PhD: Grant Reviewer, NIH Special Emphasis Panel. Specialized Centers of Excellence on Environmental Health Disparities Research (P50 Clinical Trial Optional). March 10-12, 2020.

Martha I. Arrieta; MD, MPH, PhD: Panelist. Health Equity and Social determinants of Health in the US Gulf Coast Panel. Gulf Research Program, National Academies of Sciences, Engineering, and Medicine. July 21, 2020.

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. The Center had taken a leadership role as a partner of the CTSA community engagement efforts. Dr. Crook has made several appearances on TV and has been interviewed by print media regarding health disparities with COVID-19.

A brief summary of our research and community engagement efforts are 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 study is a NIH sponsored trial that will enroll one million participants to make precision medicine a reality. Dr. Crook is the site PI for this program and enrollment was robust until halting those efforts in response to the COVID-19. Since March 2020, the team has worked on retention efforts for those enrolled in the study.
- 2) The Center continues 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. The team continues consulting a Community Advisory Board (CAB) on the efforts to recruit community members for this project. The research team routinely reports on recruitment efforts to the CAB and seeks their counsel on issues arising during recruitment.
- 3) In response to the COVID-19 pandemic, the Core also undertook a qualitative research project consisting of virtual key informant interviews and focus group meetings with 15 individuals living or working in the low-resource communities served by USA Health University Hospital. A report from the research has been shared with community leaders including public officials.

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. Of note, on August 6, 2020, Dr. Hanks was presented with a Community Health Leadership Award by the Mobile Medical Museum in recognition of her continued work as a leader in education, awareness and action around Mobile's most urgent community health issues.

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 focused on COVID-19 education, precautionary measures, and wellness efforts for the community and faith-based organizations they serve through virtual meetings, training sessions and food volunteer. Our "normal" cancer education, heart health, monthly health focus, and healthy eating initiatives continue to be a prime focus as well.

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 in-person summer program was cancelled due to concerns around the COVID-19 pandemic. We have maintained contact with our students and continued to provide mentorship. Students will

be engaged in virtual activities in August 2020 where they will complete research projects and have interactions with role models who are in health care careers.

Students and partners were invited to express themselves during this syndemic (where multiple co-terminus and interacting epidemics develop under conditions of health and social disparity – Merrill Singer) by penning their innermost thoughts and feelings. The pandemic has shone a bright light on both upstream and direct health care system related issues that lead to inequities and inequalities in health. The deaths of African Americans during this time have reinvigorated the conversation around social inequities and racism (explicit, implicit, and structural). The CHC Blog will serve as a resource and will be used for dissemination of information and commentary subjects or topics from the research and engagement cores, and our partners.

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. We were not able to have any onsite research this summer due to COVID-19 restrictions but we have maintained contact with high achieving alumni of our pipeline programs and provided career mentoring and connections to other opportunities. We have graduates now who are in the final year Pediatrics Residency, in the second year of law school, and in post baccalaureate programs that lead to medical school.

Moreover, we have been particularly proud to see a 2012 graduate of our education pipeline program -whom we had mentored through the process of attaining a Bachelor's degree in Political Science and Master's degree in Public Administration- earn a two-year fellowship with Lead For America, a national program seeking to cultivate homegrown leaders able to address their communities' toughest challenges. Such achievements from its graduates greatly contribute to the Center's long-lasting impacts in the communities it serves.

2019 – 2020
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. Susan Sansing, Associate Dean of the College of Medicine Finance and Administration for the University of South Alabama serves as CSHI's acting Director. CSHI actively promotes collaboration on projects with the USA School of Computing, USA Department of Family Practice, the USA College of Nursing, the USA Department of OB/GYN, the Mobile County Health Department, and other Regional Extension Centers (REC's) 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™ addresses all facets of care coordination from assessing needs, creating care plans, tracking goals, monitoring progress, and reporting results. 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®. CSHI partners with Medicaid and the ACHNs to enable data-driven decisions on patient care improvements. When planning and coordinating care, the ACHNs rely on CSHI to help translate raw data reporting to meaningful data insight. The reporting portal supports region level trending along with care coordinator granularity.

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 biomonitring 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. An ROI on 2017 data showed a decrease in Emergency Department visits, hospitalizations, and reduction in the length of hospital stays as compared to 2015 data. Pharmacy use increased and was attributed to patient compliance with medication. Data is 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 providing assistance to Providers throughout the multiple stages of Promoting Interoperability (formerly Meaningful Use) and MIPS attestations. ALREC is currently consulting with over 20 medical practices throughout Southern Alabama working directly with roughly 175 physicians, nurse practitioners, and physician assistants. ALREC continues to work with USA Health's University Hospital to monitor 140 physicians helping them to complete Promoting Interoperability attestations, which can result in over \$1M in incentive payments.

CSHI and the USA Department of Family Practice are partnering on a HRSA grant 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 catchment area through the expansion and enhancement of a Population Care Pathway program. A new curriculum thread will expand the education of 280 medical students with a focus towards primary health care in underserved and /or rural setting. 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. Both on site instruction and tele-medicine technology will be used to provide education. Telemedicine capabilities will be added to the each of the clinical sites to enhance the education of our students and to optimize positive health outcomes for our patients.

2019-2020
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**

Wallace D. Invited speakers. Emergency preparedness 101 for healthcare facilities: part I. Association of Healthcare Emergency Preparedness Professionals Annual 2019 Pre-conference; 2019 Nov 4; Orlando, FL.

Wallace D. Invited speakers. Emergency preparedness 101 for healthcare facilities: part II. Association of Healthcare Emergency Preparedness Professionals Annual 2019 Pre-conference; 2019 Nov 4; Orlando FL.

- 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 and response training. David Wallace, DVM, serves as the Director, CDHP. CDHP manages the Alabama Incident Management System (AIMS) and the CDHP Training programs through a cooperative agreement with the Center for Emergency Preparedness (CEP), Alabama Department of Public Health from the Department of Health and Human Services, Assistant Secretary for Preparedness and Response (ASPR).

ALABAMA INCIDENT MANAGEMENT SYSTEM (AIMS)

Designed by CDHP for the State of Alabama, the Alabama Incident Management System (AIMS) continues to be a primary healthcare situational awareness, web-based system throughout the state of Alabama. AIMS has been utilized by Healthcare facilities, in particular, hospitals since 2004 and has expanded its organizational users over the years in part through the implementation of Healthcare Coalitions (HCC) in 2012. In addition to Hospitals, the following key organization types utilize AIMS: Nursing Homes, Public Health, Emergency Medical Services (EMS), Community Health Centers, Emergency Management Agencies (EMA), and Other (which encompasses all other healthcare organizations that are members of the HCC)--collectively representing over 2,200 active user accounts. Each of the nine Healthcare Coalitions has a designated AIMS Coordinator to assist organizations with establishing an AIMS account, provide training and technical assistance, and monitor AIMS activity within the District. The number of AIMS accounts

within each HCC District ranges from 160–343 and is expected to grow. Hospitals are the largest organizational user in AIMS with over 900 accounts, followed by nursing homes with over 500 accounts.

During 2020, there were 298 Notifications sent throughout the state in response to exercises (individual healthcare facility emergency preparedness exercises and HCC federally required exercises), real-events (including ransomware attacks and COVID-19), and general notifications (such as HCC updates and reporting updates). As a result of the Notifications, there were 922 originating messages with over 3,000 responses exchanged within AIMS. AIMS has become a primary method of communication among healthcare facilities within an HCC District and across the state.

In addition to serving as a communication tool, AIMS was the state's sole source of hospital reporting and data collection for COVID-19. Since March, hospitals reported into AIMS daily, seven days a week to provide the state leaders and response agencies (including but not limited to the Governor's office, Alabama Department of Public Health, Alabama Hospital Association, Alabama Emergency Management Agency and the Alabama Nursing Home Association) with situational awareness of COVID-19 hospitalization patient loads and the availability of resources including patient beds (including but not limited to ICU beds, medical surge beds, negative pressure beds, mortuary beds and ventilators). AIMS also monitored resource availability and needs among hospitals including: Personal Protective Equipment (PPE) including N95 respirators, facemasks, gowns, gloves, eye protection; Non-PPE including surgical caps, custom packets/pack components, catheters, hand sanitizer, disinfecting wipes; Diagnostic Laboratory Testing Supplies including nasopharyngeal swabs, viral transport media, RNA extraction reagents, and Ventilator Consumable Pieces including breathing circuits, connectors, filters, endotracheal tubes, and head gear. In addition to resources, AIMS collected hospitalized COVID-19 patient information such as number of days hospitalized, admission status, use of an ICU bed, use of a ventilator, and the discharge status of the patient. Several state specific and Federal specific reporting forms were created in AIMS to meet reporting requirements and to provide information on the impact of COVID-19 on the citizens of Alabama, specifically the impact of those hospitalized due to the virus and the effect on the healthcare system.

Data entered into AIMS was tracked, compiled, summarized and provided daily to the Federal web portal for state level specific COVID-19 data which was monitored by the White House Task Force. The information was also provided to ADPH-CEP/Governor's Task Force and the Alabama Hospital Association for situational awareness to help evaluate the impact of COVID-19 throughout the state and to guide Federal resource requests. The Health and Human Services (HHS) Region IV, recognized and acknowledged Alabama as a leader in reporting of COVID-19 through the data submitted via AIMS. AIMS will continue to play an integral role in data collection and communication throughout the pandemic.

CDHP TRAINING

Now in its seventeenth year, CDHP is a 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 the Alabama Department of Public Health, Center for Emergency Preparedness through a cooperative agreement from ASPR. The total number of students attending CDHP training from 2005 to 2020 is 20,731. This year, CDHP offered training on-site in Mobile (Basic Course, Simulation Course and Healthcare Emergency Preparedness Professional Certificate Course) and throughout the state as requested by healthcare coalitions and facilities (Road Show Courses).

CDHP Basic is a two-day course designed to provide core disaster response training. Ten sessions were scheduled this year, and, as a subset of the Basic Course, one session was provided for ADPH Center for Emergency Preparedness (Administrative staff and Emergency Preparedness Teams) and one was planned as an Administrative session Healthcare Emergency Preparedness Symposium. Due to the COVID-19 pandemic closures and restrictions, seven sessions were presented and the remainder of the sessions, including the Administrative Symposium were postponed indefinitely.

Ten CDHP Simulation sessions were scheduled, each comprised of a one-day interactive training in the form of simulated clinical scenarios for clinicians charged with disaster response in their organizations. Due to the COVID-19 pandemic closures and restrictions, six sessions were completed, and the remainder of the sessions were postponed indefinitely.

Thirty-six CDHP Road Show courses were planned, each consisting of a one-day session which takes healthcare preparedness training to healthcare facilities across the state. Road Show courses allow greater participation of staff, and participation of regional neighbors/response partners for the purpose of establishing and enhancing a common knowledge of the basics of disaster response for healthcare facilities. Road Show course content was designed by each facility/Healthcare Coalition District from a menu of topics to reflect the specific needs of each facility/Healthcare Coalition District. Due to the COVID-19 pandemic closures and restrictions, twenty-one Road Shows were delivered. The remainder of the sessions were postponed indefinitely.

The CDHP Healthcare Emergency Preparedness Professional Certificate Course (HEPP) is an online course consisting of more than 250 hours of instructional material and interactive assignments engaging students in and outside of their healthcare facilities including meetings with their Healthcare Coalition, Emergency Management Agency and attendance at the USA-CDHP. This reporting period was the sixth program year. The HEPP course is designed to provide the opportunity to gain the knowledge, skills and capability to prepare and manage a healthcare facility's Emergency Management program.

2019-2020
Summary of Scholarly Activities
USA Comprehensive Sickle Cell Center

I. PUBLISHED JOURNAL ARTICLES, BOOK CHAPTERS, AND PATENTS

Liem RI, Lanzkron S, Coates TD, DeCastro L, Desai AA, Ataga KI, Cohen RT, Haynes J, Osunkwo I, Lebensburger JD, Lash JP, Wun T, Verhovsek M, Ontala E, Blaylark R, Alahdab F, Katabi A, Mustufa RA. American Society of Hematology 2019 guidelines for sickle cell disease: cardiopulmonary and kidney disease. Blood Adv. 2019 Dec 10;3(23):3867-3897.

II. PUBLISHED ABSTRACTS

III. PUBLISHED BOOKS

IV. INVITED PRESENTATIONS

V. NATIONAL PROFESSIONAL RECOGNITION

Johnson Haynes Jr: Listed: American Society of Hematology Sickle Cell Disease Guideline Panel, Panel on Sickle Cell Disease – Related Cardiopulmonary and Kidney Disease; Best Doctors in America

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. Due to the COVID-19 pandemic many of the lectures were not conducted this past year but we hope to resume soon. Lectures were provided to residents in the Department of Internal Medicine and Pulmonary fellows. The USA Sickle Cell Center has sponsored a clinical-based, regional conference on practical issues involving sickle hemoglobinopathies for the last 17 years but was cancelled in 2020 due to the COVID-19 pandemic.

