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Department of Radiology

Annual Executive Summary Report

July 1, 2009 to June 30, 2010

Vijay M. Rao, MD
The David C. Levin Professor and Chair

Department of Radiology



Methodist Radiology

MRI

Breast Imaging

Musculoskeletal Radiology

Interventional Radiology

Neuroradiology

Ultrasound

Body CT

Nuclear Medicine

DEPARTMENT OF RADIOLOGY

Jefferson Medical College
Thomas Jefferson University
Jefferson University Hospitals

The Mission of the Department of Radiology
is to provide quality diagnostic and
therapeutic imaging services and to
continually improve our services.

Our goals are to:

- Provide quality service to patients and referring physicians
 - Continue to grow successfully in an increasingly competitive market and be the leader
 - Operate in an efficient, productive, and cost effective manner
 - Maintain excellence of our educational programs
 - Continue to advance the science of translational and clinical imaging research
-

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DEPARTMENT OF RADIOLOGY

Vijay M. Rao, M.D.

Professor and Chairman

Geoffrey A. Gardiner, Jr., M.D.	Vice Chair for Clinical Practice
Barry B. Goldberg, M.D.	Vice Chair for Strategic Planning
Ethan J. Halpern, M.D.	Vice Chair for Research
Christopher R.B. Merritt, M.D.	Vice Chair for QA & Performance Improvement
Levon N. Nazarian, M.D.	Vice Chair for Education
Christopher Roth, M.D.	Vice Chair for Methodist Radiology

2009-2010

DEPARTMENT CLINICAL DIVISIONS AND DIRECTORS

BODY COMPUTED TOMOGRAPHY/ABDOMINAL IMAGING	Laurence Needleman, M.D.
BREAST IMAGING	Barbara C. Cavanaugh, M.D.
INTERVENTIONAL RADIOLOGY	Daniel B. Brown, M.D.
MAGNETIC RESONANCE IMAGING	Donald G. Mitchell, M.D.
METHODIST RADIOLOGY	Christopher G. Roth, M.D.
MUSCULOSKELETAL AND GENERAL DIAGNOSTIC RADIOLOGY	William B. Morrison, M.D.
NEURORADIOLOGY/ENT RADIOLOGY	Adam E. Flanders, M.D. David P. Friedman, M.D.
NUCLEAR MEDICINE	Charles M. Intenzo, M.D.
ULTRASOUND	Barry B. Goldberg, M.D.

DEPARTMENTAL COMMITTEES AND CHAIRMEN

ADVISORY COMMITTEE	Patrick O’Kane, M.D.
CLINICAL OPERATIONS COMMITTEE	Geoffrey Gardiner, Jr., M.D.
CONTRAST COMMITTEE	Laurence Needleman, M.D.
DIVISION DIRECTORS COMMITTEE	Vijay M. Rao, M.D.
EDUCATION COMMITTEE	Levon N. Nazarian, M.D.
INFORMATICS STEERING COMMITTEE	Victor Sarro
PERFORMANCE IMPROVEMENT COMMITTEE	Christopher R.B. Merritt, M.D.
RESEARCH COMMITTEE	Barry B. Goldberg, M.D. Ethan J. Halpern, M.D.
RESIDENCY SELECTION COMMITTEE	Sandeep P. Deshmukh, M.D.

**RADIOLOGY DEPARTMENT FACULTY RANK
2009-2010**

PROFESSORS

Daniel Brown, M.D.
Rick I. Feld, M.D.
Adam E. Flanders, M.D.
Flemming Forsberg, Ph.D.
Geoffrey A. Gardiner, Jr., M.D.
Barry B. Goldberg, M.D.
Ethan J. Halpern, M.D., M.S.C.E.
Charles M. Intenzo, M.D.
David Karasick, M.D.
Stephen Karasick, M.D.
Alfred B. Kurtz, M.D.
Christopher R.B. Merritt, M.D.
Donald G. Mitchell, M.D.
William B. Morrison, M.D.
Levon N. Nazarian, M.D.
Vijay M. Rao, M.D.
Mathew L. Thakur, Ph.D.

RESEARCH PROFESSOR

Ji-Bin Liu, M.D.

EMERITUS PROFESSOR

David C. Levin, M.D.

ASSOCIATE PROFESSORS

Oksana H. Baltarowich, M.D.
David J. Eschelman, M.D.
David P. Friedman, M.D.
Carin F. Gonsalves, M.D.
Sung M. Kim, M.D.
Song Lai, Ph.D.
Laurence Needleman, M.D.
Patrick O'Kane, M.D.
Lisa M. Tartaglino, M.D.
Adam C. Zoga, M.D.

**CLINICAL ASSOCIATE
PROFESSOR**

Barbara C. Cavanuagh, M.D.

ASSISTANT PROFESSORS

Diane Deely, M.D.
Steven G. Finden, D.D.S., M.D.
Angela G. Gopez, M.D.
Richard J. Gorniak, M.D.
Niamh Hambly, M.D.
Jeffrey W. McCann, M.D.
Christopher G. Roth, M.D.
Sharon R. Segal, D.O.
Dinesh K. Sharma, M.D.
Conor Shortt, M.D.
Annina N. Wilkes, M.D.

**CLINICAL ASSISTANT
PROFESSORS**

Mark W. Cooper, M.D.
Sandeep Deshmukh, M.D.
Flavius Guglielmo, M.D.
George Paul Hobbs, M.D.
Elizabeth H. Hsu, M.D.
Cindy Isaacson-Finden, M.D.
Tony T. Lee, M.D.
Cynthia L. Miller, M.D.
Neeta Rao, M.D.
Lillian H. Stern, M.D.
Terri Tuckman, M.D.

**RESEARCH ASSISTANT
PROFESSOR**

Eric Gingold, Ph.D.
Laurence Parker, Ph.D.

INSTRUCTORS

Mark D. Allan, M.D.
Susan DeWyngaert, M.D.
Achala Donuru, M.D.
Tara Eisenberg, M.D.
Manoharan Muthuvelu, M.D.
Horatio H. Yeung, M.D.
Michael J. Wolf, M.D.

FACULTY WITH SECONDARY APPOINTMENTS IN RADIOLOGY

Demetrius H. Bagley, M.D., Professor of Urology [primary]
Associate Professor of Radiology [secondary]

Robert L. Brent, M.D., Ph.D., Professor of Pediatrics [primary]
Professor of Radiology [secondary]

Paul J. DiMuzio, M.D., Assistant Professor of Surgery [primary]
Assistant Professor of Radiology [secondary]

Christopher L. Hansen, M.D., Professor of Medicine [primary]
Professor of Radiology [secondary]

Robert H. Rosenwasser, M.D., Professor of Neurosurgery [primary]
Professor of Radiology [secondary]

Stanton N. Smullens, M.D., Professor of Surgery [primary]
Associate Professor of Radiology [secondary]

Joseph A. Tracy, Ph.D., Professor of Neurology [primary]
Professor of Radiology [secondary]

Paul Walinsky, M.D., Professor of Medicine [primary]
Assistant Professor of Radiology [secondary]

DEPARTMENT OF RADIOLOGY

Vijay M. Rao, M.D., Chairman

CLINICAL DIVISIONS 2009-2010

**Body Computed Tomography/
Abdominal Imaging**

Directed by Laurence Needleman, M.D.
Drs. Sandeep Deshmukh, Rick Feld, Flavius Guglielmo, Ethan Halpern, Stephen Karasick, Alfred Kurtz, Donald Mitchell, Levon Nazarian, Patrick O'Kane

Breast Imaging

Directed by Barbara C. Cavanuagh, M.D.
Drs. Susan DeWyngaert, Tara Eisenberg, Cindy Finden, Niamh Hambly, Elizabeth Hsu, Annina Wilkes

Interventional Radiology

Directed by Daniel B. Brown, M.D.
Drs. David Eschelman, Geoffrey Gardiner, Jr., Carin Gonsalves, Jeffrey McCann

Magnetic Resonance Imaging

Directed by Donald G. Mitchell, M.D.
Drs. Sandeep Deshmukh, Flavius Guglielmo, Patrick O'Kane, Conor Shortt

Methodist Radiology

Directed by Christopher Roth, M.D.
Drs. Mark Allan, Mark Cooper, George Paul Hobbs, Tony Lee, Cynthia Miller, Lillian Stern, Horatio Yeung

**Musculoskeletal and
General Diagnostic Radiology**

Directed by William B. Morrison, M.D.
Drs. Diane Deely, Achala Donuru, Cindy Finden, Angela Gopez, David Karasick, Stephen Karasick, Manoharan Muthuvelu, Dinesh Sharma, Conor Shortt, Adam Zoga

Neuroradiology/ENT Radiology

**Directed by Adam Flanders, M.D.,
David Friedman, M.D.**
Drs. Steven Finden, Richard Gorniak, Neeta Rao, Vijay Rao, Dinesh Sharma, Lisa Tartaglino, Michael J. Wolf

Nuclear Medicine

Directed by Charles M. Intenzo, M.D.
Dr. Sung Kim

Ultrasound

Directed by Barry B. Goldberg, M.D.
Drs. Oksana Baltarowich, Sandeep Deshmukh, Rick Feld, Flavius Guglielmo, Ethan Halpern, Alfred Kurtz, Christopher Merritt, Levon Nazarian, Laurence Needleman, Patrick O'Kane, Sharon Segal, Conor Shortt, Terri Tuckman, Annina Wilkes

Research

Drs. Flemming Forsberg, Song Lai, Ji-Bin Liu, Laurence Parker, Mathew Thakur

**DEPARTMENT OF RADIOLOGY
HOUSESTAFF ROSTER
2009-2010**

RESIDENTS

FIRST YEAR RESIDENTS

Allison Borowski, M.D.
Laryssa M. Hud, M.D.
Ryan I. Huffman, M.D.
Nicholas Petruzzi, M.D.
Jason J. Redon, M.D.
Scott J. Sequeira, M.D.
Richard E. Sharpe, M.D.
Bartley G. Thornburg, M.D.
Rebecca C. Winter, M.D.
Vahe M. Zohrabian, M.D.

THIRD YEAR RESIDENTS

Anton G. Delpont, M.D.
Nancy N. Kang Laurence, M.D.
Jonathan Lieberman, M.D.
Jeffrey J. Mathews, M.D.
Piotr Sadej, M.D.
Michelle G. Sterling, M.D.
Niti Tank, M.D.
Hema S. Thakur, M.D.

SECOND YEAR RESIDENTS

Robert D. Adamo, M.D.
Courtney Hoey, M.D.
Waseem Khalid Khan, M.D.
Jessica H. Kobil, M.D.
Michael Petroziello, M.D.
Ariel D. Prager, M.D.
Michael T. Scanlan, M.D.
James M. Terzian, M.D.
Ronald S. Winokur, M.D.

FOURTH YEAR RESIDENTS

Adeel Hasan Azam, M.D.
Sara E. Brooks-Sienkiewicz, M.D.
Susan Cha, M.D.
Michael J. Gold, M.D.
Jennifer Hubert, M.D.
Elizabeth P. Ives, M.D.
Njogu J. Njuguna, M.D.
Marzban Rad, M.D.
Paul J. Read, M.D.

Nuclear Medicine

Medina C. Kushen, M.D.
Alexandros Pappas, M.D.
Urmi Sen, M.D.

FELLOWS

ABDOMINAL IMAGING

Padma Anne, M.D.
Michael Birkhoff, M.D.
Joshua David Kellerman, M.D.
Brian C. Klimas, D.O.
Ellana J. Rodriguez, M.D.
Chun Wang, M.D.
Jeffrey P. Vargo, M.D.

BREAST IMAGING

Neeta Mody Vargo, M.D.
Nylah Fatima Wasti, M.D.
Jennie Kerr, M.D.

MUSCULOSKELETAL IMAGING

Amy L. Austin, M.D.
Kristen E. McClure, M.D.
Frank E. Mullens, M.D.

BODY MRI

Chad Silverberg, D.O.

**VASCULAR/INTERVENTIONAL
RADIOLOGY**

Krishna Iyer, M.D.
S. Yedida Goldman, M.D.
Daniel J. Lebowitz, M.D.