The *Dr. Cecil L. Parker, Jr. Sickle Cell Disease Distinguished Lectureship Endowment* is in its 13th 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. GBT-440-034: An Open Label Extension Study of GBT440 Administered Orally to Patients with Sickle Cell Disease Who Have Participated in GBT440 Clinical Trials
GBT 440-037: An Open-Label, Expanded Access Protocol for Patients with Sickle Cell Disease Who Have No Alternative Treatment Options;
2. 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). Participation in this study now affords the Center to employ a full-time coordinator for the Pediatric to Adult Transition Program. This contract is currently in its third year of five.
3. A Phase II, multicenter, randomized, open label two arm study comparing the effect crizanlizumab + standard of care to standard care alone on renal function in sickle cell disease patients ≥ 16 years with chronic kidney disease due to sickle nephropathy (STEADFAST)

Clinical Operations / Services: The Adult Sickle Cell Clinic has operated as a subspecialty clinic for over 20 years. This clinic serves over 250 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; Ms. T'Shemika Perryman, RN and Ms. Aisha Davis, Case Manager. The pediatric clinic is staffed by Drs. Felicia Wilson, Hamayun Imran, Preethi Marri, Chibuzo Illonze; Dr. Ardie Pack-Mabien, Nurse Practitioner; and Ms. Aisha Davis, Case Manager. Family Medicine, Internal Medicine, and Pediatric residents rotate on a monthly basis through the Sickle Cell Clinics.

Dr. Pack-Mabien, Ms. Perryman and Ms. Davis 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 ninth 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. Felicia Wilson serves as president of the Alabama Sickle Cell Oversight and Regulatory Commission. 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's families, administrators, and community sickle cell foundations in April and September of each year. Dr. Haynes is now in his ninth year as Assistant Dean of Diversity and Inclusion in the USA College of Medicine. The Center in collaborator with Alpha Phi Alpha Fraternity, Franklin Primary Health Center, Inc., and the Sickle Cell Disease Association of America, Mobile Chapter did not host the annual blood drive, which usually is conducted during National Sickle Cell Month in September due to COVID-19.

The community-based, Sickle Cell Center Development Council established in 2016 continues to grow. The current Chair is Cheryl Franklin, D.N.S. Other members include: Kerry Cohen, Chris Cox, M.D.; Karlos Finley, J.D.; Art May, Becky Tate, Primus Ridgeway, Yolanda Turner, PhD, Reverend John Dees and Ardie Pack-Mabien, PhD. This council facilitates the sickle cell center community education and outreach, public relations, event planning and fundraising.

2019-2020
Summary of Activities
Office of Medical Alumni Relations

Representing 41 graduating classes (1976-2020), 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).

2019-2020 Medical Alumni Association Board of Directors

Officers

- Dr. John Todd '88, *President*
- Dr. Christopher Semple '85, *Vice President*
- Dr. Brandi Trammell, '02, *Secretary/Treasurer*
- Dr. Russell Goode, '10, *Chair, Alumni and Student Services Committee*
- Dr. William E. Blaylock '89, *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. Amy Morris '92
- Dr. Ed Panacek, '81
- Dr. Wes Pickard, '88
- Dr. Juan Ronderos, '85
- Dr. Stacey Wing, '96

Beginning with the 2020 Board year, 2 Board members were retired from the Board of Directors:

- Dr. William E. Blaylock '89
- Dr. Amy Morris '92

Beginning with the 2020 Board year, 3 new members were appointed to the Board of Directors and will begin their term with the 2020-2021 year:

- Dr. Sabrina Bessette, '03
- Dr. Nancy Wood, '07
- Dr. Ashleigh Butts Wilkerson, '12

Scholarship Recipients for the 2019-2020 Academic Year

Student Name	Scholarship Received	Amount of Scholarship
Sarah Bignault	2019 Medical Alumni Association Scholar	\$10,000
Madeline Tucker	2019 Medical Alumni Association Scholar	\$10,000
Christopher Roberts	2019 Medical Alumni Association Scholar	\$10,000
John David Roveda, Jr.	2019 Medical Alumni Leadership Award	\$500
		\$30,500

2019 Medical Alumni Reunion Weekend

The 2019 Medical Alumni Reunion Weekend cancelled due to the ongoing COVID-19 pandemic. Plans to expand the 2020 Reunion to include classes that would have celebrated during the 2019 year is being made.

COVID-19 Relief Funds

Funds raised by the USA Medical Alumni Association in support of COVID-19 and emergency relief funds supporting USA College of Medicine and USA Health.

COM CARES	\$11,141
Meals for USA Health Heroes	\$12,514
Total Amount Raised	\$23,655

2019-2020 Annual Fund and Membership

Funds raised by the USA Medical Alumni Association in support of the operations of the Association.

Annual Fund Contributions	\$31,626.32
Amount Raised via Memberships	\$14,500
Total Amount Raised	\$46,126.32

2019-2020

Division of Medical Education and Student Affairs

The Division of Medical Education and Student Affairs is 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 and Children's and Women's Hospital 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 the out-patient settings at Stanton Road Clinic and Strada Patient Care Center.

Student Affairs

Due to the international and national COVID -19 pandemic, in-person College of Medicine group events scheduled for spring 2020 were cancelled. These cancellations included the usually celebrated Match Day and Honors Convocation for the Class of 2020 and the White Coat ceremony for the Class of 2022. The lack of our ability to gather in person however, did not diminish our excitement regarding the excellent residency matches for the Class of 2020. The USA COM Office of Student Affairs prepared emails containing the match results which were sent to the students Friday, March 20, 2020, so that they electronically could receive their results simultaneously. Students gathered in small groups with their families and videotaped themselves opening their match emails on their electronic devices.

The match results were impressive including one student in Ophthalmology, two students in Dermatology, two students in Neurosurgery, one student in Radiation Oncology, four students in Anesthesiology, six students in Emergency Medicine, two students in Neurology, one student in Orthopedic Surgery, two students in Radiology, and one student in Pathology. With respect to primary care fields, the following were the match results: sixteen students in Internal Medicine, six students in Family Medicine, three students in Psychiatry, and three students in Pediatrics. Regarding General Surgery, seven students matched into categorical programs and three into preliminary programs. Regarding OB/Gyn, two students matched into categorical programs. Sixty-five percent of students matched into out of state residency programs with the remaining thirty-five percent staying in Alabama programs. Eight USA COM students choose to continue their graduate medical education in the USA Health Hospitals. Students from USA COM were placed into programs spanning the entire continental United States and this year included Hawaii.

As mentioned previously, due to COVID-19 impacted disruptions, Honors Convocation for the College of Medicine Class of 2020 was not able to be held in person on the USA Campus. The USA COM administrative offices hosted a virtual Class of 2020 Recognition Ceremony via ZOOM on May 8, 2020, where members of the class were able to gather with their families and listen to Dr. Marymont, Vice President for Medical Affairs and Dean of the College of Medicine, address and charge the class. During this ceremony the students who were embarking on military careers in the United States Armed Forces recited the Military Oath administered by Dr. Andrew Bright,

Lieutenant Commander United States Navy and Assistant Professor in the Department of Surgery. Additionally, the entire class of 2020 recited the Hippocratic Oath administered by Dr. Marymont. On Saturday, May 9, 2020, the University sponsored a graduation video highlighting each college and scrolling the names of all the graduates.

The White Coat Ceremony for the College of Medicine Class of 2022 was also held in a virtual format on June 19, 2020. Linda Ding, M.D., Assistant Professor of Surgery, Division of Acute Care Surgery and Burn, USA Health, faculty nominee for selection into the Arnold P. Gold Humanism Honor Society, addressed the class speaking on the importance of compassionate care as future healthcare providers. Zachary Aggen, Class of 2022 President, represented his class in person by leading his classmates in the Medical Student Oath. Dr. Marymont spoke about the symbolism of the white coat and members of the class then received their white coat from members of their families. As in past years, the Medical Alumni Association purchased the White Coats for the Class of 2022.

Although these celebratory events this past year were overshadowed by the COVID impacted disruptions to gatherings, 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:

	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
Total Visitors	26	27	32	38	47
From LCME Schools	14	10	17	9	18
From Osteopathic Schools	11	17	15	29	29
From Foreign Schools	0*	0*	0*	0*	0*
Completed Paperwork, but Cancelled Visit					
From LCME Schools	3	6	14	12	6
From Osteopathic Schools	5	12	11	11	3
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	0	0	14
Family Medicine	0	1	2	5	3
Internal Medicine	3	8	6	11	7
Medical Genetics	0	0	0	0	0
Neurology	0	0	1	2	1
Neurological Surgery	0	0	0	0	0
Obstetrics/Gynecology	2	2	1	0	1
Ophthalmology	0	0	0	0	0

Orthopedics	5	6	10	4	5
Pathology	1	0	1	1	1
Pediatrics	8	6	5	7	6
Psychiatry	1	0	1	4	4
Radiology	3	2	2	1	2
Surgery	3	2	3	3	3

*We joined the AAMC VSAS in 2014 and no longer rotate foreign students

Months Electives Taken

	2016-2017		2017-2018		2018-2019		2019-2020	
	American	Foreign*	American	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	3	0	9	0	11	0	18	0
August	5	0	6	0	10	0	11	0
September	7	0	7	0	8	0	11	0
October	10	0	6	0	6	0	6	0
November	2	0	4	0	3	0	1	0
December	0	0	0	0	0	0	0	0

Letters of evaluation (Dean's Letters) were written for each of the 66 seniors who graduated in May, 2020. Students applied to 4,003 residency programs through the AAMC Electronic Residency Application Service (ERAS).

Sixty-five (65) students matched for residency positions. Sixty-two (62) of the May graduates used the NRMP as their primary means of obtaining residency and two (2) graduates participated in a specialty match.

	Number of Graduates	Match Utilized	
		NRMP	Non-NRMP
2016	73	67	6
2017	70	68	2
2018	73	70	3
2019	80	70	7
2020	66	63	2

University of South Alabama Seniors
Residencies Received by Discipline

	Class of 2016		Class of 2017		Class of 2018		Class of 2019		Class of 2020	
PRIMARY CARE:	31	38%	31	44%	33	45%	28	36%	27	42%
Internal Medicine	15	12%	15	21%	13	18%	12	16%	16	25%
Family Medicine	10	11%	10	14%	7	10%	10	13%	6	9%
Pediatrics	3	14%	3	4%	11	15%	6	8%	3	5%
Med/Peds	3	1%	3	4%	2	3%	0	0%	2	3%
Anesthesiology	3		0		2		3		4	
Dermatology	1		0		0		1		2	
Emergency Medicine	2		7		8		4		6	
Int. Med/Emer. Med.	0		1		0		0		0	
Neurology - Child	0		0		0		0		1	
Neurology	2		1		1		1		2	
Neurological Surgery	1		0		0		1		2	
OB/Gyn	2		7		6		7		2	
OB/GYN Preliminary	0		0		0		1		0	
Ophthalmology	3		2		1		5		1	
Orthopedic Surgery	4		1		2		3		1	
Otolaryngology (ENT)	0		0		1		1		0	
Pathology	0		0		2		2		1	
Psychiatry	6		6		5		7		3	
Radiology	8		2		1		3		2	
Radiology - Interventional	0		0		1		0		0	
Radiation Oncology	1		0		0		1		1	
Surgery – General	7		11		8		4		7	
Surgery - Plastics	0		0		1		0		0	
Surgery – Preliminary	4		0		0		5		3	
Transitional	0		1		0		0		0	
Urology	0		0		1		0		0	
TOTAL Graduating Seniors	73		70		73		77		65	

University of South Alabama Seniors
Residencies Received by State

	Alabama		USA Hospitals (Mobile)	Out-of-State		Number of Different States
2016	20	27%	14	53	73%	18
2017	22	31%	12	48	69%	22

2018	12	16%	7	61	84%	22
2019	19	25%	12	58	75%	20
2020	23	35%	8	42	65%	23

Due to COVID-19 impacted disruptions, Honors Convocation for the College of Medicine Class of 2020 was not able to be held in person on the USA Campus but was hosted virtually via ZOOM on May 8, 2020. Nonetheless, the following awards were presented:

Dean's Award – Davis Copeland Diamond
 Merck Award – Travis Bedsole Goodloe III and Daniel Philip Zieman
 Glasgow-Rubin Achievement Citations – Erin Savanna Bouska
 Dr. Robert A. Kreisberg Endowed Award of Excellence – Maria Siow
 Leonard Tow Humanism in Medicine Award – Michael Patrick Steadman and
 Dr. Nicolette Holliday
 Medical Alumni Leadership Award – Tyler Joseph Kaelin
 Excellence in Public Health Award – Supraja R. Sridhar
 Community Service Award – Supraja R. Sridhar and Jeremy R. Towns
 SNMA Leadership Award – Destini Aliyah Smith
 Outstanding Student in the Pre-clerkship Curriculum – Davis Copeland Diamond
 Award for Excellence in Teaching Clinical Skills – Maria Siow
 Clinical Pharmacology Excellence Award – Patricia R. Connor
 Hollis J. Wiseman Award for Excellence in Pediatrics – Maria Siow
 Samuel Eichold Award – Natalie Jean Hargrave
 Dr. Michael M. Linder Endowed Award – Elisabeth May Potts
 John W. Donald Memorial Award in Surgery – Matthew A. Kassels
 H. C. Mullins, M.D. Award – Elisabeth May Potts
 Obstetrics/Gynecology Award – Hayden Hamby Kassels
 Excellence in Emergency Medicine Award – Travis Bedsole Goodloe III
 Society for Academic Emergency Medicine (SAEM) Award – Benjamin Wade Gibson
 Excellence in Psychiatry Award – Taylor Bartlett Ousley
 AAN Medical Student Prize for Excellence in Neurology Award – Destini Aliyah Smith

Grade Distribution 2019 - 2020 Academic Year

Freshman Courses

	Honors	Pass	Fail
Foundations of Human Health I	8	66	1
MSK	65	9	1
Cardiovascular	0	74	0
IHD	11	63	0
Urinary	0	74	0
OSCE M1 – Fall	18	56	0
OSCE M1 – Spring (COVID affected)	0	0	0

Sophomore Courses

	Honors	Pass	Fail
Digestive	9	70	0
Endocrine & Reproductive	0	79	0
Ear, Nose, Throat	10	68	1
Neuroscience & Behavior	9	70	0
Respiratory	10	69	0
OSCE M2 – Fall	15	64	0
OSCE M2 – Spring (COVID affected)	0	0	0
Multisystem Disorders	0	79	0

Junior Clerkships

	Honors	Pass	Fail	Out of sequence
Family Medicine	15	52	0	0
Internal Medicine	18	50	0	0
Neurology	6	50	0	0
OB/GYN	19	48	0	0
Pediatrics	3	64	1	0
Psychiatry	17	52	0	1
General Surgery	9	59	0	0

Note: For the Academic Year 2019-2020, preclinical modules and clinical clerkships were disrupted by

Academic Progress of Medical Students Source: Part II of LCME Annual Medical School Questionnaire

	2016	2017	2018	2019	2020
Initial Students in Class	75	74	76	75	74
Graduates	69	70	73	73	66
True Attrition (will not receive M.D. in any year)	3	1	1	0	0

	2015-16	2016-17	2017-18	2018-19	2019-20
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					
Freshmen	1	5	2	0	1
Sophomores	1	1	1	4	0
Juniors	4	8	7	3	12
Transferred to Another Medical School	1	0	0	0	0
Withdrew	1	3	1	2	2
Admitted with Advanced Standing or Re-entered from Graduate School	0	0	0	0	0
Deceased	0	0	0	0	0
Repeated All or Part of the Year	1	6	3	5	1
Enrolled on Decelerated Schedule	0	0	0	0	0

Minority Students (Black, Native American, Hispanic)	2015-16	2016-17	2017-18	2018-19	2019-20
Total	28	35	43	39	47
Freshmen	9	10	11	10	16
All Other Classes	19	25	32	29	31

United States Medical Licensure Examination (USMLE) Step 1
First Time Takers

	2015	2016	2017	2018	2019
Number of Students	73	78	74	67	69
National Overall Mean	229	228	229	230	231
USACOM Overall Mean	229	228	234	232	231
Failure Rate – National	5%	5%	4%	4%	3%
Failures at USA	4%	2%	1%	3%	4%

Minimum passing score = 192 in 2014; 194 in 2018

United States Medical Licensure Exam (USMLE) Step 2
First Time Takers

	2015	2016	2017	2018	2019
Number of Students	76	71	70	74	76
National Overall Mean	240	241	242	241	243
USACOM Overall Mean	242	246	248	248	247
Failure Rate – National	5%	4%	2%	4%	2%
Failures at USA	4%	3%	0%	3%	3%

Minimum passing score = 209 beginning with the Class of 2014

United States Medical Licensure Examination (USMLE) Step 3

	Class of 2013	Class of 2014	Class of 2015	Class of 2016	Class of 2017
National Percentage Passing	98	98	98	98	98
USA Percentage Passing	97	98	99	99	100
USA Number of Students	66	62	69	69	76

Evaluation of Student Performance in the First Postgraduate Year

Due to COVID-19, the questionnaire was not sent this year to Program Directors of the PGY-1 programs of our 2019 graduates; therefore, there is no data.

Curriculum Committee

The Curriculum Committee met twice a month this past academic year. Meeting agendas consisted of subcommittee reports with recommendations for action and informational sessions updating committee members on issues such as continuous quality improvement of our educational program, the addition of a parallel educational track in our curriculum, and the various curricular changes necessary to protect the safety of our students and faculty while still meeting all educational objectives in the setting of 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.

Curriculum Committee subcommittees met regularly to perform the major workload of the parent committee in 2019 – 2020. The subcommittees and their chairs included:

Assessment and Evaluation (Abu Al-Mehdi, MD, PhD)

Clerkship Directors (Benjamin Estrada, MD)

Clinical Skills (Elizabeth Minto, MD)

Curriculum Integration (Jeff Sosnowski, MD, PhD)

Clinical Pathways (Benjamin Estrada, MD)

Pre-Clerkship Directors (Mark Taylor, PhD)

A summary of Curriculum Committee activities and actions for 2019 – 2020 follows:

Curricular Oversight

The main focus of Curriculum Committee continues to be oversight of the delivery of our COM curriculum, and ensuring that our methods are preparing our students by appropriately meeting educational objectives and achieving appropriate milestones of learning.

Early in this academic year, after extensive discussion on optimizing changes for both students and faculty, the Curriculum Committee approved a change in the sequence of the Fundamentals of Human Health (FHH) module and the Infections Diseases and Immunology (IDI) module. This led to a broader discussion on the ideal curricular content for a (potentially longer) FHH course in the near future, as well as the optimal sequence and length for the system based modules that will follow. The Curriculum Integration subcommittee continues its work on this topic.

A revision was also approved to the Clinical Skills assessment methods, which is a sequence of 5 summative OSCEs (objective structured clinical examinations) required for graduation. After discussions and suggestions from the Clinical Skills subcommittee, the Curriculum Committee approved a revision of OSCE 4 from being a 1-station comprehensive H&P to a 2-station exam, with 1 comprehensive new patient H&P and 1 follow-up patient visit.

Curricular oversight also included in-depth reviews of all third year clerkships by our Assessment and Evaluation subcommittee with action plans for identified issues being generated, and monitoring continued with oversight from the Curriculum Committee as well as the Clerkship Directors' and Assessment and Evaluation subcommittees.

A new framework document was also adopted that will allow the subcommittees and the Curriculum Committee as a whole to more efficiently identify and track long term goals and projects.

Student Wellness Forum Pilot project

The COM Wellness program, which has been a popular addition to our medical students' experience, proposed a pilot project to add several educational sessions for all M3 students to have the opportunity to expand their knowledge of issues that impact student and physician wellness, and help them gain skills to cope with these issues. Topics for the sessions were generated by a poll of the student body. Coordination among the clerkship directors successfully allowed a plan for all students

to attend these sessions at the same time, across clerkships, over the course of the academic year. The Curriculum Committee will receive follow up on this pilot project and revise/extend it as necessary.

Creation of the Primary Care Pathway parallel educational track

In late summer 2019, the USA COM received a grant from the Health Resources and Services Administration to fund an innovative project with the goal of addressing our region's shortage of primary care providers. The Curriculum Committee oversaw and ultimately approved the efforts of a task force that was created to devise a curriculum to utilize this funding to create a new Primary Care Pathway Scholars' pathway within the COM. This curriculum, which will allow 10 students per year for the next four years to gain additional training in topics to better prepare them for practice in a primary care field, was submitted for approval to the LCME and accepted its first scholars in AY 2020-2021.

Addition of an Ultrasound thread in the pre-clerkship modules

Curriculum Committee received and approved a proposal for the addition of clinical training in diagnostic point-of-care ultrasound in the preclerkship years, as well as the use of ultrasound in anatomy instruction through the systems based modules. The COM acquired 4 Sonosite ultrasound machines and the Curriculum Committee approved a pilot plan to utilize standardized patients in the use of ultrasound for diagnostic and therapeutic indications.

Graduation Questionnaire data review

The Curriculum Committee continues to utilize compiled data to inform necessary areas for revision or curricular updates. Review of the AY 2018-19 GQ showed the following as areas of strength and opportunity for the USA COM:

- 98% of our students reported being satisfied with the quality of the medical education.
- 91% reported that our basic science content had sufficient illustrations of clinical relevance, and 91% also reported that clinical experiences integrated basic sciences content.
- Student satisfaction with pre-clerkship and clerkship experiences was above the national average for the vast majority of our offerings.
- In the topic of preparation for entering residency, students ranked the options on having acquired necessary clinical skills, management of common conditions communication skills for patients and health professionals, clinical decision making & evidence-based medicine, understanding of the social sciences (ethics, humanism...), ethical and professional values of the profession and prepared to care for people of different backgrounds all scored above the national average.
- Areas for future focus were identified in the domains of diversity (both class and faculty composition), participation in community research, student authorship of peer reviewed publications, and use of interpreters/utilizing other languages.
- Scores in the learning environment, including student:faculty ratios, student perceptions of strong ethics and safety, and perceptions of faculty as advocates for patients and students, were above national averages.

Revision of the Assessment and Evaluation Process

The Committee continues its endeavors to continuously improve the assessment and evaluation process of the modules and clerkships. This academic year, the Assessment and Evaluation

subcommittee has focused on deep reviews of the clerkships. They are now implementing plans to streamline module and clerkship objectives and map all to the objectives for the COM as a whole. They also are finalizing plans to revise the process by which the module and clerkship reviews occur, with the goals of streamlining the paperwork process for module and clerkship directors, making the process more collaborative and less adversarial for all involved. This process will continue to evolve as part of the Committee's focus on continuous quality improvement.

USMLE and NBME Performance Review

Standardized test scores reviewed by the Committee during 2019 – 2020 continued their pattern of upward trending by meeting or exceeding national norms. Mean scores on NBME shelf exams for all seven clerkships continue to exceed national norms for the year. Final Step 1 data showed that USA students averaged 231 which was higher than the national average of 230. Step 2CK data demonstrated USA students averaged 246 which was above the national average of 243. On Step 2CS, data revealed USA students matched the national pass rate of 96%.

Revision of Student Handbook

The Curriculum Committee continued its CQI focus in its ongoing oversight of the student handbook, ensuring that no older versions are linked in various web pages for the many webpages of our divisions and courses. There was also a revision to the grading policy for 4th year electives completed at other institutions, to better allow for transparency on student transcripts and residency applications. The Curriculum Committee emphasized the importance of transparency with students for all grading and remediation policies, and the Medical Student Affairs subcommittee will continue its oversight of the handbook's language and updates.

Potential partnership with CerviCusco

To further the COM's goal of increasing global reach for our educational mission, the Curriculum Committee began information gathering and logistics planning for the potential partnering with CerviCusco, Peru as a location for clinical training for our students as a potential 4th year elective. Next steps would be a site visit and development of learning objectives and assessments. This process has been temporarily paused in the setting of the global coronavirus pandemic, but the opportunity remains.

Revision of mechanisms for student feedback

The Medical Student Affairs subcommittee revised the process by which students can be awarded positive and negative feedback from faculty. The process of "Praise cards" for exemplary student behavior and "PEC notes" (Physicianship Early Concern) had previously required that paper forms be submitted to the Office of Student Affairs, which was felt to potentially deter faculty from completing the process. These feedback mechanisms were transitioned to an online process that will allow for an easier process for faculty, protection of student confidentiality, and a more objective process when preparing student MSPEs.

Addition of 4th year electives

The Curriculum Committee reviewed and approved the creation of two new M4 electives to add to the catalog for our rising senior students. One will be an entirely web based 4 week elective on Wellness, both of patients and physicians. The other will add a clinical experience in the field of

Urology. Learning objectives and assessment methods were reviewed by the committee and approved.

Adapting our Curricular Delivery and Assessment Methods in the setting of Covid-19

By mid-March of AY 2019-2020, the main focus of the Curriculum Committee, out of necessity, shifted almost entirely to issues presented by the declaration of the global coronavirus pandemic. An institutional decision was made to transition to a fully virtual educational environment as of March 23, 2020. Decision making was focused on overarching principles of preserving safety for our students, faculty, and patients, as well as maintaining the integrity of the educational experience for our students. The Curriculum Committee weighed many options in making many critical decisions in this uncertain and rapidly changing time period; all decisions were intended to maintain our ability to meet all necessary learning objectives as well as prevent having to postpone graduation dates for any of our matriculating students.

Major changes enacted by the Curriculum Committee for the spring of 2020 included:

- Pre-clerkship modules were delivered fully online. This impacted the CVR and URN module for the M1 students, and the ENR module for M2s. All students received didactic content via web-based Zoom platform and/or with pre-recorded video content. Small group activities were carried out via Zoom with proctored breakout rooms, and their content was deemed required and only formative (with no grade attached). All learning objectives were met with significant innovation and creativity on the part of the module directors and supporting faculty.
- Given the radical and sudden changes to the delivery of educational content, grading policies were revised to ensure fairness for the students. The affected modules were changed to pass/fail, and the threshold for passing was lowered. The decision was made that the affected modules would not be counted in these students' class rank calculations, and transcripts will be notated appropriately for all Covid impacted modules.
- These changes necessitated that all testing be carried out remotely. Biweekly exams were delivered via an online platform called ExamSoft, and NBME exams were administered remotely with appropriate proctoring via Zoom. Numerous details required troubleshooting and effective communication and transparency with the students, including connectivity issues, contingency plans in the event of a student illness, child/family care issues, etc. All were successfully and thoughtfully navigated. A remote testing honor code was also developed by the office of Medical Education and signed by all students.
- For the Clinical Skills course, which is a longitudinal course that runs parallel to modules for the M1 and M2 years, spring OSCEs were canceled as students and standardized patients were not allowed on campus. Clinical Skills instruction in the CVR, URN, and ENR modules was carried out virtually. OSCE 5 for the M3s was postponed until spring of 2021.
- For Covid impacted clerkships, the Curriculum Committee approved the plan from the Clerkship Directors' subcommittee, which included that grades will continue to be comprised of clinical, TBL, and NBME scores as typically done in the non-Covid impacted portion of the academic year. New assessment techniques were developed and implemented in the clerkships to accommodate for the reduced clinical activity. Examples included online videos with student notes submitted and graded via rubric, individual oral assessments of case constructs via a Zoom platform, and Aquifer cases for those that have them available.