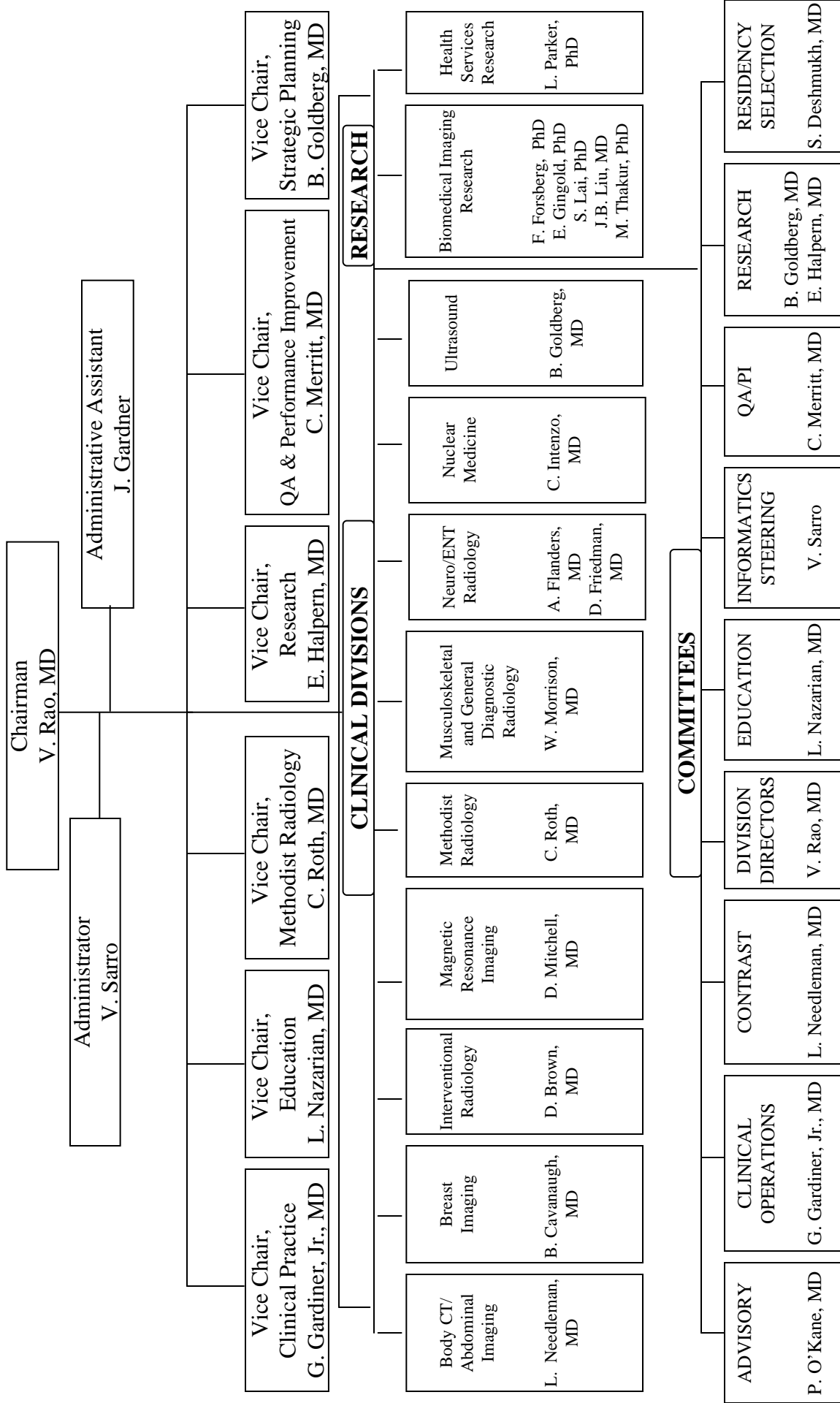
MUSCULOSKELETAL/NEURO MRI

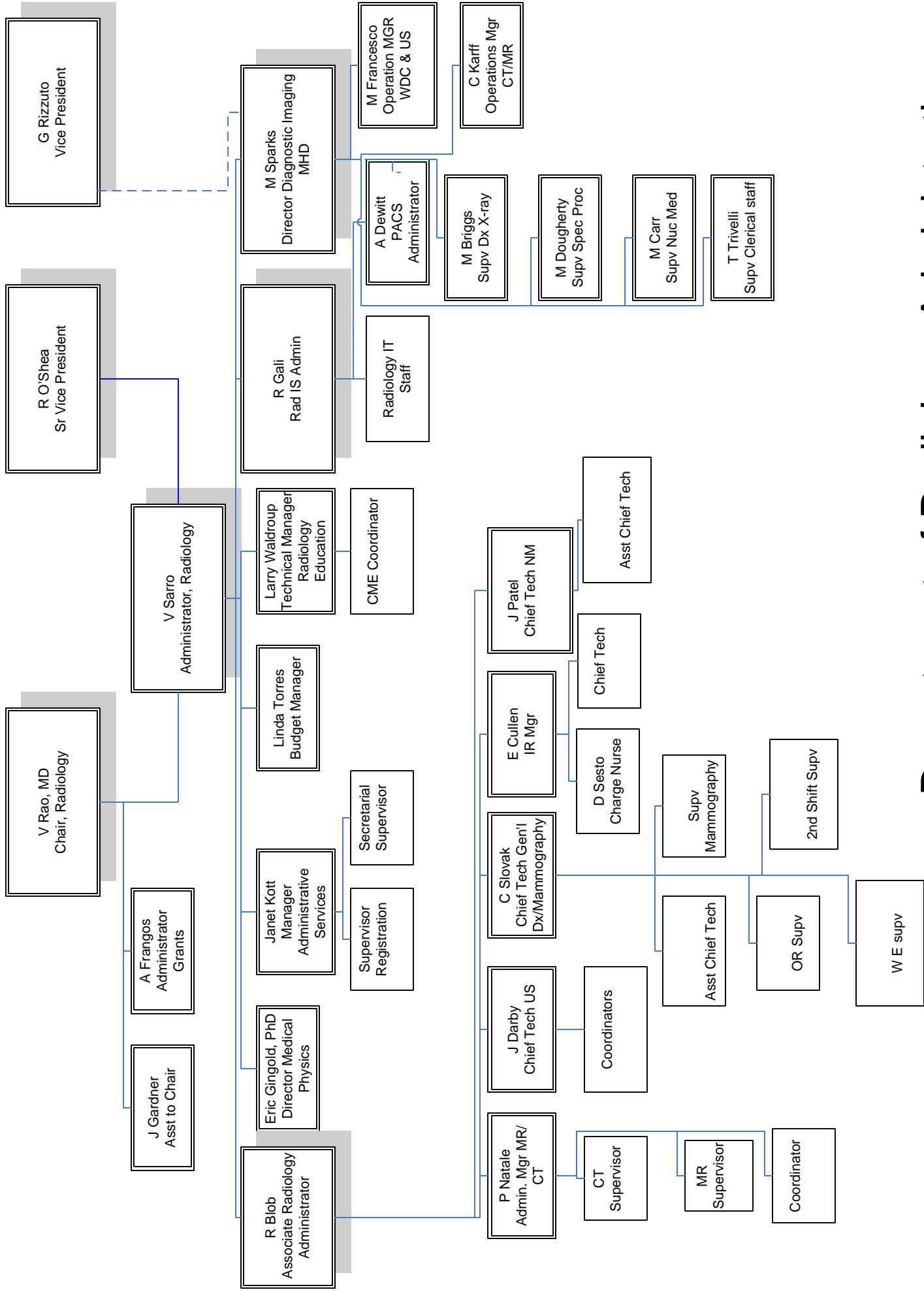
Amy Modi, M.D.
Nirav Patel, M.D.
Tamara Ann Trella, M.D.
Albert Yeung, M.D.

NEURO/ENT RADIOLOGY

Seamus Looby, M.D.
Pranshu Sharma, M.D.
Kate E. Stanitski, M.D.
Kiran S. Talekar, M.D.

Department of Radiology (2009-2010)





Department of Radiology Administration

STATE OF THE DEPARTMENT
2009-2010
Chairman's Report
Vijay M. Rao, M.D., F.A.C.R.

I am pleased to report that a very important milestone occurred this past year with the full incorporation of the private Methodist Hospital radiology group into our department. This had been an important goal of ours over the past several years. With the support and cooperation of our TJUH and JUP leadership, we were able to develop an effective business plan for a community radiology division within our department. I successfully recruited five members of the former Methodist radiology group, the Radiology of South Philadelphia (RSP), to become full-time faculty members of our department. Christopher Roth, M.D. was recruited from our current faculty to serve as head of the Methodist division. Dr. Roth has done a superb job of providing leadership and ensuring a seamless transition. There had been understandable anxiety about this transition among the Methodist administration. The head of the previous private radiology group had voiced the opinion that an academic department such as ours couldn't provide a high level of service and had predicted that the new arrangement would be a failure. On the contrary, it has been a resounding success. The community physicians in South Philadelphia have been uniformly laudatory in their feedback to us. They are very pleased with the higher image quality, rapid turnaround of reports, availability of radiologists, and are particularly appreciative of the subspecialty expertise that we were able to bring to the Methodist Hospital. I am especially proud because this type of academic-private alliance has been attempted in other academic departments around the country, but without success.

In addition to our expansion through the Methodist Hospital radiology group acquisition, we acquired one new MRI outpatient center in Exton, PA in conjunction with the hospital and Outpatient Imaging Affiliates (OIA). Despite established outpatient centers in that area, we have been able to compete and successfully build a practice. Our procedure volume and clinical revenue for FY'10 grew by 44.3% and 22.1% respectively, compared with FY'09 as a result of expansion to Methodist Hospital and the new MRI center acquisition. Our total work RVU's grew by 36% and the faculty complement grew by 7 FTE's. Clinical productivity of our faculty remained above the 75th percentile of academic departments and above the 75th percentile for MGMA private practice benchmark at Methodist.

In the area of education, our department continues to excel. We had 789 applicants for our 9 residency positions. Our fellowship programs are also recognized and competitive. Our department puts on a number of CME courses each year and these have continued to be successful.

In research, we have been able to maintain a strong research program with over 227 publications from the department faculty despite the ever increasing demand for clinical service. We had 38 research grants, including 24 NIH or other federal grants active during the year with a total of over \$1.5 million of current year funding.

I would like to extend my thanks to many individuals for our continued success. I would like to thank JoAnn Gardner for her loyalty and outstanding assistance, Victor Sarro for his hard work and knowledge of the business and operations of radiology, and Andrea Frangos

for her hard work and her ability to multitask, including outstanding assistance in compiling this report. I would also like to acknowledge the assistance of Geoffrey Gardiner, M.D. with improving operational efficiencies, Chris Merritt, M.D. for advancing initiatives in quality assurance and safety, Barry Goldberg, M.D. and Ethan Halpern, M.D. for advancing the research mission of the department, and Levon Nazarian, M.D. for his commitment to advancing the educational mission of the department. My sincere thanks to Christopher Roth, M.D. for doing a yeoman's job in handling challenges associated with leadership transition, successfully building a team and yet keeping up with the workload at Methodist Hospital.

I also wish to acknowledge all of our division heads for their leadership and assistance in furthering the department mission. Thanks to each and every member of the faculty for their hard work, commitment, dedication and team spirit. We are excited about new growth opportunities in the coming year, both in South Philadelphia at Methodist and at our satellite locations. Reflections on the key events of the past year and upcoming planned initiatives reveal a promising future for the department.

FACULTY RETENTION, RECRUITMENT AND DEVELOPMENT

In FY'10, eleven new faculty members joined our department. Drs. Mark Allan, Mark Cooper, Cynthia Miller, Lillian Stern and Horatio Yeung from Radiology of South Philadelphia private group became members of JUP Radiology. In addition, we recruited two full-time faculty members, Drs. Paul Hobbs and Tony Lee, to work in the Methodist division of our department. Drs. Neeta Rao and Conor Shortt joined our faculty in the Neuroradiology and Musculoskeletal divisions, respectively. In the Breast Imaging division, Drs. Niamh Hambly and Tara Eisenberg joined the faculty. Additionally, we recruited Christopher Roth, M.D. from our current faculty to serve as head of Methodist Radiology division.

FACULTY DEVELOPMENT, HONORS AND PROMOTIONS

I am pleased to report that Christopher Roth, M.D. was named Vice Chairman of Radiology at Methodist Hospital.

Several faculty members received numerous honors which are listed in the appendix under individual reports. I would like to highlight just a few major accolades: Dr. David Levin received both the Gold Medal Award of the Radiological Society of North America and of the Society of Interventional Radiology. Dr. Barry Goldberg received the Gold Medal Award of the American Roentgen Ray Society and the Lawrence A. Mack Lifetime Award of the Society of Radiologists in Ultrasound. Dr. Mathew Thakur received the First John McAfee Medal of the International Society of Radiolabeled Blood Elements. The Department of Radiology at the Armenian University has been named in honor of Dr. Levon Nazarian and his wife Claudia Nazarian. This is quite an honor roll for our department on the national and international scene.

At Jefferson, several members of our department received faculty awards. Dr. Barry Goldberg received the 2009 Jefferson Career Educator Award. Dr. Sharon Segal received the 2009 Jefferson Outstanding Clinician Award in the category of hospital-based physicians. Drs. Oksana Baltarowich, David Friedman, and Sung Kim received the Dean's

Award for Excellence in Education. Drs. Daniel Brown, Adam Flanders, Alfred Kurtz and Vijay Rao were honored as Top Docs by the *Philadelphia Magazine*.