- M3 students were brought back into the clinical learning environment in early June 2020, and the Curriculum Committee devised and approved an innovative plan to allow these students to complete the missed clinical time in their late spring clerkships, while not impacting their ability to complete their M4 requirements, nor impede the rising M3 students' ability to start their clerkships on time. Curriculum Committee also oversaw necessary changes to the typical format of the summer remediation of courses not successfully completed during the academic year. These were converted to a virtual format, and the COM added an online resource called Osmosis to the resources provided to our students to further enhance their learning.
- Through all this necessary oversight of sudden and sweeping changes to the manner in which our curriculum was delivered and assessed in Spring 2020, the CC continued its oversight of clerkships and modules via the Assessment and Evaluation subcommittee's work. Focus has largely now shifted toward safety plans for students re-entering the learning environment for the 2020-2021 academic year, keeping in line with guidelines for social distancing, universal masking, cleaning, and limited student density.

Executive Committee of Student Assembly

Meetings were held on the second Wednesday of every month. Meetings were held in Mastin 209 until April 2020 then the meetings were conducted via Zoom to allow for social distancing due to COVID-19. Meetings were held at 4:15 p.m. in August and thereafter were held at 5:30 p.m. Meetings were not held in December 2019, or June and July of 2020.

As set forth in the Student Handbook, Student Assembly addressed issue affecting student life. The officers were:

- President: Stuart McFarland
- Vice President: Harold Brooks Lampkin
- Secretary/Treasurer: Allen Mao
- SGA Liaison: Zachary White
- Faculty Advisors: Dr. Kelly Roveda, Dr. Linda Ding

1. Events funded by Student Assembly
 - a. Halloween Party: November 2, 2019
 - i. Student Assembly approved \$300 for the event
 - b. Christmas Party: December 6, 2019
 - i. Student Assembly approved \$300 for the event
 - c. Gold Humanism Honor Society Solidarity Week – February 10 -14, 2020
 - i. Student Assembly approved \$350 that was used to purchase items handed out during Solidarity week.
 - d. National Public Health Week: April 6th-12th, 2020
 - i. Student Assembly approved \$500 to provide incentives for those that participated.
 - e. USACOM M3 Case Report Symposium: June 5, 2020
 - i. Student Assembly Approved up to \$500 to cover for plaques, catering, and thank you gifts for judges

- f. Asclepian Ball
 - i. Due to Covid-19 the Asclepian Ball was canceled for 2020.
 - ii. The money originally intended for the Asclepian Ball was donated to the following charities:
 - Feeding the Gulf Coast: \$1500
 - Feeding America: \$1500
2. Dates of Special Events: October 2019 – September 2020 were as follows:
- a. Match Day ceremony for the Class of 2020 was cancelled due to COVID-19. Match Day NRMP letters were emailed to each student on March 20, 2020
 - b. Honors Convocation & USACOM Graduation for the Class of 2020 was held via zoom on May 8, 2020 due to COVID-19
 - c. USACOM M3 Case Report Symposium was held on June 5, 2020 via zoom
 - d. White Coat Ceremony for the Class of 2022 and Gold Humanism Honor Society Induction for the Class of 2021 was held on June 19, 2020 via zoom.
 - e. The Wellness Committee organized several events for the COM as a whole
 - i. Individual house events were held in the fall semester at various times
 - ii. Individual house events were held in the Spring Semester at various times
 - f. 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. Article VI Section 3 of the Student body constitution was amended to state the following:
Article VI Section 3: To ensure adequate representation, the class may take a vote of confidence utilizing the following procedure:
 - i. A vote of confidence may be called by any COM class at any time by securing signatures of one-third of the class and presenting them to a class Honor Council member who will then schedule the vote.
 - ii. If one-third or more of the class members do not have confidence in a class representative, a new election will be conducted in the manner described in ARTICLE VI, Section 2. The current representative may be re-nominated and re-elected.
 - b. The Student Assembly bank account was transitioned from PNC bank to Regions bank.
 - c. New Organization Startup Funds were established. Designed to bridge the gap before organizations can apply for SGA funds.
 - d. New Student Assembly Officers were elected in April 2020 for the 2020-2021 school year
 - i. The transitional meeting took place on May 13, 2020
 - President: Kaitlyn Hickman
 - Vice President: Priscilla Perez
 - Secretary: Cody Roberts
 - Treasurer: Madeline Tucker
 - SGA Liaison: Sam Hutcheson

Office of Financial Aid

	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
Total Financial Aid	\$10,189,089	\$10,749,914	\$10,517,598	\$10,570,736	\$10,690,989
Students on Aid	263	272	256	270	242
Loans					
Perkins	557,500	423,000	0	0	0
Direct Unsubsidized	7,172,789	7,828,125	7,674,811	7,623,544	7,573,878
Direct Grad Plus	555,483	783,639	1,025,483	1,021,921	1,001,350
Outside Private Loans	14,983	0	0	0	0
Total Loans	\$8,300,755	\$9,034,764	\$8,700,294	\$8,645,465	\$8,575,228
Scholarships					
University Sponsored	968,916	900,064	972,261	1,276,612	1,113,020
Outside Sponsored	185,549	138,201	138,866	58,614	260,494
Military – Army	86,551	153,282	93,654	189,522	258,454
Military – Navy	229,467	206,468	216,613	126,048	157,740
Military - Air Force	201,106	88,791	280,409	189,127	163,092
Alabama VA Benefits	86,703	94,840	61,442	31,440	31,476
US Federal VA Benefits	0	0	0	0	32,116
Faculty Staff Reimbursement	130,042	133,504	54,059	53,908	99,369
Total Scholarships	\$1,888,334	\$1,715,150	\$1,817,304	\$1,925,271	\$2,115,761
Average Indebtedness of a Graduating Senior					
	\$155,019	\$156,242	\$160,870	\$158,602	\$146,563

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, 2019, through July 31, 2020, one (1) emergency loan was approved for a total amount of \$500.00. During that period, two (2) loan payments totaling \$1,000 were paid back into the loan account.

Office of Diversity and Inclusion

The Office of Diversity and Inclusion (ODI) within USA College of Medicine continually strives to develop policies and best practices directed at the outreach, recruitment and retention of a more diverse and inclusive student body, housestaff and faculty. This mission informs the efforts of this office within the communities of the USA College of Medicine and USA Health. It is through the support of these communities that the ODI has been able to strengthen and expand efforts throughout 2019 and 2020.

ODI-In-Numbers, 2019-2020

- **221** Participants Trained, Unconscious Bias Training
- **40** Participants Trained, Transgender and LGBTQ+ Staff Development Training
- **7** Diversity & Inclusion “Lunch and Learn” Sessions
- **2** High School/University Recruitment Visits
- **5** Student Affinity Groups
- **18** Collegiate Pathway Program Participants

Two pathway programs are coordinated through the ODI as part of the office’s outreach and recruitment initiatives. The DREAM Program, formally known as the BEAR Program, has been in existence since 1985 and 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 a seven to eight-week summer session, students are immersed in coursework, professional development sessions, and cultural immersion experiences led by university-level faculty members.

The second pathway program, the SouthMed Prep Scholars (SMPS) Program, also 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 similar to DREAM. Students for this program are recruited from colleges and universities across the state of Alabama and HBCUs in the southeast with a focus on Alabama residents.

During the 2019-2020 recruitment cycle, 45 applications were received for both programs. Fifteen students were chosen from this applicant pool and three students returned from last year’s program for a total of 18 students for both programs in 2020. Students were recruited from the following institutions: Auburn University, Alabama State University, University of Alabama at Birmingham, University of South Alabama, Alabama A & M University, Tuskegee University, Pomona College (Claremont, CA), Spelman College (Atlanta, GA), and Xavier University (New Orleans, LA).

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, Muslims in Medicine (MIM), and the Spanish Medical Interest Group. These groups, in partnership with the ODI, develop, host and facilitated Diversity & Inclusion "Lunch and Learn" sessions that are open to all students, faculty and staff.

This office, led by Dr. Franklin Trimm, facilitates Unconscious Bias trainings to audiences throughout the USA Health System, supports processes that promote diversity in the recruitment and selection of faculty, and represents the values of equity, diversity and inclusion in many committees and activities within the College of Medicine.

As the year progress, 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, or staff-person at a time.

2019-2020
Summary of Activities
Office of Admissions

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 3, 2020, opened June 1, 2019, and closed November 1, 2019. The matriculating Class of 2020 represents twenty-nine (29) colleges and universities from the United States. Forty-seven percent (47%) of this year's class, however, come from the four (4) largest universities in the state. Additional details of the 2019-2020 admissions cycle are shown in Table 1.

Recruitment and Retention Efforts

1. Undergraduate campus recruiting visits and sophomore interviews were implemented by "teams" of faculty and administration. The USA COM recruiting teams counseled over two hundred (200) premedical students at seven (7) colleges and universities both in person and via Zoom.
2. The Director of Admissions served as the admissions counselor and advised prospective students on a daily basis. In addition, selected faculty members advised prospective applicants periodically.
3. Premedical visitation day programs were cancelled in 2020 due the COVID-19 pandemic.
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/or *ad hoc* members. These members interviewed two hundred thirty-eight (238) candidates; each interviewee was interviewed by three committee members, giving a total of seven hundred fourteen (714) interviews.
7. The following Admissions Committee subcommittees were active in 2019-2020: Interview Selection Subcommittee, the Scholarships Subcommittee, Wait List Subcommittee, and the Early Assurance Subcommittee.

Early Acceptance Program

In 1990, the College of Medicine and the University's Health Pre-Professions Program established an Early Acceptance Program (EAP) for highly qualified high school graduates interested in a career in medicine. Candidates selected for this program must have a minimum high school GPA of 3.5 and an ACT score of 27 (or comparable SAT). Candidates selected for this program receive early acceptance from the University of South Alabama College of Medicine. The students jointly enter the Health Pre-Professions Program and the Honors College at the University of South Alabama, and their curriculum includes the core requirements for their selected baccalaureate degree, Honors College, and the prerequisites for entering medical school. Students in the EAP must maintain a specified GPA during college and take the MCAT, a minimum score of 504 being required. EAP participants must also meet all other requirements for entering medical school. Students participate in a variety of activities on an individual basis to provide broad exposure to medical education. Students participating in the program are expected to enter the College of Medicine following completion of the baccalaureate degree.

This year, one hundred twenty-three (123) applications were received from students wishing to enter this program. After a screening process, forty-five (45) of the applicants were selected for interviews and ten (10) were offered admission to the EAP.

Table 1. University of South Alabama College of Medicine Admissions Report

	2017	2018	2019	2020
<u>Total Applicants (Completed Secondary Applications)</u>	1521 (740)	1604 (767)	1554 (860)	1433 (872)
Residence: Alabama	467 (407)	471 (409)	430 (387)	460 (425)
Out-of-State	1003 (301)	1079 (322)	1059 (426)	928 (410)
Service Areas (FL & MS)	51 (32)	54 (36)	65 (47)	45 (37)
Rural	63 (63)	101 (99)	67 (62)	89 (89)
Alabama Female	209 (183)	213 (188)	193 (179)	239 (224)
Alabama Black	55 (51)	45 (34)	41 (38)	57 (49)
Out-of-State Black	83 (46)	95 (28)	106 (42)	112 (32)
AL Other Underrepresented Minorities*	30 (27)	28 (26)	22 (22)	23 (13)
OOS Other Underrepresented Minorities	157 (62)	148 (44)	150 (48)	147 (52)
<u>Total Applicants Interviewed</u>	211	224	198	238
Residence: Alabama	196	215	182	217
Out-of-State	6	5	7	11
Service Areas (FL & MS)	9	4	9	10
Rural	33	50	28	49
Female	89	102	95	117
Black	20	20	19	26
Other Underrepresented Minorities	8	7	7	7
<u>Total Applicants Accepted</u>	143	131	141	122
Residence: Alabama	132	123	127	106
Out-of-State	5	6	8	8
Service Areas (FL & MS)	6	2	6	8
Rural	21	31	23	25
Female	66	67	76	66
Black	15	16	17	17
Other Underrepresented Minorities	6	5	6	3
<u>Total Matriculants</u>	72	74	74	74
Average MCAT	508	508	508	507
Average GPA	3.77	3.79	3.82	3.80
Early Decision Program	4	18	15	12
Residence:				
Alabama	67	69	65	65
Out-of-State	2	3	4	5
Service Areas (FL & MS)	3	2	5	4
Rural	12	18	8	14
Female	32	35	42	43
Black	8	5	8	11
Other Underrepresented Minorities	2	5	4	1

*Other Underrepresented Minority: Hispanic ethnicity, American Indian

2019-2020
Summary of Activities
Office of Continuing Medical Education

I. NATIONAL PROFESSIONAL RECOGNITION

Sharrie 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 recently appointed as 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) received a four-year accreditation as a provider of Interprofessional Continuing Education (IPCE). 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, and the Accreditation Council for Pharmacy Education.

During 2019-2020, 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 35 regularly scheduled series (Grand Rounds), 18 conferences, 17 disaster preparedness seminars, and 3 online activities, all combining for 916.75 CME hours of instruction and collaboration. In total 7295 physicians and 3573 non-physicians were awarded continuing education credits. Activities were jointly provided through the collaboration with the Coastal Trauma Care Region, Health Policy Center, Providence Foundation, Foundation for Sickle Cell Disease Research, Southeastern TeleHealth Resource Center, Springhill Medical Center, USA College of Business, Veterans Administration, and other organizations throughout our region.

III. SIGNIFICANT PROFESSIONAL AND CME ACHIEVEMENTS

- Added APA, ADA, and SHRM credit offerings.

CME Plans for 2021

- Improve offerings of Joint Accreditation criteria for commendations.
- Add criteria from APA, ADA, and SHRM accreditation to Policy and Procedure Manual.
- Implement aspects of five-year strategic plan created by the students of USA's College of Business.

**2019-2020
Summary of Activities
Office of Graduate Medical Education**

I. Organizational Structure

Dr. Carole Boudreaux serves 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. Dr. Boudreaux and the GME Office staff oversee all GME training programs at the institution.

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 quality management. 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.

II. Overview of GME Programs and Accreditation

As detailed below, University of South Alabama Health sponsors 12 ACGME accredited residency and 9 ACGME accredited fellowship programs with a combined total of 288 training positions. The institution also sponsors 2 non-ACGME accredited fellowship programs. During the 2019 – 2020 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 69 physicians completing training during the 2019 – 2020 academic year.

Residency Programs

Program Name	Program Director	Program Coordinator
Emergency Medicine	Edward Panacek, M.D.	Nikki Reymundo
Family Medicine	Ehab Molokhia, M.D.	Stacey Hartman
Internal Medicine	Judy Blair-Elortegui, M.D.	Leah Musgrove
Internal Medicine/Pediatrics	Grace Hundley, M.D.	Marley Harris
Neurology	Juan Ochoa, M.D.	Leigh Rowell
Obstetrics & Gynecology	Jennifer Pierce, M.D.	Shavella Everett
Orthopedic Surgery	Jeffrey Brewer, M.D.	Rhonda Smith
Pathology	Elliot Carter, M.D.	Farhana Akther
Pediatrics	Richard Whitehurst, M.D.	Latasha Williams Jessica Petro
Psychiatry	Luke Engeriser, M.D.	Bayleigh Andrews

Radiology	Samuel McQuiston, M.D.	Shunda Fakaha
General Surgery	Leander Grimm, M.D.	Dorothy Dickinson

Fellowship Programs

Program Name	Program Director	Program Coordinator
Advanced Endoscopy Fellowship (non-ACGME accredited)	Meir Mizrahi, M.D.	Tracy Terpening
Cardiovascular Disease	Bassam Omar, M.D.	Donna Gregory
Child & Adolescent Psychiatry	Edgar Finn, M.D.	Bayleigh Andrews
Clinical Neurophysiology	Juan Ochoa, M.D.	Leigh Rowell
Gastroenterology	Jack Di Palma, M.D.	Tracy Terpening
Medical Oncology	Mohammed Khushman, M.D.	Alana Bell
Pulmonary Disease & Critical Care Medicine	Brian Fouty, M.D.	Ruth Hart
Sports Medicine (FM) - Andrews	Josh Hackel, M.D.	Ashley Mixon
Surgical Critical Care	Christopher Kinnard, M.D.	Tyronda Rogers
Sports Medicine (FM) - USA	James Toldi, M.D.	Stacey Hartmann
Addiction Medicine (Psychiatry)	Luke Engeriser, M.D.	Bayleigh Andrews
Renal and Genitourinary Pathology	Guillermo Herrera, M.D.	Farhana Akther

ACGME Accreditation

USA Health has maintained full accreditation as a sponsoring institution by the Accreditation Council for Graduate Medical Education (ACGME) with its most recent renewal of accreditation on January 15, 2020. The next institutional self-study is due on approximately March 1, 2027, and the next institutional 10 year site visit on approximately March 1, 2029. All eligible GME programs are accredited by the ACGME.

Two new fellowship programs, the USA Family Medicine Sports Medicine Fellowship under the Family Medicine core program and the Addiction Medicine Fellowship under the Psychiatry core program received initial accreditation by the ACGME.

During the 2019–2020 academic year, the pathology program underwent its 10-year ACGME accreditation site visit. The program received an accreditation status of continued accreditation. The Family Medicine Residency Program and its associated fellowship in Primary Care Sports Medicine Andrews Program, the Obstetrics & Gynecology Residency Program, and the General Surgery Residency Program and its associated fellowship in Surgical Critical Care Program have completed their self-studies. All self-studies and site visits have been suspended due to COVID-19; however, virtual site visits are anticipated to resume in September, 2020, and the site visits to follow these programs' self-studies, as well as Emergency Medicine's site visit following its initial accreditation will be re-scheduled.

The 2020 annual ACGME online resident and faculty surveys were suspended due to COVID-19. Programs with survey completion received results, but these will not be considered by the RCs for 2021 program accreditation purposes.

Residency Programs

Program Name	Training Positions	Trained Residents	Accreditation Status
Emergency Medicine	18	9	Initial Accreditation
Family Medicine	18	17	Continued Accreditation
Internal Medicine	48	48	Continued Accreditation
Internal Medicine/Pediatrics	11	9	Continued Accreditation
Neurology	12	12	Continued Accreditation
Obstetrics & Gynecology	16	16	Continued Accreditation with Warning
Orthopedic Surgery	15	15	Continued Accreditation
Pathology	15	13	Continued Accreditation
Pediatrics	36	39	Continued Accreditation
Psychiatry	20	15	Continued Accreditation
Radiology-Diagnostic	20	20	Continued Accreditation
Surgery	30	30	Continued Accreditation

Fellowship Programs

Program Name	Training Positions	Trained Fellows	Accreditation Status
Child & Adolescent Psychiatry	4	5	Continued Accreditation
Cardiovascular Disease	6	6	Continued Accreditation
Clinical Neurophysiology	1	0	Continued Accreditation
Gastroenterology	6	6	Continued Accreditation
Pulmonary Disease & Critical Care Medicine	6	6	Continued Accreditation
Medical Oncology	4	4	Continued Accreditation
Sports Medicine (FM) - Andrews	1	1	Continued Accreditation
Surgical Critical Care	1	1	Continued Accreditation
Addiction Medicine (Psychiatry)	1	0	Initial Accreditation
Sports Medicine (FM) - USA	1	0	Initial Accreditation
Renal and Genitourinary Pathology	1	0	No Accreditation Available
Advanced Endoscopy	1	1	No Accreditation Available

III. Summary of GME Activities

The Associate Dean and GME Office communicate with each of the GME programs to maintain awareness of the requirements for the ACGME accreditation and the Clinical Learning Environment Review (CLER). The GME Office was restructured creating three Institutional GME Accreditation Specialists positions. The programs are divided among these individuals who serve as GME Office liaisons to improve efficiency, oversight, communication and collaboration.

Clinical Learning Environment Review (CLER)

USA Health has established a consulting relationship with HPI Press Ganey to educate all health care providers, including the residents and fellows in our institution's ongoing efforts to build a high-performing culture. The USA Health Housestaff Patient Safety Council, mentored by CMO, was established to engage trainees in patient safety measures at the institutional level. While all CLER site visits are currently suspended, the CLER Program is developing a specially-designed CLER visit to understand the impact of COVID-19 on the clinical learning environment. A CLER site visit conducted by surveys and teleconferences is anticipated in 2021 with the purpose of assessing the impact of COVID-19 on the clinical learning environment.

GMEC Subcommittee on Simulation, Education, and Assessment

The subcommittee maintains oversight of simulation and skills laboratories and facilities to advance the acquisition and maintenance by housestaff of clinical skills with a competency-based method of evaluation. The subcommittee has been engaged in the process of developing the simulation lab at USA Health, University Hospital.

GMEC Subcommittee on Well-being

In recognition of the importance of compliance with ACGME requirements, each program is charged with establishing a clinical learning environment that fosters compliance with the ACGME requirements. The GMEC assumes responsibility for the well-being of housestaff at USA and supports all GME program efforts toward this purpose. Each program and the institution have developed policies and procedures governing the clinical experience and education. The Well-being Subcommittee of the GMEC has been charged with developing an institutional well-being program common to all of the programs as a foundation upon which the individual programs may innovate.

The USA Housestaff Council, composed of senior fellows and the chief residents from the 12 residencies, provides a platform for housestaff to address clinical and work-related concerns with USA Health administrators and GME leadership, including patient care issues, improving efficiency in clinical workflow, workplace safety, and the safety of residents and fellows. This year, the Housestaff Council helped implement a standardized institutional plan for requesting consults that was printed on a "badge buddy" and distributed to all housestaff members to improve patient safety.

Faculty, Resident, Program Director and Program Coordinator Professional Development

The GME Office, in conjunction with the Director of Healthcare Leadership Initiatives, USA College of Medicine/Mitchell College of Business, sponsored the inaugural Chief Resident Leadership Seminar.

The GME Office conducted four program coordinator workshops that included program directors and associate program directors on the topics of 1) ACGME Annual Program Evaluation; 2) ACGME WebADS Annual Program Update; 3) Clinical Competency Committee and Individualized Learning Plans; and, 4) Maintaining Compliance with the New Common Program Requirements.

The USA Health Clinical Librarian developed developed GME program specific library guides with multiple online resources accessible in the GME program management software, New Innovations. She is also spearheading the use of REDCap for capturing, using & sharing research and performance improvement data.

Multiple online resources to meet the ACGME Common Program Requirements have been housed in New Innovations for ready access by residents, faculty and program leadership.

The GME Office in conjunction with USA Health sponsored four "Fifth Friday" resident appreciation days in support of resident well-being.

A Mindful Leadership Pilot Project for USA Health is under development that will assess the incorporation of mindfulness practice with formal meditation to enhance self-awareness and its effects on leadership. The project is being spearheaded by the the Director of Healthcare Leadership Initiatives, USA College of Medicine/Mitchell College of Business, in conjunction with the College of Nursing and Graduate Medical Education.

During the 2019 – 2020 academic year, the *GME Competency Education Program (GCEP)*, a set of web-based modules from the AMA, continued to be utilized as a tool to help meet the training needs of housestaff and faculty in areas including patient safety, quality improvement, transitions in care, cultural competence, residents as teachers, and professionalism. All residents and fellows were required to complete modules on “Sleep Deprivation: Your Life and Your Work”, “Residents as Teachers” and “Cultural Competency”, and “Physician Health: Physicians Caring for Ourselves”.

Resident and Fellows Scholarship Exposition

The annual USA Resident and Fellow Scholarship Exposition was cancelled this year due to the COVID-19 pandemic.

2019-2020
Summary of Activities
Medical Student Summer Research Program

The Forty-Seventh Annual Medical Student Research Day was canceled due to Covid 19. The summer research program includes weekly seminars introducing students to important research related topics and culminating with oral and poster presentations on Research Day. The program aims to highlight the relation between scientific discoveries and their application in clinical medicine.

**2019-2020
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 2019-20 Academic Year. Prospective student applications were accessed and processed within the Graduate Office. 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 primarily via Zoom video conferencing by the BMS Graduate Office due to the COVID-19 pandemic.

The Basic Medical Sciences Graduate Program interviewed applicants for the Fall 2020 class between February and May 2020. A total of 19 applicants were interviewed. A summary is provided below.

Admissions – BMS Graduate Program

		2020 Cohort
Applications	US/Perm. Res.	15
	International	21
Acceptances	US/Perm Res.	11
	International	1
Matriculants	US	7
	International	1
		Average GRE V=148; Q=148
		Avg. UG GPA 2.72
		Avg. GR GPA 3.23

Curriculum

1. The 2019 COM Research Forum was cancelled.
2. The BMS Graduate Program presented its thirteenth Edwin R. Hughes Memorial Award to Reece Stevens on August 14, 2020. 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. Sarah Voth was the 2020 recipient of the Samuel J. Strada Career Enhancement Travel Award. The award was established to provide funds to support student travel to conferences and short courses to enhance the educational and career development opportunities for graduate students in the BMS Graduate Program.
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 2020 were Abigail Boyd, Kierra Hardy, and Griffin Wright.

Graduates

8 students officially completed all requirements during the academic year (August 2019 – July 2020):

Joshua Deal

DISSERTATION TITLE: "Development and Applications of a Hyperspectral Imaging Fluorescence Excitation-scanning Microscopy System"

MAJOR PROFESSORS: Silas Leavesley, Ph.D. and Tom Rich, Ph.D.

TRACK: Biomedical Engineering

Steffani Fitzpatrick

DISSERTATION TITLE: "CCR6-positive $\gamma\delta$ T Cells Provide Protection Against Intracorneal HSV-1 Infection"

MAJOR PROFESSOR: Robert Barrington, Ph.D.

TRACK: Infectious Disease and Host Defense

Barnita Haldar

DISSERTATION TITLE: "The Role of S100A6 in Endothelial Calcium Signaling"

MAJOR PROFESSOR: Donna Cioffi, Ph.D.

TRACK: Lung Biology

Dominika Houserova

DISSERTATION TITLE: "Novel Strategies for Pattern-based Discovery of Small Regulatory RNA Molecules"

MAJOR PROFESSOR: Glen Borchert, Ph.D.

TRACK: Cell and Molecular Biology

Orlandric Miree

DISSERTATION TITLE: "Discovering Novel Functional and Mechanistic Roles of MYB in Ovarian Cancer Pathogenesis"

MAJOR PROFESSOR: Ajay Singh, Ph.D.

TRACK: Cancer Biology

Mary Patton

DISSERTATION TITLE: “Extracellular Vesicles as Mediators of the Adaptive Survival Response to Hypoxia in Pancreatic Cancer Cells”

MAJOR PROFESSOR: Ajay Singh, Ph.D.

TRACK: Cancer Biology

Kelly Smith

DISSERTATION TITLE: “Characterizing the Cellular Effects of Dihydroxyacetone (DHA)”

MAJOR PROFESSOR: Natalie Gassman, Ph.D.

TRACK: Cancer Biology

Lana Vukadin

DISSERTATION TITLE: “The Function of SON in Hematopoietic Disorders”

MAJOR PROFESSORS: Erin Ahn, Ph.D. and Aishwarya Prakash, Ph.D.