CLINICAL ACTIVITIES

In 2009-2010, we performed a total of 501,879 procedures and showed a 44.3% growth in the practice, as compared with the last academic year with expansion of our service to the Methodist Hospital. Rapid growth in imaging over the past decade has come under scrutiny of policymakers leading to implementation of several strategies to control utilization. This has resulted in a dramatic slowing down of the growth rates of high end imaging nationally. Also, reimbursements per unit cost have been reduced substantially for outpatient imaging centers. Despite a dismal national trend, we experienced a 7.1% growth in MRI, 3.3% growth in ultrasound, 1.1% growth in CT, 1.7% growth in breast imaging, and 3.6% growth in interventional radiology. Jefferson Outpatient Imaging joint venture centers had a very successful year with 46,679 procedures being performed compared with 41,155 in the previous year, a 13% growth. It is indeed remarkable to experience a 28% growth in MRI, 17% in X-ray, 7% in PET, 6% in CT and 5% in ultrasound at the Jefferson Outpatient Imaging joint venture. These centers are well managed by Outpatient Imaging Affiliates, LLC with their aggressive marketing efforts producing positive results.

In **body MR**, several clinical services have grown. The cardiac MR program has continued to expand and improve, with Dr. Flavio Guglielmo heading this service. Using a demonstration version of Medis software, the use of quantitative techniques in interpreting and reporting of cardiac MR has expanded. Programs for endorectal coil imaging of prostate and rectal cancer at 3T have been initiated. Additionally, cases performed at our recently acquired Exton, PA facility are now being interpreted by the Jefferson faculty.

In **nuclear medicine**, a new program to assess myocardial sympathetic innervation in congestive heart failure with I-131 MIBG was adopted. Additionally, a protocol was established to use colloidal P-32 injection for unresectable craniopharyngiomas and sodium P-32 in the treatment of essential thrombocytosis refractory to standard chemotherapy.

In **body CT**, an interventional CT scanner was acquired to provide a dedicated CT scanner for interventional patients that will also improve performance of the interventional procedures performed by the **musculoskeletal division**. Additionally, all bariatric patients can be accommodated with a new scanner. The weight limit for the machine and the size of the aperture allows heavier and larger patients to be scanned. Working with Pathology, the clinical laboratories have implemented a fast “whole blood creatinine” test for those patients needing serum creatinine tests prior to contrast studies. The quality of body CT scans has improved with more homogeneous image quality at the different sites.

In **ultrasound**, the divisional inventory was modernized with the replacement of 5 technologically inferior units with 2 new and three refurbished units. The division also began an initiative with the Vascular Surgery Center, offering imaging services for scheduled and “add-on” patients. “Point of service” imaging is of significant benefit to the patients. The initiative has had considerable success and will be expanded with the arrival of a new vascular surgeon.

In **interventional radiology**, a new Philips FD-20 angiographic unit was installed. A collaborative Renal Mass Program, a unique program in the Delaware Valley, was initiated with Urology and Dr. Daniel Brown serves as co-director of the program. Appropriate patients are treated with percutaneous cryoablation. A Liver Tumor Program was also established and is a collaborative effort with Radiology, Hepatology, Oncology, Radiation Oncology, and Transplant Surgery. IR continues to be a major participant in the metastatic uveal melanoma program and performed over 350 hepatic embolizations.

In **breast imaging**, a new service utilizing MammaPrint, an innovative analysis of invasive breast cancers, is offered in collaboration with breast surgeons and pathology department

At **Methodist radiology**, a new GE 16-slice CT was acquired to improve workflow. Additionally, several high end applications were installed for breast MR imaging, including VIBRANT and CADstream. The most noteworthy clinical accomplishments at Methodist included vast improvement in the diagnostic quality of interpretation, greatly improved turnaround times from 20-30 hours to approximately 14 hours, providing regular and consistent radiologists on site coverage and technologist oversight until 9 p.m.

PLANNED NEW CLINICAL FACILITIES AND PROGRAMS

Jefferson Radiology continues to be on leading edge of imaging with improved current clinical programs and exciting new clinical services planned for the upcoming year. In **body CT**, Emergency Department patients with abdominal pain who meet the appropriateness criteria will be imaged without contrast to shorten the turnaround time rather than extending patient time waiting for whole blood creatinine tests. The appropriateness of expanding the vital colonoscopy service will be reassessed as the value of this technology continues to gain recognition. Imaging protocols will be standardized across all sites, allowing state-of-the-art CT imaging to be preformed in the **Methodist division**. Additionally at Methodist, the interventional radiology service will be expanded with the installation of the new planned interventional radiology suite. Pending approval of capital for new MRI system, a high-field wide/short bore MRI will be acquired to recover lost outpatient MRI business.

In **interventional radiology**, volume of uterine fibroid embolization and endovenous laser ablation procedures are planned to increase with recent advertisement promoting the services. A program to evaluate and treat children with vascular malformations at AI Dupont Children's Hospital is being planned.

The **ultrasound division** will continue to expand the musculoskeletal imaging program with refinements to the scheduling process and in collaboration with the **musculoskeletal division**. The number of patients in the last year increased by thirty percent due to scheduling changes. A second musculoskeletal radiologist has added more appointment slots expanding coverage from 2 to 3 days of service. A third musculoskeletal radiologist will increase the coverage to 5 days a week.

The new 1.5T MR unit at Jefferson Hospital for the Neurosciences will allow us to further expand the use of MR angiography and MR perfusion imaging in **neuroradiology**. The

unit will accommodate increased procedure volume related to increased clinical activity in neurosurgery.

The **body MR** divisions plan to continue to develop and improve recently introduced or expanded services, including cardiac MRI, MR enterography, Eovist-enhanced hepatobiliary MRI and endorectal coil MRI.

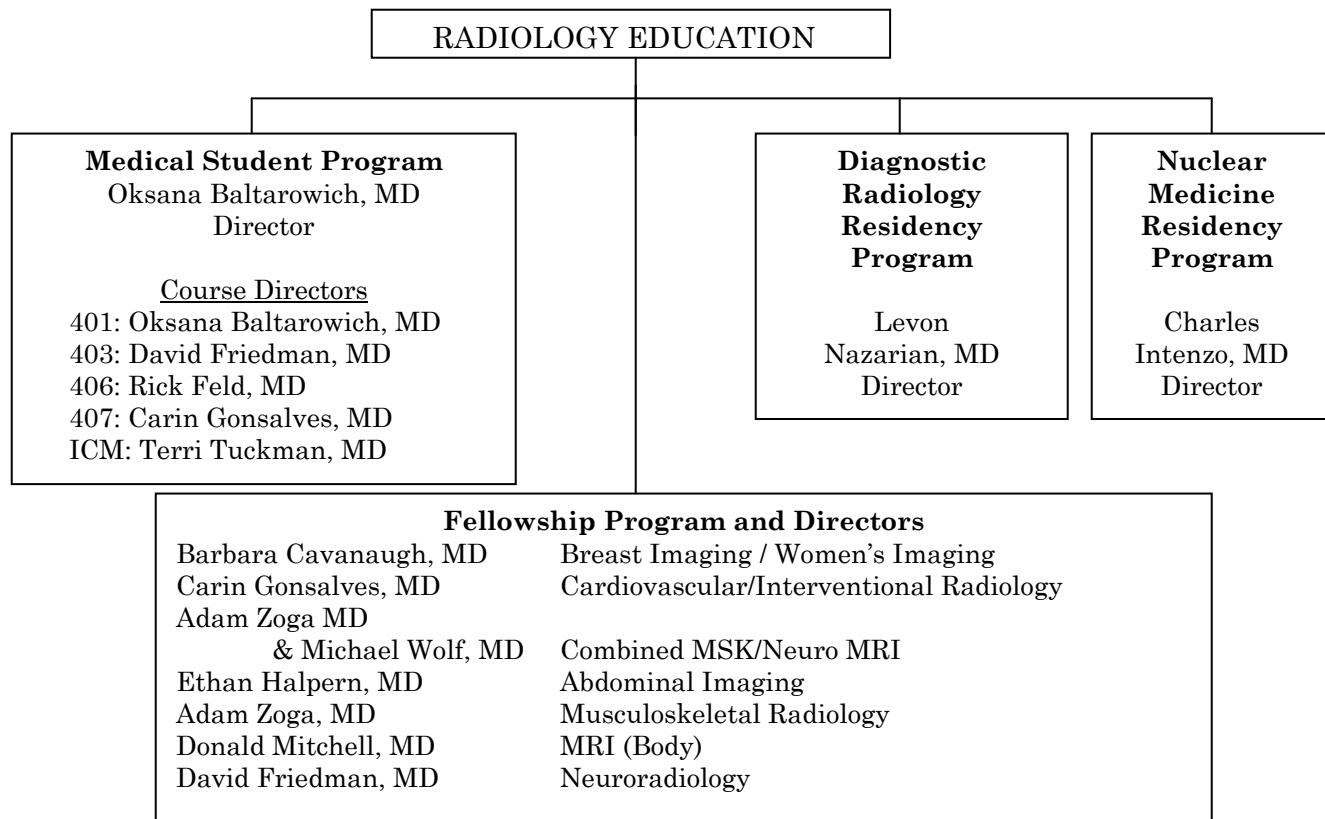
CLINICAL INFORMATICS

The Information Technology section of the Department of Radiology continues to support the clinical needs and mission of the department. A full time Radiology IS Administrator has been recruited to help coordinate all Radiology IS projects and to liaison with the Hospital IS. This past year, the Radiology IT section has successfully implemented various enhancements including an iSite database upgrade and GE Imagecast version upgrade to 10.6. All PowerScribe stations in the reading rooms have been upgraded with new computers. New computers were installed in the radiology library with relevant software for medical students rotating through Radiology Department. Additional reading stations have been installed at Jefferson Outpatient Imaging Centers at KOP, Exton, Collegeville, and Langhorne to provide on-site reading.

Other accomplishments involve the creation of a radiology helpdesk at extension 5-5100 with the intention of providing immediate support to radiology clients with any IS related issues. The IT team also worked on the set up and installation of demo applications such as IMorgan for the Ultrasound Division.

Future planned initiatives include an upgrade to the voice recognition system (PowerScribe) and iSite to make the application compatible with IE8. Methodist Hospital Radiology integration is also scheduled beginning with implementation of RIS at Methodist. This will allow both TJUH and Methodist be on the same version of RIS and PowerScribe. Additionally, the IT section will continue to advance the needs of the department by evaluation of a potential workflow layer of iSite PACS to further optimize resident workflow, a dashboard for real-time reporting, an ER Communication Tool, and optimized administrative reporting.

EDUCATIONAL PROGRAMS



RESIDENCY TRAINING PROGRAM

The educational programs at Thomas Jefferson University Hospital continue to be one of the major strengths of our department. Our residency program is approved for 36 residents and fully accredited by the ACGME.

The Radiology residency program is nationally recognized as one of the top programs in the country. Our faculty are committed to a high caliber of teaching in spite of increased clinical workload. The goal of our residency program is to produce competent radiologists well trained in all aspects of diagnostic radiology.

Upon finishing their training, our residents will be able to pursue a career in either an academic or private practice environment. All eight of our senior residents passed both the written and the oral portions of the American Board of Radiology Examination. We have a reputation for the highest caliber fellowship programs and we are extremely pleased that this year six of the eight residents have chosen to stay on at Jefferson for additional fellowship training. Many thanks to Levon Nazarian, M.D., for his outstanding leadership as the program director. Many thanks to Pamela Coyle, Residency Coordinator, for outstanding assistance throughout the year.

Residency Selection: This year we received 789 applications for nine positions and interviewed 71 candidates. We matched all of our positions from among our top candidates under the leadership of Dr. Sandeep Deshmukh, Chairman of the Residency Selection

Committee. We also accepted another candidate into our DIRECT interventional radiology pathway. The teaching and research reputation, as well availability of cutting edge technology such as 256 multidetector CT, PET scanning and 3T MR keeps us competitive with other top institutions in the country.

Resident research is actively encouraged. All residents are required to complete at least one project by the end of their third year, though many do more. Many of our residents presented papers at national meetings. One of our graduating seniors, Elizabeth Ives, M.D., received the RSNA Research and Education Foundation Roentgen Resident Research Award which was presented to her at graduation. Dr. Michael Petroziello participated in the RSNA/ARRS/AUR Introduction to Research Program, and Dr. Ariel Prager participated in the Siemens-AUR Radiology Resident Academic Development (SARRAD).

In order to facilitate clinical research among radiology residents, each resident attends a monthly seminar series to review the basics of clinical research study design and implementation prior to presenting his/her own research plan. The seminar series includes eight lectures on hypothesis generation and testing, power analysis, study design, measures of association (sensitivity/specificity/likelihood ratios/predictive value/ROC analysis), bias & confounding, IRB/HIPPA issues, research ethics and health services research. These sessions are structured to comply with the core curriculum on research and statistics for radiology residents developed by the Association of University Radiologists. Additional sessions are devoted to allow second year residents to present their proposed projects in a small group session for comments prior to their required presentations to the entire department of Radiology. The series was conducted jointly by Dr. Ethan Halpern and Ms. Andrea Frangos.

Residents receive extensive clinical training in all areas of diagnostic Radiology. Clinical rotations are in compliance with guidelines required by the ACGME and/or recommended by the Association of Program Directors in Radiology (APDR). Almost all training takes place on the Jefferson campus, save pediatric radiology. Residents spend a total of 3 months at A.I. DuPont and get an outstanding education in pediatric radiology.

Residents Laryssa Hud, M.D., Waseem Khan, M.D., Nancy Laurence, M.D., Jeffrey Mathews, M.D., Njogu Njuguna, M.D., Paul Read, M.D., Richard Sharpe, M.D., and Ronald Winokur, M.D. received recognition for excellence in medical student teaching.

TRAINING PROGRAMS FOR FELLOWS

Our fellowship programs had another successful year. There is an increasing number of extremely well qualified applicants in most of the areas offered by our department including: interventional radiology, body MRI, breast imaging, combined musculoskeletal and neuro MRI, neuroradiology/ENT, US/CT/MRI, and musculoskeletal radiology. All of the above programs received very positive year-end critiques from the graduating fellows.

The **Abdominal Imaging Fellowship**, under the direction of Dr. Ethan Halpern is an ACGME accredited program. Six fellows graduated: Dr. Michael Birkhoff stayed with us at Methodist Hospital, Dr. Joshua Kellerman joined Larchmont Imaging Associates in New Jersey, Dr. Brian Kilmas joined Geisinger Health Clinic in Wilkes Barre, Dr. Ellana

Rodriguez joined the Radiology Associates of the Main Line, Dr. Chun Wang joined the staff at Maimonides Medical Center in New York. Dr. Padma Anne joined a nighthawk service.

The **Vascular and Interventional (VIR) Fellowship**, under the direction of Carin Gonslaves, M.D., is an ACGME accredited one year program. We currently match two fellows per year in the traditional VIR fellowship. In addition, we offer the DIRECT pathway program, which is a four year combined Radiology Residency and Vascular and Interventional Radiology Fellowship that can be entered after completing two clinical years of training. We enrolled our first Direct Pathway resident in 2006 and the program is now filled through the 2011-2012 academic year.

The **Body MRI Fellowship**, under the direction of Donald Mitchell, M.D., has remained popular because of the quality of faculty, the large and diverse case volume, and because Body MRI continues to be one of the most rapidly expanding areas of clinical practice. This fellowship includes training in all areas of body MRI, including cardiac, thoracic, vascular, abdominal, pelvic, and breast applications. The graduating fellow, Dr. Silverberg, remained at Jefferson for one year for a musculoskeletal imaging fellowship.

The **Musculoskeletal Fellowship**, under the direction of Adam Zoga, M.D., graduated three outstanding fellows: Dr. Amy Austin and Dr. Kristen McClure, who have both stayed on as faculty in the department at Methodist Hospital, and Dr. Frank Mullens, who, as an active duty Lieutenant Commander in the U.S. Navy, has been assigned to the Musculoskeletal Radiology division at Bethesda Naval Hospital. This was a very strong clinical team with academic productivity as well. The musculoskeletal fellowship positions remain highly coveted as we received more than 60 applications for the 2010-2011 positions. From that group, we offered positions to our top choices, Dr. Sara Brooks-Sienkiewicz and Dr. Paul Read, both completed radiology residency at Jefferson and Dr. Chad Silverberg, who completed a Body MR fellowship at Jefferson.

The **Neuroradiology/ENT Radiology Fellowship**, under the direction of David Friedman, M.D., graduated two fellows, Dr. Seamus Looby and Dr. Kate Stanitski. Dr. Looby joined the Limerick Hospital in Ireland and Dr. Stanitski joined Columbus Radiology Corporate in Honolulu. Dr. Pranshu Sharma and Kiran Talekar are pursuing a second year of advanced training in neuroradiology with us at Jefferson.

The **Breast Imaging Fellowship**, under the direction of Barbara C. Cavanaugh, M.D., offers training in screening and diagnostic mammography, breast ultrasound, breast MRI, image guided percutaneous needle localization and biopsy using mammography, ultrasound and MRI. We also participate in clinical trials for innovative imaging of the breast. Dr. Wasti has stayed on as faculty in the department and Dr. Kerr joined the faculty at Beaumont Hospital in Dublin, Ireland.

A combined **Musculoskeletal/ Neuro MRI Fellowship**, under the direction of Michael Wolf, M.D. and Adam Zoga, M.D., is a unique program. Fellows receive training in MRI of musculoskeletal diseases as well as in neuroradiology. This remains a very popular fellowship. Four graduates from the 2009-2010 year, Dr. Amy Modi, Dr. Nirav Patel, Dr. Tamara Trella, and Dr. Albert Yueng, have joined private practices. Three strong clinical Combined Musculoskeletal/Neuro MRI fellows are starting in July 2010 including two

graduating Jefferson residents, Dr. Michael Gold and Dr. Adeel Azam, and a radiologist trained in Dublin Ireland, Dr. Fiona Carty.

TEACHING PROGRAMS FOR MEDICAL STUDENTS

I am pleased that radiology continues to be included in the core curriculum for sophomore students. I wish to thank Terri Tuckman, M.D. and Oksana Baltarowich, M.D., who willingly contributed their time to this important teaching exercise for Jefferson medical students. The radiology topics presented were Women's Imaging and Abdominal Imaging.

I wish to acknowledge contributions of Dr. Oksana Baltarowich who has assumed the role of Director of Medical Student Education as of July 2009. She has done a spectacular job of restructuring the course and developing new content material. As a result, the RAD 401 course has received rave reviews and has become one of the most desirable electives for senior medical students. Three additional electives are offered by our department, which include IR, Neuroradiology, and Cross-Sectional Imaging (Ultrasound/CT/MRI). The radiology electives remained quite popular and were completed by 119 members of the senior class, either here or at an outside institution. The senior students can choose to attend one or more of the four separate electives

The Neuroradiology elective was completed by 6 senior medical students. Electives in Cross-Sectional Imaging and IR were completed by 5 and 8 students, respectively. All of these courses received outstanding reviews from the students. I wish to thank all the course coordinators for their stellar effort in enhancing medical student education – Oksana Baltarowich, M.D., for General Radiology, David Friedman, M.D., for Neuroradiology, Rick Feld, M.D., for Cross-Sectional Imaging, and Carin Gonsalves, M.D., for CR.

CONTINUING MEDICAL EDUCATION PROGRAMS

Division of Musculoskeletal and General Radiology: The Jefferson Musculoskeletal Imaging Symposium on musculoskeletal imaging techniques and protocols including 3T and dedicated extremity MRI was held in January 2010, directed by Adam Zoga, M.D., with 110 attendees.

Radiology Grand Rounds and Radiology Research Conferences: Twenty-two weekly conferences were held during the 2009-2010 in Radiology, alternating between Grand Rounds, Radiology Research Conferences and Journal Clubs. Grand Round speakers covered a wide range of interesting topics in all areas of radiology. The Radiology Research Conferences allowed faculty, residents, and fellows in the department the opportunity to present the results of their research activities. Additionally, after each presentation, a discussion of the study design and methodology provided a useful learning session for all.

Second Annual David C. Levin Lecture: The Department was pleased to present the endowed lecture in honor of Dr. David Levin, Professor Emeritus and former chair of the Department on Thursday, September 17, 2009. The lecture titled: "A New Administration; New Expectations; The Changing Role of Radiology" was given by Dr. Lawrence Muroff. Dr. Muroff is a Clinical Professor of Radiology at both the University of Florida and the University of South Florida Colleges of Medicine. He is also President of Imaging

Consultants, Inc., providers of consulting services to radiologists, hospitals, and corporations.

Jefferson Ultrasound Research and Education Institute (JURED): The Jefferson Ultrasound Research and Education Institute, under the leadership of Barry B. Goldberg, M.D., continued its educational programs with more than 40 courses offered in all aspects of ultrasound. The annual Leading Edge meeting, which was held at the Borgata Casino Resort in Atlantic City, was a success with attendance of greater than 1,200 people. The program was supported by a wide variety of exhibitors and lecturers from this country and abroad providing symposia on Ob/Gyn, vascular ultrasound imaging, ultrasound physics, sonomammography, musculoskeletal, pediatric ultrasound, ultrasound contrast agents, and requisites.

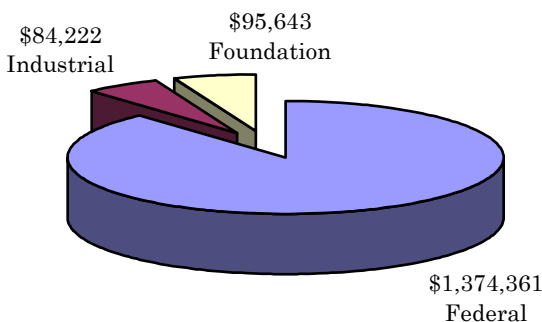
RESEARCH ACTIVITIES

Although the demands of clinical activities continue to increase, as indicated in our clinical productivity, the department's research productivity remained strong. There were 24 NIH or other federal grants active during the year, in addition to 2 foundation or medical society grants, and another 12 industrial grants. As a group, these grants brought in total current year funding of \$1,554,226 including \$1,181,075 in direct support and \$373,151 in indirect. We had 228 publications in the medical literature (including journal articles, books and book chapters, and published abstracts) over the past fiscal year.

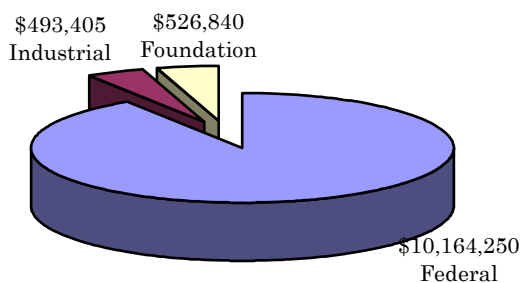
The Judy Dubbs Development Grant Award was given to Conor Shortt, M.D. Conor supervised a project which will fund an engineering student to work during the summer to complete and calibrate an MR compatible anterior drawer device for knee instability, as well as to recruit patients for the project which required the physical presence of a person when the patients are seen.

The Judy Dubbs Memorial Research Award was presented to Achala Donuru, M.D. Dr. Donuru's work on "Estimation of Right Atrial and Right Ventricular Volumes During Coronary CTA: Right Ventricular Ejection Fraction is Substantially Independent of Left Ventricular Function" was presented at the 2009 Radiological Society of North America annual meeting. This award is given to a junior faculty member within five years of appointment for outstanding scholarly work.

2009-2010 Fiscal Year Funding



Total Funding (all budget years)



The **Jefferson Molecular and Biomedical Imaging Core Facility**, under the direction of Mathew Thakur, Ph.D., has had another productive year continuing to expand its role in pre-clinical research on campus. A number of data processing and image processing alterations were made that have improved data quantification and image quality. The work carried out at this imaging facility has resulted, during this academic year, into eight new federally funded grants on the campus that will utilize the facility. The work has also resulted in the publication of at least six original articles, two book chapters, and eight abstracts. In addition, ten presentations at national and international gatherings were made that were related to the use of this facility. The imaging facility was expanded by the addition of a new state of the art optical imaging unit, acquired with a small equipment grant from NIH.

The **MR physics program**, under the leadership of Song Lai, Ph.D., continued to investigate novel MR imaging techniques that provide a new, non-invasive approach to evaluate normal and diseased brain characteristics and functioning. Working with the Departments of Neurosurgery, Neurology, Pathology, and Pediatrics, the program has been productive in the investigation of lead poisoning, multiple sclerosis, epilepsy, glaucoma, Parkinson's Disease, Klinefelter's Syndrome, and brain tumors.

Our division of **diagnostic ultrasound**, under the leadership of Dr. Barry Goldberg, continued to be highly productive. A variety of basic science, animal, and clinical research studies were underway for the development and evaluation of ultrasound contrast agents and novel imaging techniques to improve the detection of diseases.

Dr. Goldberg completed his research efforts of his NIH-funded R01 grant into sentinel lymph node identification with an ultrasound contrast agent and continued research in the same area (for secondary lymph nodes) under an R21 grant. Dr. Forsberg continued his study of subharmonic pressure estimation to monitor neoadjuvant therapy of breast cancer (from the Department of Defense) and completed his study employing the same technique in the portal vein of canines (under NIH funding). Dr. Forsberg was awarded a Challenge Grant funded by the NIH under the ARRA mechanism and is now moving his pressure estimation technique into a human trial on portal hypertension. He also secured funding from the NIH (NCI) to conduct a full-scale trial of subharmonic breast imaging in 450 patients. Drs. Cavanaugh and Forsberg applied for funding to investigate a new breast lesion volume estimation technology, while Dr. Liu continued to investigate contrast-enhanced ultrasound guidance of prostate RF ablation. Dr Halpern continued his clinical trial on prostate cancer detection with contrast-enhanced ultrasound following pre-treatment with Dutasteride supported by the NIH and Dr. Nazarian continued his work in musculoskeletal ultrasound diagnosis and therapy. Finally, Dr. Goldberg is serving as the principal investigator of a Phase III clinical trial of SonoVue (an ultrasound contrast agent) for liver lesion characterization funded by Bracco.