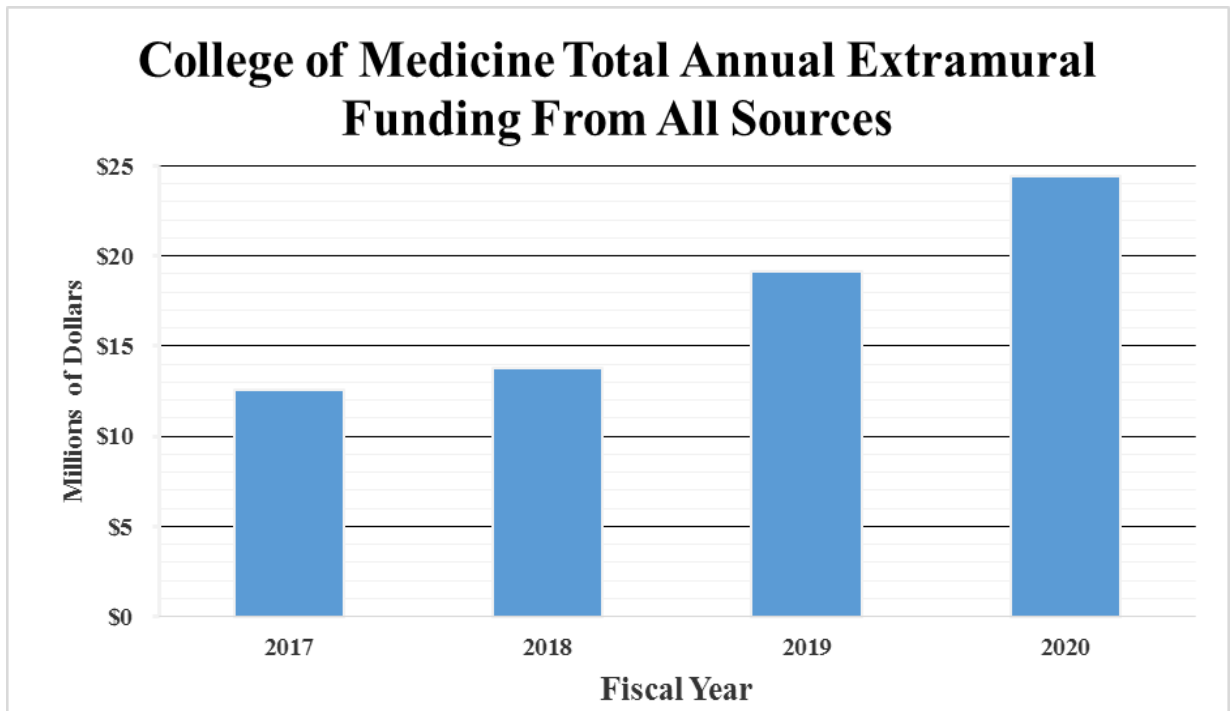
TRACK: Cancer Biology

Summary of Extramural Support

Funding for the 2019-2020 academic year includes \$24,132,734 and \$329,901 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

2017	\$12,552,857
2018	\$13,790,910
2019	\$19,159,860
2020	\$24,462,635



EXTRAMURAL FUNDING

October 1, 2019- September 30, 2020

Biochemistry and Molecular Biology

Principal Investigator	Agency	Grant ID#	Title	Fiscal Year Funding
HONKANEN, RICHARD E.	STATE OF CALIFORNIA	A19-3376-5003-03	PPP2R5D Variants	\$596,613
LIM, STEVE	NATIONAL INSTITUTES OF HEALTH	5 R01 HL136432-04	Role of FAK in Vascular Inflammation	\$426,490
PRAKASH, AISHWARYA CO-INVESTIGATOR ANDREWS, JOEL	NATIONAL INSTITUTES OF HEALTH	5 R01 ES030084-02	Repair of Environmentally Induced Mitochondrial DNA Damage	\$423,500
PRAKASH, AISHWARYA	UNIVERSITY OF ARIZONA	MP2020-04-05	Aberrant DNA Repair and Lupus	\$64,942
RICHTER, WITO CO-INVESTIGATORS AUDIA, JONATHAN ALEXEYEV, MIKHAIL	NATIONAL INSTITUTES OF HEALTH	5 R01 HL141473-03	Regulation of Phosphodiesterases and cAMP Signaling During the Host-pathogen Interaction in the Pulmonary Endothelium	\$378,245
RICHTER, WITO FELLOW ABOU-SALEH, LINA	CYSTIC FIBROSIS FOUNDATION	MP2019-09-08	Inactivation of PDE4B Protects from P. aeruginosa-induced Lung Injury	\$3,000
Total				\$1,892,790

Center for Disaster Healthcare Preparedness

Principal Investigator	Agency	Grant ID#	Title	Fiscal Year Funding
WALLACE, DAVID	ALABAMA DEPARTMENT OF PUBLIC HEALTH	C00119195 (GC-20-376)	CDHP 2020 Fiscal Agent for Alabama Healthcare Coalitions Program	\$674,287
WALLACE, DAVID	ALABAMA DEPARTMENT OF PUBLIC HEALTH	GC-20-424 (C00119228)	CDHP 2020 Alabama Healthcare Coalition Coordination Program	\$1,116,933
WALLACE, DAVID	ALABAMA DEPARTMENT OF PUBLIC HEALTH	C00119185 (GC-20-363)	CDHP 2020-2021 COVID-19 Supplemental Funds HCC	\$1,699,871
Total				\$3,491,091

Center for Strategic Health Innovation

Principal Investigator	Agency	Grant ID#	Title	Fiscal Year Funding
OLIVER, BARBARA	ALABAMA MEDICAID AGENCY	1.1-152 (C200629804)	PMP Portal and Health Home	\$5,802
OLIVER, BARBARA	ALABAMA MEDICAID AGENCY	200629804	Medicaid Maternity Contract Agreement	\$3,750
Total				\$9,552

Emergency Medicine

Principal Investigator	Agency	Grant ID#	Title	Fiscal Year Funding
PANACEK, EDWARD	INFLAMMATIX, INC	63882	Gloria-AF: Global Registry on Long-term Oral Anti-thrombotic Treatment in Patients with Atrial Fibrillation	\$4,550
Total				\$4,550

Family Medicine

Principal Investigator	Agency	Grant ID#	Title	Fiscal Year Funding
DANIEL, CASEY	BREAST CANCER RESEARCH FOUNDATION OF ALABAMA	A19-0064-002	Quantifying Breast Cancer Patient Preferences and their Association with Financial Toxicity During Treatment Decision-making	\$5,000
PERKINS, ALLEN CO-INVESTIGATORS EHAB, MOLOKHIA TRIMMIER, MARIROSE DANIEL, CASEY ATKINSON, TANGELA	HEALTH RESOURCES AND SERVICES ADMINISTRATION	5 T0BHP30027-05-00	Caring for the Complex Patient in the PCMH	\$451,633
PERKINS, ALLEN	ALABAMA FAMILY PRACTICE RURAL HEALTH BOARD	A20-0006-001	Student Curriculum in Family Medicine for the Medical Students	\$60,000
PERKINS, ALLEN	ALABAMA FAMILY PRACTICE RURAL HEALTH BOARD	A20-0005	Resident Curriculum in Rural Family Medicine	\$45,000
PERKINS, ALLEN	ALABAMA FAMILY PRACTICE RURAL HEALTH BOARD	A20-0021-001	Student Preceptorship FY2020	\$20,000
PERKINS, ALLEN CO-INVESTIGATORS ESTRADA, BENJAMIN DANIEL, CASEY TRIMMIER, MARIROSE HUNDLEY, TERRY PETTY, MELODY ESTIS, JULIE	HEALTH RESOURCES AND SERVICES ADMINISTRATION	5 T99HP33560-02-00	Partnering to Improve Population Care	\$1,174,712
PERKINS, ALLEN CO-INVESTIGATORS ESTRADA, BENJAMIN HUNDLEY TERRY TRIMMIER, MARIROSE DANIEL, CASEY PETTY, MELODY	HEALTH RESOURCES AND SERVICES ADMINISTRATION	6 T99HP33560-02-01	Partnering to Improve Population Care	\$2,827,679
Total				\$4,584,024

Internal Medicine

Principal Investigator	Agency	Grant ID#	Title	Fiscal Year Funding
ARRIETA, MARTHA	NATIONAL INSTITUTES OF HEALTH	5 U01 ES029518-03 SUBFUND	Measuring Genomic DNA Damage and DNA Repair Capacity in Longitudinal Population Samples - A Step Towards Precision Prevention	\$181,102
COHEN, MICHAEL	BOEHRINGER INGELHEIM PHARMACEUTICALS	63697	Gloria-AF: Global Registry on Long-term Oral Anti-thrombotic Treatment in Patients with Atrial Fibrillation	\$2,662
CROOK, ERROL CO-INVESTIGATORS PERKINS, ALLEN	UNIVERSITY OF ALABAMA AT BIRMINGHAM	30T2OD026548-01S3	Alabama Precision Medicine Initiative	\$431,590
ARRIETA, MARTHA HAYNES, JOHNSON CO-INVESTIGATOR PERKINS, ALLEN	UNIVERSITY OF ALABAMA AT BIRMINGHAM	30T2OD026548-01S2	Alabama Precision Medicine Initiative	\$9,923
ARRIETA, MARTHA HAYNES, JOHNSON CO-INVESTIGATOR WILSON, FELICIA	CAROLINAS HEALTHCARE SYSTEM	A18-0056-5004	Comparative Effectiveness of Enhanced Peer Navigation versus Structured Education Based Programming for the Management of Care Transitions in Emerging Adults with Sickle Cell	\$49,463
MALOZZI, CHRISTOPHER CO-INVESTIGATORS COHEN, MICHAEL V. MCQUISTON, SAMUEL	AMERICAN ACADEMY OF PEDIATRICS	5 R21EB028063-02 SUB FUND	Automated MRI-based 3D Contractility (Strain) Analysis for Detecting Subclinical Cardiotoxicity in Breast Cancer Patients Undergoing Chemotherapy	\$44,044
MALOZZI, CHRISTOPHER	CSL BEHRING LLC	63847	A Phase 3, Multicenter, Double-Blind, Randomized, Placebo-Controlled, Parallel-Group Study to Investigate the Efficacy and Safety of CSL112 in Subjects with Acute Coronary Syndrome	\$2,783
MALOZZI, CHRISTOPHER	LUITPOLD PHARMACEUTICALS	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)	\$19,264
RAHIMI, FARNOOSH	ZOLL SERVICES, LLC	63866	Benefits of uCor in Ambulatory Decompensated Heart Failure (BMAD HF)	\$8,450
VANDE WAA, JOHN	HEALTH RESOURCES AND SERVICES ADMINISTRATION	4 H12HA24771-08-01	University of South Alabama Family Specialty Clinic	\$381,260
VANDE WAA, JOHN	HEALTH RESOURCES AND SERVICES ADMINISTRATION	1 H1XHA37006-01-00	Ryan White HIV/AIDS Program Part D WICY COVID-19 Response	\$27,988
VANDE WAA, JOHN	UNITED WAY OF CENTRAL ALABAMA	RW2-USAF-2021	USAF Part B Supplement	\$28,000
VANDE WAA, JOHN	UNITED WAY OF CENTRAL ALABAMA	RW-USAF-2021	Ryan White Part B	\$50,000
VANDE WAA, JOHN	UNITED WAY OF CENTRAL ALABAMA	RW2-USAF-1920-02	USA Family Specialty Clinic Ryan White Part B Supplemental Funds	\$8,000
Total				\$1,244,529

Microbiology and Immunology

Principal Investigator	Agency	Grant ID#	Title	Fiscal Year Funding
AUDIA, JONATHON	INFECTION SCIENCES LLC	A20-0110	Fee For Service Agreement COVID	\$9,122

BARRINGTON, ROBERT	SONNET BIOTHERAPEUTICS, INC.	20-0416	In Vivo Localization of IL-12-FHAB in C57BL/6J Mice	\$66,002
KIM, JIN	AQUA RESOURCES	63884	Aqua Resources Kill Curve for SARS-CoV-2 Virus	\$5,000
KIM, JIN	INFECTION SCIENCES LLC	A20-0084	Fee For Service Agreement COVID	\$13,195
CO-INVESTIGATOR				
RAYNER, JONATHAN	APPLIED SILVER, INC.	A20-0130	SilvaClean Kill Curve for SARS-CoV-2 Virus	\$22,173
KIM, JIN				
CO-INVESTIGATOR				
RAYNER, JONATHAN	UNIVERSITY OF TEXAS MEDICAL BRANCH	19-84813-02	Novel Bacterial Small RNAs as Determinants of Rickettsial Virulence and Transmission	\$76,369
MACALUSO, KEVIN	NATIONAL INSTITUTES OF HEALTH	7 R01 AI077784-11	Molecular Basis for Spotted Fever Group Rickettsia Vector Competence in Ticks	\$295,868
MACALUSO, KEVIN	NATIONAL INSTITUTES OF HEALTH	7 R01 AI122672-05	Emerging Flea-borne Rickettsial Diseases: Vector Competence and Transmission Biology	\$829,486
RAYNER, JONATHAN	HILLSTREAM BIO	63883	Evaluation of Nanoparticle Formulations of Antiviral Drugs Against SARS-CoV-2 Virus	\$9,000
RAYNER, JONATHAN	SONNET BIOTHERAPEUTICS, INC.	A20-0112	Efficacy of IL12 Based Adjuvants in a C57BL/6J Mouse Model of Influenza Virus H1N1 Infection	\$185,714
CO-INVESTIGATORS				
KIM, JIN				
BARRINGTON, ROBERT				
RAYNER, JONATHAN	VIRGINIA COMMONWEALTH UNIVERSITY	FP000013771_SA001	Evaluation of the Antiviral Properties of Neratinib	\$49,266
RAYNER, JONATHAN	ALABAMA DEPARTMENT OF PUBLIC HEALTH	A20-0063	The Ecology and Spatial Distribution of Ticks and Tick Borne Diseases in Alabama	\$43,641
RAYNER, JONATHAN	MOBILE COUNTY HEALTH DEPARTMENT	A20-0083-001	Mobile County Public Health Department Mosquito-borne Infectious Disease Surveillance .2020	\$48,967
			Total	\$1,658,803