In **breast imaging**, recruitment was completed for a trial examining elastography for characterization of breast lesions trial. In addition, recruitment was initiated on an NIH trial that is a collaborative effort between breast imaging and Drs. Thakur and Intenzo in **nuclear medicine** to examine Cu-64 based PET tracer in breast cancer that binds to the VPAC1 receptor found in breast epithelial cells. Dr. Thakur also is investigating the use of Cu-64 for prostate cancer imaging and began the human subject feasibility study. Dr. Intenzo initiated two new PET trials sponsored by the American College of Radiology Imaging Network. One study is examining the use of 18-Fluorothymidine (FLT) PET for monitoring response of invasive ductal breast carcinoma to neoadjuvant therapy and the second trial is evaluating the use of FDG-PET for staging head and neck cancer.

In **body MRI**, Dr. Mitchell continued work with Hepatology that includes measuring hepatic lipid with 1.5T and 3T MRI in response to treatment with Silymarin with pathological correlation. Additionally, Dr. Mitchell completed the clinical phase of a study funded by the Pennsylvania Department of Health through the American College of Radiology Imaging Network collaborative group that involved a method of dynamic contrast enhanced perfusion imaging for assessing colorectal metastasis. Research examining liver and cardiac iron measurement continued and will likely lead to increased research opportunities in collaboration with Philips Medical Systems North America.

In **neuroradiology/ head and neck radiology**, Dr. Flanders continued his work on a grant funded by the NIH to create an integrated biomedical informatics infrastructure for cancer research imaging. He also was awarded funding from the Department of Defense to evaluate the use of novel MR biomarkers to predict outcome in spinal cord injury and primary glial brain tumors and the study will begin in September 2010. Dr. Friedman examined trends in utilization of CTA and MRA for head and neck imaging. Dr. Wolf initiated a cooperative group study funded by the NIH through the American College of Radiology and Radiation Therapy Oncology Group examining imaging of glioblastomas.

In **body CT**, Dr. Halpern continued his investigation in the cost-effectiveness of coronary CT angiography as a triple-rule-out exam. A study was initiated evaluating kidney stones

with dual energy CT. A manuscript studying imaging findings on MR and CT after uterine artery embolization was published in collaboration with the **interventional radiology division**. The interventional radiologists continue their work with Dr. Sato in immunoembolization for uveal melanoma. Dr. Jeffrey McCann will begin work on a registry for AngioSeal devices and Dr. Daniel Brown will investigate the efficacy of the PressureWire™ Aeris technology to quantitatively measure treatment endpoints for chemoembolization.

The **Methodist division** was active in research, participating in body MR and musculoskeletal research. Investigations were conducted in renal lesions, optimizing MR imaging protocols with Eovist, MR imaging of athletic pubalgia, and axial loaded knee MR to evaluate medial meniscus extrusion.

Our **musculoskeletal group** continued to be productive in their research publications. Dr. Zoga continued his work in imaging of athletic pubalgia, presenting the optimal imaging techniques, as well as the anatomy, pathology, and MRI findings in the sports hernia at several national meetings. Other studies included continued research on the use of weight-bearing and stress MR. Investigations on hip morphometrics were initiated with the Radiological Society of North America Derek-Nash International Fellow.

Our **health services research** group (Dr. Levin, Dr. Parker, Andrea Frangos and I) continued to be highly productive in studying practice patterns and utilization trends in diagnostic imaging and interventions. We received continued funding from the American College of Radiology. Dr. Parker completed a grant funded by the American Institute of Ultrasound in Medicine to examine the cost savings associated with substituting ultrasound for CT in the evaluation of appendicitis.

OPPORTUNITIES FOR EXTRAMURAL FUNDING

Although federal funding continues to be competitive, the department continues to actively seek funding. Overall, the department has 10 pending NIH grant proposals, which are listed in Table 2 of the appendix. There is also one pending industry grant and one pending foundation grant. The proposals cover a broad spectrum of radiology research.

The American College of Radiology Imaging Network (ACRIN), an NCI- funded cooperative group, remains a good source of extramural funding for the department. There are additional projects, which are under development at ACRIN, which we hope to participate in. While we will continue to pursue grant funds through the NIH and radiology foundations, many of which provide seed grants to gather pilot data for larger grant submissions, we also plan on pursuing funding from industry to sponsor our investigator initiated projects.

Partnerships with industry are also a rich source of funding and research support. Additionally, research partnerships allow us to serve as beta sites for equipment and bring attention to our research endeavors. We have formed a collaborative relationship with Philips Medical Systems North America for evaluation and optimization of imaging equipment and techniques. The partnership has allowed us to optimize many of our imaging techniques with improvements in imaging protocols and analysis, thereby improving patient care.

APPENDIX I

PUBLICATIONS

Journal Articles:

1. Adamo R, Saad WE, Brown DB: Management of nephrostomy drains and ureteral stents. *Tech Vasc Interv Radiol* 2009; 12:193-204.
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APPENDIX II

FORMAL SCIENTIFIC PRESENTATIONS

OKSANA BALTAROWICH, M.D.

- October 15-18, 2009 2009 Society of Diagnostic Medical Sonography Annual Conference, Nashville, TN
- “Adnexal masses: When is sonography diagnostic?”
 - “Sonography of the pancreas and spleen”
 - “Sonohysterography”
- October 30-
November 1, 2009 Advances in Sonography, 19th Annual Meeting and Postgraduate Course of the Society of Radiologists in Ultrasound, Chicago, IL
- “Pitfalls in imaging of ectopic pregnancy”
 - “Sonohysterography and 3D ultrasound in evaluation of the uterus”
- February 20-21, 2010 2010 Montana Advanced Sonography Seminar, Pray, MT
- “Pitfalls in imaging of ectopic pregnancy”
 - “Sonography of myometrial disorders”
 - “Ultrasound of adnexal masses”
- March 10, 2010 Department of Radiology Grand Rounds, Albert Einstein Medical Center, Philadelphia, PA
- “Pitfalls in imaging of ectopic pregnancy”
 - “Obstetrical case review”
- May 2-7, 2010 American Roentgen Ray Society 110th Annual Meeting, San Diego, CA
- “2010 case-based approach to diagnosis: A case-based imaging review course: Ultrasound gynecology”
- May 11-14, 2010 The Leading Edge in Diagnostic Ultrasound, sponsored by Thomas Jefferson University Hospital, Atlantic City, NJ
- “Ultrasound general imaging – The requisites”
 - “Abdominal ultrasound – Part I (liver, gallbladder, and bile ducts)”
 - “Abdominal ultrasound – Part II (pancreas and spleen)”
 - “Women's imaging symposium – Advances in OB/GYN”
 - “Gynecological ultrasound”
 - “Sonography of the first trimester in pregnancy”
 - “Role of CT in assessing adnexal masses”

DANIEL BROWN, M.D.

- September 15, 2009 New England Society of Interventional Radiology (NESIR), Boston, MA
- “Chemoembolization of hepatocellular carcinoma: A versatile tool for palliative, adjuvant and combination therapy”

- January 16-17, 2010 The Symposium on Clinical Interventional Oncology, Hollywood, FL
- “Tumor board: Metastatic liver disease”
 - “Debate: Drug eluting beads vs. standard TACE”
 - “M and M: Liver metastases complications, lessons learned, changes we’ve made”
 - “To biopsy or not to biopsy: When is a biopsy necessary?”
 - “Tumor board: A presentation of carefully selected cases that demonstrate a multidisciplinary approach to treating renal and bone cancer”
 - “Problematic IO reimbursement: Strategies for success”
- March 13-18, 2010 35th Annual Scientific Meeting of the Society of Interventional Radiology, Tampa, FL
- “Clinical symposium: Imaging and follow-up after hepatic transarterial therapies: Tumor markers, imaging, functional imaging, frequency of office visits and indications for retreatment”
 - “Primer on Y90 microspheres” (workshop faculty)
 - “Pancreatico-biliary interventions” (workshop faculty)
 - “Liver oncology” (moderator)
 - “Oncology: Renal tumor board”
 - “Case based review: Post-procedural clinical management” (categorical course)
 - “Vigorous debate: Y90 radioembolization offers no discernable advantages over traditional chemoembolization in the treatment of hepatic malignancies” (categorical course)
 - “Extra-CNS uses of ethyl vinyl alcohol co-polymer: Ready for prime time in the periphery” (poster)
 - “Correlation of imaging outcomes following radioembolization with 90Y microspheres to tumor/normal liver uptake ratios at 99mTc macroaggregated albumin (99mTc-MAA) mapping angiography” (poster)
 - “Incidence of recanalization and new collateral development following side-branch embolization for Yttrium-90 radioembolization”
 - “Radiation dose from multineedle CT guided cryoablation of abdominal tumors”
- May 6-9, 2010 4th Annual Global Embolization Symposium and Technologies (GEST) Meeting, San Francisco, CA
- “Bottom tips: Technique and material selection for lower GI bleeding”
 - Radioembolization: Practice building, cost and reimbursement issues”
 - “Patient selection, work-up and dose calculation”
 - “Ablation alley workshop”
 - “Case based discussion: Radioembolization”
- June 9-12, 2010 World Conference on Interventional Oncology, Philadelphia, PA
- “Chemoembolization with oil and beads”
 - “How-to with Y90: Complications”
 - “Hepatic embolization and ablation” (moderator)
 - “Challenging Y90 radioembolization cases” (workshop)

BARBARA CAVANAUGH, M.D.

- May 11-14, 2010 The Leading Edge in Diagnostic Ultrasound, sponsored by Thomas Jefferson University Hospital, Atlantic City, NJ
- “Ultrasound guided procedures and pathology correlation”
 - “Elastography for assessment of breast masses”

DIANE DEELY, M.D.

- January 23-24, 2010 Jefferson Musculoskeletal Imaging Symposium, Philadelphia, PA
- “MRI assessment and image guided intervention of soft tissue masses”

SANDEEP DESHMUKH, M.D.

- October 1, 2009 Blue Ribbon Lecturer, Philadelphia Roentgen Ray Society, Philadelphia, PA
- “MRI of Crohn’s disease”
- November 29-
December 4, 2009 95th Scientific Assembly and Annual Meeting of the Radiological Society of North America, Chicago, IL
- “Multimodality imaging of Crohn’s disease”
 - “Modern era imaging of pancreatic adenocarcinoma”
 - “Characteristics of different tissues encountered in abdominal MRI: Physical basis and diagnostic implications”
- February 21-26, 2010 Abdominal Radiology Course 2010, Presented by the Society of Gastrointestinal Radiologists and the Society of Uroradiology, Orlando, FL
- “Modern era imaging of pancreatic adenocarcinoma”
- May 11-14, 2010 The Leading Edge in Diagnostic Ultrasound, sponsored by Thomas Jefferson University Hospital, Atlantic City, NJ
- “Comparison of cross sectional modalities for arterial disease”

ACHALA DONURU, M.D.

- November 29-
December 4, 2009 95th Scientific Assembly and Annual Meeting of the Radiological Society of North America, Chicago, IL
- “Estimation of right atrial and right ventricular volumes during coronary CTA: Right ventricular ejection fraction is substantially independent of left ventricular function”

DAVID ESCHELMAN, M.D.

- October 12, 2009 First Annual Ocular Melanoma Scientific Working Group, Boston, MA
- “Immunoembolization of uveal melanoma metastatic to the liver”
- May 13, 2010 Department of Radiology, Dartmouth-Hitchcock Medical Center, Lebanon, NH
- “Treatment of uveal melanoma metastatic to the liver”

RICK FELD, M.D.

- March 24-27, 2010 2010 American Institute of Ultrasound in Medicine Annual Convention, San Diego, CA
- “New developments in intraoperative ultrasound”
 - “Ultrasound-guided biopsy” (hands on course)
- May 11-14, 2010 The Leading Edge in Diagnostic Ultrasound, sponsored by Thomas Jefferson University Hospital, Atlantic City, NJ
- “Interventional ultrasound including thyroid biopsy: A practical guide”

ADAM FLANDERS, M.D.

- September 25-27, 2009 MRI: Clinical State-of-the-Art, sponsored by NYU Post-Graduate Medical School, New York, NY
- “Vascular disease of the spinal cord”
 - “MRI of spinal trauma and spinal cord injury”
 - “MRI of cervical myelopathy”
- November 29-
December 4, 2009 95th Scientific Assembly and Annual Meeting of the Radiological Society of North America, Chicago, IL
- “Electronic teaching files general concepts and basic MIRC®”
 - “So many images, so little time. Practical informatics for the practicing radiologist: Part two”
 - “A TCE-less’ MIRC teaching file submission tool for PACS”
 - “MIRC® teaching files: Integration in practice”
- February 18-21, 2010 American Society of Spine Radiology Annual Symposium, Las Vegas, NV
- “fMRI of the spinal cord”
- March 18-19, 2010 9th Annual Cerebrovascular Update, sponsored by Jefferson Medical College, Philadelphia, PA
- “Modern imaging approaches in stroke management”
- May 2-7, 2010 American Roentgen Ray Society 110th Annual Meeting, San Diego, CA
- “Imaging in cervical spine trauma: Use of MRI”

- May 7, 2010 Navigating Spinal Care, Spine 101: Degenerative Spine Disease, sponsored by Jefferson Medical College, Philadelphia, PA
- “Radiology: What study should we order and when in evaluation of the patient with low back pain or radicular pain?”
- June 3-6, 2010 Society for Imaging Informatics in Medicine 2010 Annual Meeting, Minneapolis, MN
- “Open source plug-fest: The RSNA/MIRC software project”
 - “Image sharing” (applied learning session)
 - “So many images, so little time. Advanced imaging techniques. Practical Informatics for the Imaging Physician: Part I”

FLEMMING FORSBERG, PH.D.

- August 30-
September 3, 2009 12th World Congress of the World Federation for Ultrasound in Medicine and Biology, Sydney, Australia
- “Principles of elastography and strain imaging”
 - “Applications of subharmonic contrast imaging”
- October 22-23, 2009 24th Annual Advances in Contrast Ultrasound – ICUS Bubble Course 2009, Chicago, IL
- “In vivo subharmonic pressure estimation”
- November 29-
December 4, 2009 95th Scientific Assembly and Annual Meeting of the Radiological Society of North America, Chicago, IL
- “Initial in vitro study of US pressure measurements for monitoring neoadjuvant chemotherapy of breast cancer”
- March 24-27, 2010 2010 American Institute of Ultrasound in Medicine Annual Convention, San Diego, CA
- “Noninvasive cardiac subharmonic pressure estimation in vivo”
 - “The holy grail: Ultrasound microbubbles for therapy”
 - “Visualizing atherosclerotic plaque neovasculature using subharmonic IVUS: A feasibility study”
 - “Dynamic cumulative maximum intensity display mode for subharmonic breast imaging – A comparative study with mammography and conventional US techniques”
 - “Image processing techniques for improved three-dimensional ultrasound imaging: A comparative study”
- May 7, 2010 American Association of Physicists in Medicine Delaware Valley Chapter Spring Symposium, Philadelphia, PA
- “Recent advances in ultrasound for image guided therapy”
- May 11-14, 2010 The Leading Edge in Diagnostic Ultrasound, sponsored by Thomas Jefferson University Hospital, Atlantic City, NJ
- “Portal vein pressure estimation”
- June 9-12, 2010 World Conference on Interventional Oncology, Philadelphia, PA
- “Contrast enhanced ultrasound imaging and elastography for interventional procedures”

DAVID FRIEDMAN, M.D.

- May 15-20, 2010 American Society of Neuroradiology 48th Annual Meeting and NER Foundation Symposium 2010, Boston, MA
- “Trends in the utilization of CT angiography and MR angiography in the brain and neck”
 - “What factors account for variability in procedure withdrawal rates among radiologists participating in a utilization (UM) program?”

BARRY GOLDBERG, M.D.

- August 30-
September 3, 2009 12th World Congress of the World Federation for Ultrasound in Medicine and Biology, Sydney, Australia
- “Effectiveness of the ‘Teaching the Teachers’ ultrasound physician training program: A summary of three programs”
 - “Lymphosonography”
 - “Current and planned WFUMB education committee projects”
 - “Summary and plans for implementing the development of an ultrasound and basic radiology curriculum and E-learning tools in cooperation with multiple organizations”
 - “Changes and challenges for clinical ultrasound over the next decade”
 - “WFUMB educational programs to assist the developing and emerging countries”
- September 30-
October 3, 2009 2009 American College of Radiology Imaging Network (ACRIN) Fall Meeting, Arlington, VA
- “Ultrasound: An update”
- October 30-
November 1, 2009 Advances in Sonography, 19th Annual Meeting and Postgraduate Course of the Society of Radiologists in Ultrasound, Chicago, IL
- “A new approach to ultrasound education in the developing world”
 - “An update on ultrasound contrast use in humans in the USA”
- November 29-
December 4, 2009 95th Scientific Assembly and Annual Meeting of the Radiological Society of North America, Chicago, IL
- “Sentinel lymph node identification in swine with melanomas: Comparing contrast-enhanced US and nuclear medicine”
- March 4, 2010 Harvey Nisenbaum Annual Oration Lecturer, Philadelphia Roentgen Ray Society Annual Meeting, Philadelphia, PA
- “Ultrasound: A look into the future”
- March 24-27, 2010 2010 American Institute of Ultrasound in Medicine Annual Convention, San Diego, CA
- “What are the latest developments?”
 - “Lymphosonographic detection of secondary lymph nodes compared to surgery and pathology”

- May 11-14, 2010 The Leading Edge in Diagnostic Ultrasound, sponsored by Thomas Jefferson University Hospital, Atlantic City, NJ
- “Contrast enhanced characterization of liver lesions – A phase III clinical trial”
 - “Advances in ultrasound imaging”

CARIN GONSALVES, M.D.

- October 12, 2009 First Annual Ocular Melanoma Scientific Working Group, Boston, MA
- “Chemoembolization for treatment of uveal melanoma hepatic metastases”
- June 9-12, 2010 World Conference on Interventional Oncology, Philadelphia, PA
- “Immunoembolization of uveal melanoma liver metastases using GM-CSF”

ETHAN HALPERN, M.D.

- October 28-30, 2009 Israel Radiological Association ISRA – 2009 Annual Meeting, Eilat, Israel
- “Triple rule-out CT”
 - “Choosing between CCTA and a nuclear stress test”
- November 29-
December 4, 2009 95th Scientific Assembly and Annual Meeting of the Radiological Society of North America, Chicago, IL
- “Complications of prosthetic aortic and mitral valves”
 - “Imaging with ECG-gated cardiac CT”
 - “Diagnostic accuracy and effective radiation exposure during evaluation of chest pain with coronary CTA and stress myocardial perfusion”
 - “Evaluation of the asymptomatic patient with a positive stress test: Cost effectiveness of coronary CT angiography”
 - “Evaluation of acute chest pain: Decision analysis comparison of cost and radiation dose for coronary CT angiography, triple rule-out angiography, and nuclear stress perfusion”
 - “Evaluation of coronary disease: Decision analysis comparison of cost and radiation dose for coronary CT angiography and nuclear stress perfusion”
 - “Diagnostic accuracy, radiation exposure, and cost effectiveness for evaluation of coronary artery disease: Comparison of stress ECG, stress echo, radionuclide stress perfusion, and CT angiography”
- May 11-14, 2010 The Leading Edge in Diagnostic Ultrasound, sponsored by Thomas Jefferson University Hospital, Atlantic City, NJ
- “GU sonography of the urinary bladder, scrotum and prostate”
 - “Kidneys, adrenal glands and retroperitoneum”

GEORGE PAUL HOBBS, M.D.

- January 23-24, 2010 Jefferson Musculoskeletal Imaging Symposium, Philadelphia, PA
- “MRI of the Lisfranc interval and plantar plates”

CHARLES INTENZO, M.D.

- November 29-
December 4, 2009 95th Scientific Assembly and Annual Meeting of the Radiological Society of North America, Chicago, IL
- “Is there a relationship between FDG uptake, hormone receptor status, and Her-2 receptor expression in invasive breast cancer?”
 - “Utility of FDG-PET/CT in staging and restaging of cholangiocarcinoma”
 - “Significant changes and trends in the provider distribution of therapeutic radioiodine procedures performed by radiologists and non-radiologists in the USA: Results of a multiyear analysis”

DAVID KARASICK, M.D.

- January 23-24, 2010 Jefferson Musculoskeletal Imaging Symposium, Philadelphia, PA
- “Paradise lost? Computerized radiographic (plain film) assessment of benign and malignant osseous lesions”

SUNG KIM, M.D.

- June 5-9, 2010 Society of Nuclear Medicine 57th Annual Meeting, Salt Lake City, UT
- “Wide variability of thyroid volume estimated by palpation: Impact on calculation of radioiodine dose for treatment of diffuse toxic goiter”
 - “Suboptimal CT angiogram for evaluation of pulmonary embolism: Outcome with VQ scan and clinical follow-up”

ALFRED KURTZ, M.D.

- March 11, 2010 Visiting Professor, Department of Radiology, Bryn Mawr Hospital, Bryn Mawr, PA
- “Obstretical/gynecologic ultrasound board review case”
- April 8, 2010 Visiting Professor, Department of Radiology, Hahnemann Hospital, Philadelphia, PA
- “Obstretical/gynecologic ultrasound board review case”

April 21, 2010 Visiting Professor, Department of Radiology, Hahnemann Hospital, Philadelphia, PA

- “Second/third trimester ultrasound examination”
- “Obstetrical case presentation”
- “CT colonography”

May 11-14, 2010 The Leading Edge in Diagnostic Ultrasound, sponsored by Thomas Jefferson University Hospital, Atlantic City, NJ

- “Ultrasound general imaging: The requisites” (moderator)
- “Obstetrics part I: 1st trimester, ectopic pregnancy”
- “Obstetrics part II: 2nd and 3rd trimester”

SONG LAI, PH.D.

August 13-14, 2009 The 2nd Biomedical Engineering International Conference (BMEiCON 2009), Phuket, Thailand

- “Comparison of field maps generated by phase labeling using SENSE (PLUS)”

May 1-7, 2010 International Society for Magnetic Resonance in Medicine 18th Annual Scientific Meeting and Exhibition, Stockholm, Sweden

- “High spatiotemporal resolution whole brain susceptibility weighted imaging using parallel imaging”

DAVID LEVIN, M.D.

August 7, 2009 Visiting Professor, Butterworth Hospital/Michigan State University, Grand Rapids, MI

- “The self-referral problem in diagnostic imaging: What does the evidence show?”

October 28-
November 1, 2009 24th Annual Economics of Diagnostic Imaging 2009: National Symposium: Strategies for Success in an Uncertain Economy, Arlington, VA

- “Turf wars in radiology – Strategy and tactics for 2010”
- “Self-referral in diagnostic imaging: How can it be curtailed?”
- “Recent developments at the federal level that will impact radiology: Be prepared”
- “Accreditation programs in imaging: What are they? Why are they needed?”

November 29-
December 4, 2009 95th Scientific Assembly and Annual Meeting of the Radiological Society of North America, Chicago, IL

- “A call center offering decision support and operated by a radiology benefits management company (RBM): Effects on utilization”
- “Increasing imaging utilization: issues, impact, responses by payers and the government, and suggestions for health care providers”

- “The effects of the Deficit Reduction Act (DRA) on private office utilization of and payments for imaging among radiologists and cardiologists”
 - “Who does coronary CT angiography (CCTA)? Practice patterns among radiologists, cardiologists, and other physicians”
- February 7-12, 2010 2nd Annual American College of Radiology Executive Leadership Series: Leadership Strategies for Radiology: Taking Your Practice to the Next Level, Vail, CO
- “The effects of the Deficit Reduction Act on costs and utilization”
 - “A turf battle primer – What you need to know”
 - “Can RBMs save money for the health care system?”
 - “Recent trends in utilization and payments for imaging services among nonradiologist physicians”
- April 9, 2010 Visiting Professor, Department of Radiology, New York Hospital-Weill Cornell Medical Center, New York, NY
- “The latest evidence on what self-referral is doing to our health care system”
- April 15-17, 2010 Economics Summit 2010: Strategies for Successful Radiology Practices in the 21st Century, Las Vegas, NV
- “Turf battles in radiology: Strategies for success”
 - “The relationship between self-referral and overutilization: Evidence from the 21st century”
 - “What the USA needs to do to really reform health care”
- April 22, 2010 Maryland Radiological Society, Towson, MD
- “Self-referral: Government and payor updates”
- April 28, 2010 Visiting Professor, Department of Radiology, Columbia University Medical Center-New York Presbyterian Hospital, New York, NY
- “Steps being taken by commercial payers to control utilization of diagnostic imaging”
 - “Recent trends in utilization and costs of noninvasive diagnostic imaging”
- May 2-7, 2010 American Roentgen Ray Society 110th Annual Meeting, San Diego, CA
- “Radiology benefit managers: St. George or the dragon?”
 - “The misleading impression created by the 2008 Governmental Accountability Office (GAO) report on the effects of the Deficit Reduction Act (DRA) on utilization of outpatient imaging”
- June 10, 2010 Buyers Health Care Action Group, Minneapolis, MN
- “Utilization, cost, quality, and appropriateness issues in imaging”

JI-BIN LIU, M.D.

- February 23, 2010 The Drexel-Jefferson Academic Alliance Course for Biomedical Engineering, Philadelphia, PA
- “Interventional ultrasound: A review”
 - “Laparoscopic ultrasound”

CHRISTOPHER MERRITT, M.D.

- May 11-14, 2010 The Leading Edge in Diagnostic Ultrasound, sponsored by Thomas Jefferson University Hospital, Atlantic City, NJ
- “Breast ultrasound – Physics”
 - “Breast ultrasound – BIRADS”
 - “The Requisites – Understanding imaging”
 - “The Requisites – Understanding Doppler”
 - “Vascular ultrasound – Case-based learning”
 - “Color Doppler – A closer look”
- June 21-25, 2010 33rd Annual Eastern Shore Medical Symposium, sponsored by Jefferson Medical College and the University of Delaware, Rehoboth Beach, DE
- “Review of radiological modalities and indications”

DONALD MITCHELL, M.D.