Neurology

Principal Investigator	Agency	Grant ID#	Title	Fiscal Year Funding
CORDINA, STEVE	DAIICHI SANKYO	63814	A Phase 1B/2, Multi-Center, Double-Blind (Principal Investigators and Study Subjects Blinded, Sponsor Unblinded), Placebo-Controlled, Randomized Single-Ascending Dose Study to Assess the Safety, Pharmacokinetics, and Pharmacodynamics of DS-1040B in Subjects with Acute Ischemic Stroke Centers of Excellence	\$11,928
DEES, DANIEL	UNIVERSITY OF ALABAMA AT BIRMINGHAM	180111-03	Cladribine tablets: Observational Evaluation of Effectiveness and Patient Reported Outcomes in Suboptimally Controlled Patients Previously Taking Injectable Disease-Modifying Drugs for Relapsing Forms of Multiple Sclerosis	\$4,750
KILGO, WILLIAM	EMD SERONO RESEARCH & DEVELOPMENT	63868	Cladribine tablets: Observational Evaluation of Effectiveness and Patient Reported Outcomes (PROs) in Suboptimally Controlled Patients Previously Taking Oral Disease Modifying Drugs (DMDs) for Relapsing forms of Multiple Sclerosis (RMS) (Master-2)	\$2,314
KILGO, WILLIAM	EMD SERONO RESEARCH & DEVELOPMENT	63874	Cladribine Tablets: Observational Evaluation of Effectiveness and Patient-Reported Outcomes (PROs) in Suboptimally Controlled Patients Previously Taking Oral Disease Modifying Drugs (DMDs) for Relapsing forms of Multiple Sclerosis (RMS) (Master-2)	\$9,945
KILGO, WILLIAM	JOHN HOPKINS UNIVERSITY	A20-0137	Treatment of Multiple Sclerosis	\$9,100

MINTO, ELIZABETH	NOVARTIS	63785	Long-Term, Prospective, Multinational, Parallel-Cohort Study Monitoring Safety in Patients with MS Newly Started with Fingolimod Once Daily or Treated with Another Approved Disease-Modifying Therapy	\$16,358
NARITOKU, DEAN	XENON PHARMACEUTICALS	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	\$6,987
SUGG, REBECCA	THE NEUROLOGICAL INSTITUTE OF NEW YORK	010785-138674	ARCADIA Clinical Trial through the NIH StrokeNet	\$2,000
Total				\$63,382

Obstetrics and Gynecology

Principal Investigator	Agency	Grant ID#	Title	Fiscal Year Funding
BAKER, SUSAN	UNIVERSITY OF ALABAMA AT BIRMINGHAM	000503570-SC039-A02	Chronic Hypertension and Pregnancy	\$11,261
BAKER, SUSAN	UNIVERSITY OF ALABAMA AT BIRMINGHAM	000517555-001	Regional Partnership Grants to Increase the Well-Being of, and to Improve the Permanency Outcomes for, Children Affected by Substance Abuse	\$12,500
BAKER, SUSAN	SEQUENOM	63719	SQNM-T21-107 - Collection of Whole Blood Specimens from Pregnant Women at Increased Risk for Fetal Chromosomal Abnormality for Use in Development of a Noninvasive Prenatal Test in the Detection of the Relative Quantity of Chromosomal Material in Circulating Cell-Free DNA Extracted from Maternal Plasma	\$10,125
BROCATO, BRIAN	VELO BIO, LLC	63813	A Multi-Center, Randomized, Double-Blind, Placebo-Controlled, Parallel-Group Study of the Efficacy and Safety of Digifab in Antepartum Subjects with Severe Preeclampsia	\$12,000
MUNN, MARY	ALABAMA DEPARTMENT OF PUBLIC HEALTH	COM2019-02-01/OSP-190249	Perinatal Coordinator Grant	\$11,500
Total				\$57,386

Pathology

Principal Investigator	Agency	Grant ID#	Title	Fiscal Year Funding
PHUNG, THUY	BAYLOR COLLEGE OF MEDICINE	20-0553	Pathogenesis of Lymphatic Anomalies	\$88,675
SINGH, AJAY CO-INVESTIGATORS	NATIONAL INSTITUTES OF HEALTH	5 R01 CA224306-03	A Novel Molecular Cross-talk Driving Pancreatic Cancer Progression	\$316,556
SINGH, SEEMA CARTER, ELLIOT	NATIONAL INSTITUTES OF HEALTH	5 R01 CA204801-05	Molecular Causes and Mechanistic Underpinning of Breast Cancer Racial Disparity	\$346,556

SINGH, SEEMA CO-INVESTIGATORS SINGH, AJAY DANIEL, CASEY HANKS, ROMA ARRIETA, MARTHA	NATIONAL INSTITUTES OF HEALTH	5 R01 CA231925-02	Impact of Social Factors on Breast Cancer Biology in African-American Women	\$603,592
Total				\$1,355,379

Pediatrics

Principal Investigator	Agency	Grant ID#	Title	Fiscal Year Funding
ANDERSON, STEPHANIE RE	ALABAMA DEPARTMENT OF MENTAL HEALTH/MENTAL RE	A19-0011-002	Regional Autism Network (RAN)	\$75,000
ESTRADA, BENJAMIN CO-INVESTIGATOR CUSTODIO, HAIDEE	UNIVERSITY OF ALABAMA AT BIRMINGHAM	000522211-SC016	Congenital and Perinatal Injections Rare Diseases Clinical Research Consortium	\$7,140
ESTRADA, BENJAMIN CO-INVESTIGATOR CUSTODIO, HAIDEE	UNIVERSITY OF ALABAMA AT BIRMINGHAM	000522211-016	Study of the Natural History of Acute Flaccid Myelitis	\$22,000
EYAL, FABIEN	PROLACTA BIOSCIENCE, INC	63867	Effects of an Exclusive Human Milk Diet on Enteral Feeding Outcomes of Neonates with Congenital Gastrointestinal Disorders	\$10,400
GULATI, RASHMI	GE HEALTHCARE	A19-0211	External Evaluation Plan: Evaluation of the Panda iRes Warmer with ResusView	\$11,440
IMRAN, HAMAYAN	CHILDREN'S HOSPITAL OF PHILADELPHIA	9400120212 - ST. BALDRICKS FIVE	Children's Oncology Group Grant - Non-Industry Funded Work Order	\$8,950
IMRAN, HAMAYAN	CHILDREN'S HOSPITAL OF PHILADELPHIA	9400710617-03	Project: Every Child (APEC14B1) Non Industry	\$3,100
IMRAN, HAMAYAN	CHILDREN'S HOSPITAL OF PHILADELPHIA	9500080215-12C-06	Children's Hospital of Philadelphia, Non-Industry Funding Per Case	\$4,650
IMRAN, HAMAYAN	CHILDREN'S HOSPITAL OF PHILADELPHIA	9500100715-XX-05	Reimbursement: NIH COG Chair Grant	\$333
IMRAN, HAMAYAN	CHILDREN'S HOSPITAL OF PHILADELPHIA	FP00026528_SYB364-02	Master Subaward Agreement for Non Industry Funding Per Case	\$24,300
IMRAN, HAMAYAN	CHILDREN'S HOSPITAL OF PHILADELPHIA	AALL0434	Reimbursement COG NCORP	\$1,800
IMRAN, HAMAYAN	CHILDREN'S HOSPITAL OF PHILADELPHIA	FP00028127_SUB125_01	Per Case Reimbursement - NIH National Clinical Trials Network (NCTN) Grant (2U10CA180886) Successor to NIH National Clinical Trials Network (NCTN Grant (U10CA180886)	\$4,800
IMRAN, HAMAYAN	PFIZER	63748	COG Study AALL0434	\$3,664
KAULFERS, ANNE-MARIE	ALABAMA DEPARTMENT OF PUBLIC HEALTH	GC-20-089 (C00119046)	Master Subaward agreement for Non-Industry funding Per Case	\$22,000
MARRI, PREETHI	BAYER HEM POWR	63869	Reimbursement NCORP Research Base	\$9,906
WILSON, FELICIA	ALABAMA DEPARTMENT OF PUBLIC HEALTH	GC-20-087 (C00119045)	A Phase 3, Multicenter, Randomized, Double-Blind, Placebo-Controlled, Parallel-Group Study to Evaluate the Efficacy and Safety of Rivipansel (GMI-1070) in the Treatment of Vaso-Occlusive Crisis in Hospitalized Subjects with Sickle Cell Disease	\$22,000
Total				\$231,483

Pharmacology

Principal Investigator	Agency	Grant ID#	Title	Fiscal Year Funding
BAUER, NATALIE CO-INVESTIGATORS TAYLOR, MARK ALEXEYEV, MIKHAIL FAGAN, KAREN BORCHERT, GLENN CO-INVESTIGATOR KIM, JIN BORCHERT, GLENN	NATIONAL INSTITUTES OF HEALTH	5 R01 HL113066-04	Circulating Microparticle Effects on Phenotypically Distinct Pulmonary Endothelium	\$378,750
BORCHERT, GLENN KIM, JIN	NATIONAL SCIENCE FOUNDATION	2030080	RAPID: Exosomal tRNA Fragments Constitute an Innate Viral Defense	\$199,810
BORCHERT, GLENN	FLORIDA INTERNATIONAL UNIVERSITY	000191	Effect of SARS-CoV-2 Proteins on Airway Mucous Response and Associated LncRNAs	\$21,997
GILLESPIE, MARK CO-INVESTIGATORS BORCHERT, GLENN TOWNSLEY, MARY MULEKAR, MADHURI FRUH, SHARON ARRIETA, MARTHA ROCCONI, RODNEY GILLESPIE, MARK CO-INVESTIGATORS LANGLEY, RAYMOND PASTUKH, VICTOR MULEKAR, MADHURI GILLESPIE, MARK CO-INVESTIGATORS LANGLEY, RAYMOND PASTUKH, VICTOR MULEKAR, MADHURI	UNIVERSITY OF ALABAMA BIRMINGHAM	000520679-010-A02	University of South Alabama Translational Research Service Center	\$193,637
GILLESPIE, MARK CO-INVESTIGATORS LANGLEY, RAYMOND PASTUKH, VICTOR MULEKAR, MADHURI GILLESPIE, MARK	NATIONAL INSTITUTES OF HEALTH	5 R01 GM127823-02	mtDNA Damage and DAMPS in Multiple Organ Dysfunction Syndrome	\$438,552
GILLESPIE, MARK CO-INVESTIGATORS LANGLEY, RAYMOND PASTUKH, VICTOR MULEKAR, MADHURI	NATIONAL INSTITUTES OF HEALTH	5 R01 HL113614-08	mtDNA Repair: An Isolated Pharmacologic Target in Acute Lung Injury	\$418,430
GILLESPIE, MARK CO-INVESTIGATORS LANGLEY, RAYMOND PASTUKH, VICTOR MULEKAR, MADHURI	UNIVERSITY OF ALABAMA AT BIRMINGHAM	UC 90631	UAB CCTS Fee for Service Agreement to Fund Voucher Awards	\$15,000
GILLESPIE, MARK KEETON, ADAM	UNIVERSITY OF ALABAMA AT BIRMINGHAM	A20-0055	Production of Mitochondrial (mt)-targeted DNA Repair Proteins	\$66,322
	UNIVERSITY OF ALABAMA AT BIRMINGHAM	A20-0056	Development of Human Organoid Models of Colon Cancer for Therapeutic Evaluation of a Novel Highly Potent and Selective Ras Inhibitor, MCI-062	\$24,744
LANGLEY, RAYMOND	UNIVERSITY OF ALABAMA AT BIRMINGHAM	000520695-002-A01	Metabolic Energy Crisis Signature Predict Quality of Life in Survivors of Acute Respiratory Failure	\$142,128
LANGLEY, RAYMOND	UNIVERSITY OF ALABAMA AT BIRMINGHAM	000520695-002	Metabolic Energy Crisis Signature Predict Quality of Life in Survivors of Acute Respiratory Failure	\$25,137
MAXUITENKO, YULIA	ADT PHARMACEUTICALS, INC.	A20-0051	Novel Orally Bioavailable PDE10/?-Catenin Inhibitor Concentrates in Lung for Cancer Chemoprevention	\$89,400
MIGAUD, MARIE	UNIVERSITY OF PENNSYLVANIA	576028-02	Targeting NAD Metabolism to Improve Glucose Homeostasis in Obesity and Aging	\$29,303
PIAZZA, GARY CO-INVESTIGATORS KEETON, ADAM CHEN, XI MAXUITENKO, YULIA	NATIONAL INSTITUTES OF HEALTH	5 R01 CA197147-05	Phosphodiesterase 10A, a Novel Target for Lung Cancer Chemoprevention	\$434,772