- August 9-13, 2009 Society of Computed Body Tomography and Magnetic Resonance (SCBT/MR) Summer Practicum, Williamsburg, VA
- “Body MRI case review”
 - “Nodules in the cirrhotic liver”
 - “MRI of diffuse liver disease”
- October 31, 2009 The Jefferson Pancreas, Biliary and Related Cancers Center 4th Annual Patient Symposium, sponsored by Thomas Jefferson University Hospital, Philadelphia, PA
- “Modern imaging techniques for diagnosing pancreatic cancer”
- November 29-
December 4, 2009 95th Scientific Assembly and Annual Meeting of the Radiological Society of North America, Chicago, IL
- “Minicourse: Optimize your body MR practice: Recognize that artifact” (interactive session)
- March 17, 2010 New Developments in Colorectal Cancer: Guide for Patients and Caregivers Conference, sponsored by Thomas Jefferson University Hospital, Philadelphia, PA
- “Modern imaging for cancer of the rectum and colon”
- February 20-21, 2010 International Society for Magnetic Resonance in Medicine Case-Based Clinical MRI Educational Program, Miami, FL
- “Abdominal MRI cases”
 - “Pelvic MRI cases”

- March 22, 2010 Visiting Professor, Department of Radiology, Hahnemann University Hospital, Philadelphia, PA
- “Pancreatic cystic masses”
- June 25-27, 2010 International Society for Magnetic Resonance in Medicine Clinician-Focused Educational Series 2010, Omaha, NE
- “MR imaging technique: State-of-the-art imaging at 1.5T”
 - “MR imaging of the pancreatic cystic masses”

WILLIAM MORRISON, M.D.

- July 28, 2009 Visiting Lecturer, Armed Forces Institute of Pathology, Washington, DC
- “MRI imaging of the elbow”
- August 3-7, 2009 Bone and Bone in Banff, Summer Radiology Symposium, sponsored by NYU Post-Graduate Medical School, Banff, Alberta, Canada
- “MRI of hip labrum”
 - “MRI of shoulder instability/labrum”
 - “Optimizing protocols for MSK”
 - “The Future of MSK imaging”
 - “Cartilage imaging”
 - “Post op upper extremity”
 - “Interesting musculoskeletal cases”
- August 30-
September 2, 2009 Current Issues in MRI in Orthopaedic and Sports Medicine, 18th Annual Symposium, San Francisco, CA
- “Shoulder” (panel discussion)
 - “Ankle and foot” (panel discussion)
 - “Provocative MR imaging”
 - “Lower extremity osteomyelitis including diabetic pedal infection”
 - “MR of shoulder instability”
- September 2-5, 2009 36th Annual Meeting of the International Skeletal Society, Washington, DC
- “Post operative evaluation of the shoulder”
- September 24-25, 2009 Visiting Professor, Department of Radiology, University of Ottawa, Ottawa, Ontario, Canada
- “Shoulder instability”
 - “Femoral acetabular impingement and hip dysplasia”
 - “Functional MSK MR imaging”
- October 1, 2009 Michigan Radiological Society, Detroit, MI
- “Imaging of shoulder instability”
 - “Wrist MRI”
- October 16-21, 2009 2009 American College of Rheumatology/Association of Rheumatology Health Professionals Annual Scientific Meeting, Philadelphia, PA
- “Imaging of arthritis”

- November 12-15, 2009 American College of Radiology Categorical Course, Musculoskeletal MR, Washington, DC
- “MR imaging of the hip”
 - “MR imaging of the ankle”
- November 18, 2009 Department of Radiology Grand Rounds, North Shore University Hospital, Manhasset, NY
- “Provocative MRI”
- November 29-
December 4, 2009 95th Scientific Assembly and Annual Meeting of the Radiological Society of North America, Chicago, IL
- “Case-based review of Magnetic Resonance: Musculoskeletal” (refresher course)
 - “Foot/ankle” (refresher course)
 - “Musculoskeletal radiology quiz bowl”
- December 6-11, 2009 Imaging Warm-up in the Caribbean, St. John, U.S. Virgin Islands
- “MRI of sports injuries in the elite athlete”
 - “MRI of the knee: Tricks and tips”
 - “Imaging of arthritis”
 - “MR arthrography: Direct vs indirect”
 - “MRI of shoulder instability: Tips to tell”
 - “Labral variation from tear”
- January 19-20, 2010 Department of Radiology Grand Rounds, Brigham and Women’s Hospital, Boston, MA
- “Provocative MR imaging: The future of MSK radiology?”
- January 23-24, 2010 Jefferson Musculoskeletal Imaging Symposium, Philadelphia, PA
- “Imaging of shoulder instability”
 - “The Jefferson experience with a 1.5T extremity MRI unit”
 - “MRI of MSK infection”
 - “Unknown cases”
- February 17, 2010 Department of Radiology Grand Rounds, Wake Forest University, Winston-Salem, NC
- “Imaging of arthropathies”
- March 14-17, 2010 Society of Skeletal Radiology Annual Meeting, Las Vegas, NV
- “Shoulder glenoid ‘dysplasia’ is glenoid morphology related to weightlifting at an early age?”
- March 18-21, 2010 Musculoskeletal Imaging – Mixing Sun, Sand, and Knowledge: Hot Topics and Burning Issues by the Beach, Naples, FL
- “MSK MRI artifacts”
- May 1-7, 2010 International Society for Magnetic Resonance in Medicine 18th Annual Scientific Meeting and Exhibition, Stockholm, Sweden
- “Post-operative infection”
- May 2-7, 2010 American Roentgen Ray Society 110th Annual Meeting, San Diego, CA
- “Imaging of the hip and sports hernia”

- May 27, 2010 Department of Radiology Grand Rounds, University of Wisconsin, Madison, WI
- “Provocative MSK MR imaging: Future or fad?”
- June 11, 2010 Invited speaker, Philadelphia Sports Congress, Philadelphia, PA
- “Radiology for the athletic trainer and physical therapist”
 - “Knee menisci”
 - “Shoulder instability”
 - “Diabetic foot”
 - “Forefoot”
 - “Hip dysplasia”
- June 23-25, 2010 61st National Athletic Trainers Association Annual Meeting & Trade Show, Philadelphia, PA
- “Imaging of hip dysplasia and impingement”

LEVON N. NAZARIAN, M.D.

- July 2, 2009 Tenth Armenian Medical World Congress, New York, NY
- “Ultrasound-guided musculoskeletal interventions”
- July 9-11, 2009 American Institute of Ultrasound in Medicine Postgraduate Course: Hands-on Musculoskeletal Ultrasound: Diagnostic and Interventional Techniques, Rochester, MN
- “General applications of musculoskeletal ultrasound”
 - “Common wrist and hand disorders”
 - “Common ankle and foot disorders”
 - “Ultrasound-guided ankle and foot procedures”
 - “Ultrasound-guided elbow procedures”
- July 16-18, 2009 Andrews Institute Sports Musculoskeletal Ultrasound Course, Pensacola, FL
- “Knee ultrasound exam”
 - “Elbow pathology”
 - “Soft tissue pathology”
 - “Ultrasound certification requirements”
- October 1-4, 2009 19th Annual Conference of the Musculoskeletal Ultrasound Society, Barcelona, Spain
- “Subacromial impingement”
 - “Differential diagnosis of popliteal fossa pathology”
- October 16-21, 2009 2009 American College of Rheumatology/Association of Rheumatology Health Professionals Annual Scientific Meeting, Philadelphia, PA
- “A 24-year-old male smoker with a blue hand”
- October 30- November 1, 2009 Advances in Sonography, 19th Annual Meeting and Postgraduate Course of the Society of Radiologists in Ultrasound, Chicago, IL
- “Musculoskeletal and superficial sonography” (moderator)
 - “Sonography of superficial soft tissue masses”

- January 23-24, 2010 Jefferson Musculoskeletal Imaging Symposium, Philadelphia, PA
- “Musculoskeletal ultrasound applications in the upper extremity”
 - “Musculoskeletal ultrasound applications in the lower extremity”
- March 3-5, 2010 37th Annual Course in Electrodiagnostic Medicine, sponsored by Jefferson Medical College, Philadelphia, PA
- “Peripheral nerve US”
- March 6, 2010 Professional Baseball Athletic Trainers Society Florida Spring Training Seminar, Tampa, FL
- “Diagnostic ultrasound”
- March 19, 2010 Department of Radiology Grand Rounds, Beth Israel Deaconess Medical Center, Boston, MA
- “Introduction to musculoskeletal ultrasound”
 - “Resident case conference”
- March 18, 2010 Ultrasound 2010 Post Graduate Course, sponsored by Harvard Medical School, Boston, MA
- “Ultrasound of soft tissue masses”
 - “Ultrasound of the shoulder and elbows”
 - “Ultrasound of liver and kidney transplants”
- March 24-27, 2010 2010 American Institute of Ultrasound in Medicine Annual Convention, San Diego, CA
- “Shoulder ultrasound”
 - “Ultrasound of the pitching elbow”
 - “Ultrasound of superficial palpable lumps”
- May 11-14, 2010 The Leading Edge in Diagnostic Ultrasound, sponsored by Thomas Jefferson University Hospital, Atlantic City, NJ
- “Musculoskeletal ultrasound course” (director)
 - “Ultrasound of the shoulder: Pathology”
 - “Ultrasound of the elbow”
 - “Ultrasound of the knee”
 - “Musculoskeletal ultrasound and MRI compared”
 - “Ultrasound of the adult hip”
 - “Ultrasound of soft tissue masses”
 - “Interventional musculoskeletal ultrasound”

LAURENCE NEEDLEMAN, M.D.

- September 26-27, 2009 Registered Physician in Vascular Interpretation Exam Review Course, sponsored by the Society for Vascular Ultrasound and the University of Cincinnati, Baltimore, MD
- “Interpretation guidelines: Extracranial cerebrovascular”
 - “Case interpretation examples: Carotid Duplex”
 - “Interpretation guidelines: Native peripheral arterial Duplex: Pre and post intervention”
 - “Interpretation guidelines: Graft surveillance”

- “Case interpretation examples: Arterial Duplex”
 - “Panel discussion of interpretation issues”
 - “Interpretation guidelines: Venous Duplex, lower and upper extremity”
 - “Case interpretation examples: Venous Duplex”
 - “Panel discussion: Test your knowledge – More cases”
- October 8, 2009 Visiting Professor, Department of Radiology, Providence Hospital, Southfield, MI
- “Ultrasound review for Detroit area radiology residents”
- October 15-18, 2009 2009 Society of Diagnostic Medical Sonography Annual Conference, Nashville, TN
- “Understanding arterial stenosis: Clinical significance, sonography and Doppler diagnosis and interpretation”
 - “Venous update: The whole story”
 - “Carotid Duplex: Pearls and pitfalls”
- October 21, 2009 Visiting Professor, Department of Radiology, South Jersey Health Care Regional Medical Center, Vineland, NJ
- “Carotid ultrasound”
 - “Fistula first – Preoperative assessment before fistula placement”
- October 30-
November 1, 2009 Advances in Sonography, 19th Annual Meeting and Postgraduate Course of the Society of Radiologists in Ultrasound, Chicago, IL
- “Debate: Do we need to look at calf veins?”
 - “Case-based Jeopardy-style competition”
- November 20-21, 2009 Advances in Vascular Imaging and Diagnosis 20th Annual Symposium and Workshop on Management and Clinical Issues, sponsored by Cleveland Clinic, New York, NY
- “Now that you’ve measured it, how do you know your diagnoses are right?”
 - “Advance carotid imaging and interpretation”
 - “Evidence based venous ultrasound: Does the evidence support your diagnostic approach?”
 - “Changes at the ICAVL: What you need to know about changes in the essentials and standards”
- March 6, 2010 Registered Physician in Vascular Interpretation Exam Review Course, sponsored by the Society for Vascular Ultrasound and the University of Cincinnati, Baltimore, MD
- “Interpretation guidelines: Extracranial cerebrovascular”
 - “Case interpretation examples: Carotid Duplex”
 - “Interpretation guidelines: Native peripheral arterial Duplex: Pre and post intervention”
 - “Interpretation guidelines: Graft surveillance”
 - “Case interpretation examples: Arterial Duplex”
 - “Interpretation guidelines: Venous Duplex, lower and upper extremity”
 - “Case interpretation examples: Venous Duplex”
 - “Panel discussion of interpretation issues”

- May 5, 2010 Department of Radiology Grand Rounds, Mt. Sinai Hospital, New York, NY
- “Acute reactions to radiographic contrast”
 - “Ultrasound case presentations”
- May 11-14, 2010 The Leading Edge in Diagnostic Ultrasound, sponsored by Thomas Jefferson University Hospital, Atlantic City, NJ
- “Case based learning/questions and answers”
 - “Venous ultrasound: What does the evidence say about the best practice”
 - “Questions and answers/practice tips/case analysis”
 - “Preoperative evaluation before fistulas”
 - “Interesting cases/questions and answers “
 - “Vascular requisites”
- June 10-12, 2010 2010 Society for Vascular Ultrasound Annual Conference, Boston, MA
- “Education point/counterpoint: On-the-job training versus minicourses versus accredited programs”

PATRICK O’KANE, M.D.