PIAZZA, GARY CO-INVESTIGATOR MAXUITENKO, YULIA PIAZZA, GARY CO-INVESTIGATORS KEETON, ADAM CHEN, XI MAXUITENKO, YULIA RICH, THOMAS CO-INVESTIGATORS LEAVESLEY, SILAS PHAN, AHN-VU RICH, THOMAS CO-INVESTIGATOR LEAVESLEY, SILAS RICH, THOMAS RICH, THOMAS RICH, THOMAS CO-INVESTIGATORS LEAVESLEY, SILAS RICHTER, WITO SAYNER, SARAH SOBOL, ROBERT	BREAST CANCER RESEARCH FOUNDATION OF ALABAMA AUGUSTA UNIVERSITY THOMAS JEFFERSON UNIVERSITY THOMAS JEFFERSON UNIVERSITY AMERICAN HEART ASSOCIATION NATIONAL INSTITUTES OF HEALTH NATIONAL INSTITUTES OF HEALTH FLORIDA GULF COAST UNIVERSITY FLORIDA GULF COAST UNIVERSITY NATIONAL INSTITUTES OF HEALTH	A18-0041-003 35263-1 080-18007-S11203-1 080-18007-S28201-2 18UJEL33900151-03 1 S100D028606-01 2 P01 HL066299-18 PROJ 2 17056-NIH-MCI-03 17056-NSF-USA-MCI-03 5 R01 CA148629-10	Evaluation of a Novel Sulindac Derivative for Breast Cancer Chemoprevention in a Rat Model of Chemical-Induced Mammary Tumorigenesis Exploiting the Immunomodulatory Effects of Sulindac and Novel Non-COX Inhibitory Derivatives for Cancer Treatment G Protein-Coupled Receptor Regulation in Airway Myocytes Functional Diversity of Compartmentalized Calcium Signaling in Airway Smooth Muscle Undergraduate Summer Research Experience at USA Zeiss LSM 980 Airyscan Confocal Microscope Lung Endothelial Cell Phenotypes - Project 2: Cyclic Nucleotide Gradients Regulate the Balance of Mechanical Forces Underlying Endothelial Barrier Integrity To Assess and Minimize the Risk of Human Exposure to Ciguatoxins in a Changing Climate To Assess and Minimize the Risk of Human Exposure to Ciguatoxins in a Changing Climate Novel Approaches to Enhance Tumor Cell Cytotoxicity of Alkylating Agents	\$25,000 \$204,510 \$115,500 \$140,333 \$16,000 \$600,000 \$350,168 \$129,920 \$285,909 \$350,571
SOBOL, ROBERT CO-INVESTIGATORS KOCZOR, CHRISTOPHER FANG, QINGMING SOBOL, ROBERT CO-INVESTIGATOR LI, JIANFENG SOBOL, ROBERT CO-INVESTIGATORS KOCZOR, CHRISTOPHER FANG, QINGMING SOBOL, ROBERT CO-INVESTIGATOR LI, JIANFENG SOBOL, ROBERT SOBOL, ROBERT	NATIONAL INSTITUTES OF HEALTH NATIONAL INSTITUTES OF HEALTH FOX CHASE CANCER CENTER UNIVERSITY OF CALIFORNIA UNIVERSITY OF TEXAS HEALTH AT SAN ANTONIO UNIVERSITY OF ALABAMA AT BIRMINGHAM	5 U01 ES029518-03 FCCC15137-02 MP2020-08-22 MP2020-01-22 MP2020-02-22	Measuring Genomic DNA Damage and DNA Repair Capacity on Longitudinal Population Samples - a Step Towards Precision Prevention Investigating Genetic Ancestry Influences on Oral Cavity and Laryngeal Cancer Survival Disparities A Systems Approach to Mapping the DNA Damage Response The Paternal Age Effect - Enhanced Germ Cell Mutagenesis modulated by the TRP53/APE1/MDM2 Tumor Suppressor Axis SON- Mediated RNA Splicing in Glioblastoma	\$368,143 \$277,414 \$113,928 \$49,411 \$16,771
Total				\$5,521,560

Physiology and Cell Biology

Principal Investigator	Agency	Grant ID#	Title	Fiscal Year Funding
ALEXEYEV, MIKHAIL	NATIONAL INSTITUTES OF HEALTH	5 P01 HL066299-18 CORE C	Lung Endothelial Cell Phenotypes - Core C: Gene Delivery	\$289,411
ALEXEYEV, MIKHAIL	NATIONAL INSTITUTES OF HEALTH	5 R01 OD0109444-09	Mouse Models for Mitochondrial Disorders Caused by mtDNA Mutations	\$359,438
FRANCIS, MICHAEL CO-INVESTIGATOR STEVENS, TROY	NATIONAL INSTITUTES OF HEALTH	5 K25 HL136869-04	TRPC4-Mediated Calcium Signals Accelerate Vascular Remodeling in Pulmonary Arterial Hypertension	\$159,548
GASSMAN, NATALIE CO-INVESTIGATOR SCHULER, ANNE	BREAST CANCER RESEARCH FOUNDATION OF ALABAMA	A20-0046-001	Blockade of CHK1 and EGFR Signaling in Triple Negative Breast Cancer to Enhance Anti-tumor Efficacy	\$50,000
GASSMAN, NATALIE	US ARMY MEDICAL RESEARCH AND MATERIAL COMMAND	W911NF2010155	Multi-well Extracellular Flux Analyzer	\$204,317
LEAVESLEY, SILAS CO-INVESTIGATORS PHAN, AHN-VU RICH, THOMAS TAYLOR, MARK LIN, MIKE	NATIONAL INSTITUTES OF HEALTH	5 P01 HL066299-18 CORE D	Lung Endothelial Cell Phenotypes - Core D: Bioimaging and Biotechnology Implementation	\$220,166
CO-INVESTIGATORS BALCZON, RONALD ZHA, XIANGMING STEVENS, TROY NELSON, AMY R.	NATIONAL INSTITUTES OF HEALTH	5 R01 HL140182-03	Nosocomial Pneumonias Impair Cognitive Function	\$441,118
STEVENS, TROY CO-INVESTIGATOR LEE, JI YOUNG	AMERICAN HEART ASSOCIATION	4 R00 AG058780-03	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	\$249,000
STEVENS, TROY FELLOW GWIN, MEREDITH	AMERICAN HEART ASSOCIATION	18CDA34080151-3	Carbonic Anhydrase IX and Pulmonary Endothelial Cell Acidosis During Infection	\$77,000
STEVENS, TROY FELLOW VOTH, SARAH	NATIONAL INSTITUTES OF HEALTH	19PRE34380166-02	Gamma Secretase Activating Protein is Necessary for Endothelial Production of Cytotoxic Beta Amyloid	\$26,844
STEVENS, TROY STEVENS, TROY CO-INVESTIGATORS BALCZON, RONALD SAYNER, SARAH	NATIONAL INSTITUTES OF HEALTH	5 F31 HL147512-02	Cytotoxic Lung Endothelial Amyloids	\$29,520
STEVENS, TROY FELLOW XU, NINGYONG	NATIONAL INSTITUTES OF HEALTH	5 P01 HL066299-18 CORE A	Lung Endothelial Cell Phenotypes - Core A: Administrative Core	\$210,381
STEVENS, TROY FELLOW XU, NINGYONG	NATIONAL INSTITUTES OF HEALTH	5 P01 HL066299-18 PROJ 1	Lung Endothelial Cell Phenotypes - Project 1: Soluble Adenylyl Cyclases in Lung Endothelial Permeability	\$315,786
STEVENS, TROY FELLOW XU, NINGYONG	NATIONAL INSTITUTES OF HEALTH	5F32 HL144040-03	TRPC4-dependent Cytosolic Ca ²⁺ Signals Interendothelial Contractile Forces that Elicit Gap Formation	\$69,306
STEVENS, TROY CO-INVESTIGATORS ALEXEYEV, MIKHAIL BALCZON, RONALD LEE, JI YOUNG	NATIONAL INSTITUTES OF HEALTH	1 R01 HL148069-01A1	Lung Endothelial A β in Infectious Proteinopathy	\$385,000

STEVENS, TROY FELLOW	NATIONAL INSTITUTES OF HEALTH	3 P01 HL066299-17S1	Soluble Adenylyl Cyclases in Pulmonary Endothelial Permeability	\$9,240
DEWEEVER, ALTHEA	NATIONAL INSTITUTES OF HEALTH	3 P01 HL066299-18S1	Soluble Adenylyl Cyclases in Pulmonary Endothelial Permeability	\$52,360
TAMBE, DHANANJAY	NATIONAL INSTITUTES OF HEALTH	5 P01 HL066299-18 CORE B	Lung Endothelial Cell Phenotypes - Core B: Cell Culture & Small Animal	\$266,708
TAYLOR, MARK CO-INVESTIGATOR	NATIONAL INSTITUTES OF HEALTH	5 P01 HL066299-18 PROJ 3	Lung Endothelial Cell Phenotypes - Project 3: Functional Calcium Microdomains in Lung Microvascular Endothelium	\$334,768
ZHA, XIANGMING CO-INVESTIGATOR	NATIONAL INSTITUTES OF HEALTH	5 R01 NS102495-04	Neuroprotective Role of OGR1 in Brain Ischemia	\$357,142
RICH, THOMAS			Total	\$4,107,053

Sickle Cell Comprehensive Center

Principal Investigator	Agency	Grant ID#	Title	Fiscal Year Funding
HAYNES JR., JOHNSON	GLOBAL BLOOD THERAPEUTICS	63823	A Phase 3, Double-Blind, Randomized, Placebo-Controlled, Multicenter Study of GBT440 Administered Orally to Patients with Sickle Cell Disease	\$5,361
HAYNES JR., JOHNSON	GLOBAL BLOOD THERAPEUTICS	63873	An Open-Label, Expanded Access Protocol for Patients with Sickle Cell Disease Who Have No Alternative Treatment Outcomes	\$17,530
			Total	\$22,891

Surgery

Principal Investigator	Agency	Grant ID#	Title	Fiscal Year Funding
BREWARD, STEVEN	POLYPHOR	63855	A Multicenter, Open-Label, Sponsor-Blinded, Randomized, Active-Controlled, Parallel Group, Pivotal Study To Evaluate The Efficacy, Safety, And Tolerability Of Murepavadin Given With Ertapenam Versus An Anti-Pseudomonal-B-Lactam-Based Antibiotic In Adult Subjects With Nosocomial Pneumonia Suspected Or Confirmed To Be Due To Pseudomonas Aeruginosa	\$5,026
BRIGHT, ANDREW	MEDIWOUND	63879	Expanded Access Treatment Protocol: Use of Nexobrid for Treatment of Acute Deep Partial and Full Thickness Burn Injuries Protocol MW2018-06-21	\$11,700
KAHN, STEVEN	KINGSTON HEALTH SCIENCES CENTRE	2020-01-05/OSP-180547	Re-Energize Study	\$2,455
KAHN, STEVEN	STRATATECH CORPORATION	A17-0209-001-02	A Phase III Open Label, Controlled, Randomized, Multicenter Study Evaluating the Efficacy and Safety of Stratagraft Skin Tissue in promoting Autologous Skin Tissue Regeneration	\$4,032
LEE, YANN-LEI	AMERICAN ASSOCIATION FOR THE SURGERY OF TRAUMA	A20-0127-001	A20-0127-001	\$50,000

RIDER, PAUL	MILLENNIUM PHAR/TAKEDA	63857	A Randomized, Double-Blind, Placebo-Controlled, Phase2 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	\$24,980
Total				\$98,193

Mitchell Cancer Institute (SAMSF PROJECTS ONLY)

Principal Investigator	Agency	Grant ID#	Title	Fiscal Year Funding
KHUSHMAN, MOH'D	ELI LILLY	63787	Safety and Effectiveness of Ramucicromab in Patients with Advanced Gastric Cancer in the European Union and North America: A Prospective Observational Registry (IAT-MC-IVDD)	\$11,953
NORDEN, CAROLE	GENENTECH INC	63721	Combination with Trastuzumab and Standard Neoadjuvant Anthracycline-Based Chemotherapy in Patients with HER2-Positive, Locally Advanced, Inflammatory, or Early-Stage Breast Cancer	\$5,834
NORDEN, CAROLE	ALLIANCE FOUNDATION/PFIZER	63799	A Randomized Phase III Trial of Palbociclib with Standard Adjuvant Endocrine Therapy Versus Standard Adjuvant Endocrine Therapy Alone for Hormone Receptor Positive (HR+)/Human Epidermal Growth Factor Receptor 2 (HER2)-Negative Early Breast Cancer	\$9,800
NORDEN, CAROLE	CASCADIAN THERAPEUTICS	63800	Phase 2 Randomized, Double-Blinded, Controlled Study of ONT-380 vs. Placebo in Combination with Capecitabine and Trastuzumab in Patients with Pretreated Unresectable Locally Advanced or Metastatic HER2+ Breast Carcinoma	\$66,721
ROCCONI, RODNEY	EMD SERONO	63755	A Phase I, Open-Label, Multiple-Ascending Dose Trial to Investigate the Safety, Tolerability, Pharmacokinetics, Biological and Clinical Activity of MSF0010718C in Subjects with Metastatic or Locally Advanced Tumors and Expansion to Selected Indications	\$3,672
TAYLOR, WILLIAM	HALOZYME, INC.	63778	A Phase 3, Randomized, Double-Blind, Placebo-Controlled, Multicenter Study of PEGylated Recombinant Human Hyaluronidase (PEGPH20) in Combination with nab-Paclitaxel Plus Gemcitabine Compared with Placebo Plus nab-Paclitaxel and Gemcitabine in Subjects with Hyaluronan-High Stage IV Previously Untreated Pancreatic Ductal Adenocarcinoma	\$21,989
Total				\$119,969