- June 26, 2010 30th Annual Advances in Gastroenterology Conference, sponsored by Thomas Jefferson University Hospital, Atlantic City, NJ
- “Advances in small bowel radiologic imaging: Role of CTE and MRE”

VIJAY RAO, M.D.

- September 24, 2009 Visiting Professor, Department of Radiology, University of Washington Medical Center, Seattle, WA
- “Imaging utilization trends: Impact of self referral and what can be done about it”
- October 28-
November 1, 2009 24th Annual Economics of Diagnostic Imaging 2009: National Symposium: Strategies for Success in an Uncertain Economy, Arlington, VA
- “Turf wars in radiology – Strategy and tactics for 2010”
 - “Pre-authorization: How it affects utilization of advanced imaging”
- November 29-
December 4, 2009 95th Scientific Assembly and Annual Meeting of the Radiological Society of North America, Chicago, IL
- “Sinonasal infections and chronic inflammatory disease” (refresher course)
 - “Variations in usage of CT angiography (CTA) and MR angiography (MRA) for evaluating thoracic, abdominal and peripheral arteries”
 - “Trends in utilization and payments for MRI and CT by radiologists and nonradiologist physicians in private offices before and after the deficit reduction act (DRA)”

- “Increasing imaging utilization: Issues, impact, responses by payers and the government, and suggestions for health care providers” (refresher course)
- “How widely is computer-aided detection used in screening and diagnostic mammography?”

CHRISTOPHER ROTH, M.D.

January 23-24, 2010 Jefferson Musculoskeletal Imaging Symposium, Philadelphia, PA

- “MRI of the wrist, hand and thumb”

DINESH SHARMA, M.D.

August 7-9, 2009 18th Annual Conference of Neurotrauma Society of India, Jaipur, India

- “Anatomy and imaging of cranio-vertebral junction injury”

January 23-26, 2010 63rd National Conference of the Indian Radiological & Imaging Association, Gujarat, India

- “MR imaging in white matter disease”

CONOR SHORTT, M.D

January 23-24, 2010 Jefferson Musculoskeletal Imaging Symposium, Philadelphia, PA

- “MR of the acromioclavicular joint, sternoclavicular joint and the thoracic cage”

May 11-14, 2010 The Leading Edge in Diagnostic Ultrasound, sponsored by Thomas Jefferson University Hospital, Atlantic City, NJ

- “Musculoskeletal ultrasound: The requisites”

LILLIAN STERN, M.D

October 31, 2009 Annual Meeting of the Pennsylvania Radiological Society, Philadelphia, PA

- “Molecular breast imaging”

MATHEW THAKUR, PH.D

July 13-16, 2009 18th International Symposium on Radiopharmaceutical Sciences, Edmonton, Canada

- “VPAC1 gene product targeted PET imaging of breast cancer”

October 10-14, 2009 EANM’09 Annual Congress of the European Association of Nuclear Medicine, Barcelona, Spain

- “Plenary presentation”
- “Imaging infection – Challenges and prospects”

- November 5-7, 2009 XXII Congress of the Association of Latin American Societies of Biology in Nuclear Medicine, Cartagena, Columbia
- “Role of high sensitivity – High resolution micro PET in molecular imaging
 - “Future directions in imaging infection”
- November 8, 2009 Visiting Professor, Bogota Medical Center, University of Bogota, Columbia
- “Targeting genomic biomarkers for imaging breast cancer”
- December 9, 2009 Visiting Professor, Department of Radiology, Johns Hopkins University, Baltimore, MD
- “Role of molecular imaging in diagnosis and therapy”

ANNINA WILKES, M.D.

- May 6-8, 2010 IMPAKT Breast Cancer Conference of the European Society for Medical Oncology, Brussels, Belgium
- “Assessment of the utility of ultrasound guided core biopsy on the breast for diagnosis of breast cancer in countries with limited resources” (poster)
- May 11-14, 2010 The Leading Edge in Diagnostic Ultrasound, sponsored by Thomas Jefferson University Hospital, Atlantic City, NJ
- “Sonomammography tutorial” (program director)
 - “Breast ultrasound-normal anatomy and scanning techniques”
 - “Hands-on instruction: Breast ultrasound, ultrasound guided biopsy”
- June 9-11, 2010 4th Biennial Breast Health Global Initiative Global Summit on International Breast Health, Chicago, IL
- “Assessment of the utility of ultrasound guided core biopsy of the breast for diagnosis of breast cancer in countries with limited resources” (poster)

ADAM ZOGA, M.D.

- August 30-
September 2, 2009 Current Issues in MRI in Orthopaedic and Sports Medicine, 18th Annual Symposium, San Francisco, CA
- “MR of the hip: Extraarticular pathology including AVN, muscle, tendon and labrum”
 - “Imaging of sports hernias”
 - “Hip” (panel discussion)
- September 16, 2009 All Star Lecture Series, Franklin & Siedelman, Subspecialty Radiology, Philadelphia, PA
- “MRI technique and findings in athletic pubalgia and the ‘sports hernia’”

- October 21, 2009 The Royal Australian and New Zealand College of Radiologists
Sydney Chapter meeting, Sydney, Australia
- “MRI of athletic pubalgia”
 - “MRI of the hip”
- October 22-25, 2009 The Royal Australian and New Zealand College of Radiologists, The
Australian Institute of Radiography, and the Australasian College
of Physical Scientists & Engineers in Medicine Combined Scientific
Meeting, Brisbane, Queensland, Australia
- “MRI of the elbow”
 - “MRI of the wrist”
 - “MRI of athletic pubalgia and the ‘sports hernia’”
 - “Advanced hip imaging”
 - “MRI of the ankle”
- November 29-
December 4, 2009 95th Scientific Assembly and Annual Meeting of the Radiological
Society of North America, Chicago, IL
- “Musculoskeletal imaging hip and groin”
 - “MRI findings in athletic pubalgia: Normal postoperative
appearance and re-injury patterns after pelvic repairs and
release for sports hernia”
- March 14-17, 2010 Society of Skeletal Radiology Annual Meeting, Las Vegas, NV
- “Posteromedial impingement of the elbow in throwing athletes”
- April 23-25, 2010 American College of Radiology Categorical Course, Musculoskeletal
MR, Washington, DC
- “MR imaging of the hip”
 - “MR imaging of the ankle”
- April 29, 2010 Department of Radiology Grand Rounds, Hahnemann University
Hospital, Philadelphia, PA
- “Imaging internal derangements of the hip: from dysplasia to
FAI in 2010”
- May 1-7, 2010 International Society for Magnetic Resonance in Medicine 18th
Annual Scientific Meeting and Exhibition, Stockholm, Sweden
- “MRI of athletic pubalgia”
- June 23-25, 2010 61st National Athletic Trainers Association Annual Meeting &
Trade Show, Philadelphia, PA
- “Use of MRI in athletic pubalgia”

APPENDIX III

HONORS, EDITORIAL ACTIVITIES, SERVICE TO REGIONAL OR NATIONAL ORGANIZATIONS

OKSANA BALTAROWICH, M.D.

- President Elect, Pennsylvania Chapter, Ukrainian Medical Association of North America
- Member, Thyroid Advisory Oversight Group, U.S.-Belarus and U.S.-Ukraine Cooperative Studies of Post-Chernobyl Thyroid Disease, National Cancer Institute, National Institute of Health
- Member-at-Large, Board of Directors, Alliance of Medical Student Educators in Radiology
- Member, Publications Committee, Society of Radiologists in Ultrasound
- A. Edward O'Hara, M.D. Award for Excellence in Teaching, Department of Radiology, Thomas Jefferson University, 2010
- Dean's Award for Excellence in Education, Jefferson Medical College, 2010

DANIEL BROWN, M.D.

- Councilor, Post-Graduate Education Executive Council, Society of Interventional Radiology
- Member, Executive Council, Society of Interventional Radiology
- Section Editor, *Journal of Vascular and Interventional Radiology*
- Section Editor, *Interventional Oncology*
- Reviewer, *Cardiovascular and Interventional Radiology*
- Member, Scientific Program Committee, Vascular and Interventional Subcommittee, Radiologic Society of North America
- Named as one of the "Best Doctors in America", *Philadelphia Magazine*

BARBARA CAVANAUGH, M.D.

- Clinical Image Reviewer, Stereotactic Breast Biopsy Accreditation Program, American College of Radiology

MARK COOPER, M.D., M.B.A.

- Member, Managed Care Committee, American College of Radiology

SANDEEP DESHMUKH, M.D.

- Member, Board of Directors, Pennsylvania Radiological Society
- Reviewer, *Journal of Magnetic Resonance Imaging*

DAVID ESCHELMAN, M.D.

- Member, Relative Value Update Advisory Committee, Society of Interventional Radiology
- Member, Clinical Scientific Working Group, Ocular Melanoma Foundation
- Certificate of Appreciation, Ocular Melanoma Foundation

RICK FELD, M.D.

- Chair, Education Committee, Society of Radiologists in Ultrasound Radiology
- Member, Executive Council, Society of Radiologists in Ultrasound Radiology
- Member, Board of Governors, American Institute of Ultrasound in Medicine
- Member, Executive Board, Philadelphia Roentgen Ray Society
- Member, Board of Directors, Pennsylvania Radiological Society
- Member, Ultrasound Committee, Exam of the Future, American Board of Radiology
- Member, Nominating Committee, Pennsylvania Radiological Society
- Member, Education Program Committee, Philadelphia Roentgen Ray Society
- Member, Budget Committee, Philadelphia Roentgen Ray Society
- Examiner, Ultrasound Imaging Section, American Board of Radiology
- Associate Editor, *Journal of Ultrasound in Medicine*
- Reviewer, *American Journal of Roentgenology*
- Reviewer, *Clinical Imaging*
- Reviewer, *International Journal of Clinical Practice*
- Reviewer, *Journal of American Medical Association*
- Reviewer, *Journal of Ultrasound in Medicine*

ADAM FLANDERS, M.D.

- Chair, Research Committee, American Society of Spine Radiology
- Chair, Subcommittee for Digital Outreach, Informatics Committee, American College of Radiology
- Chair, Neuroradiology Subcommittee, Reporting Committee, Radiological Society of North America
- Chair, Electronic Education & eCME Subcommittee of Education, American Society of Neuroradiology
- Co-Chair, Medical Imaging Resource Center, Radiological Society of North America
- Treasurer, American Society of Spine Radiology
- Chair Neuroradiology/ENT Subcommittee, RadLex, Radiological Society of North America
- Member, Informatics Committee, American College of Radiology
- Member, Educational Panel, Radiological Society of North America-Society for Imaging Informatics in Medicine
- Member, Radiology Informatics Committee, Radiological Society of North America
- Member, Informatics Committee, American Society of Spine Radiology
- Member, Program Committee, Society for Imaging Informatics in Medicine
- Member, Clinical Practice Committee, American Society of Spine Radiology
- Member, Electronic Learning Center, American Society of Neuroradiology
- Member, Audiovisual Committee, American Society of Neuroradiology
- Grant Reviewer, Society Imaging Informatics in Medicine
- Associate Editor, Informatics (infoRAD), *Radiographics*

- Imaging Editor, *Yearbook in Ophthalmology*
- Reviewer, Scientific Abstracts, 95th Scientific Assembly and Annual Meeting, Radiological Society of North America
- Reviewer, Scientific Abstracts, 48th Annual Meeting of the American Society of Neuroradiology
- Reviewer, Scientific Abstracts, 2010 Annual Symposium, American Society of Spine Radiology
- Reviewer, *American Journal of Neuroradiology*
- Reviewer, *Journal of Digital Imaging*
- Reviewer, *The New England Journal of Medicine*
- Reviewer, *Radiology*

FLEMMING FORSBERG, PH.D.

- Member, Technical Standards Committee, *American Institute of Ultrasound in Medicine*
- Member, Advisory Editorial Board, *Ultrasound in Medicine and Biology*
- Member, Advisory Editorial Board, *Journal of Ultrasound in Medicine*
- Grant Reviewer, National Institutes of Health.
- Grant Reviewer, American Heart Association.
- Grant Reviewer, The Swedish Research Council
- Reviewer, *Acoustic Research Letters Online*
- Reviewer, *Circulation*
- Reviewer, *IEEE Transactions on Ultrasonics, Ferroelectrics & Frequency Control*
- Reviewer, *IEEE Transactions on Medical Imaging*
- Reviewer, *International Journal of Cancer*
- Reviewer, *Journal of Ultrasound in Medicine*
- Reviewer, *Medical Engineering & Physics*
- Reviewer, *Medical Physics*
- Reviewer, *Radiology*
- Reviewer, *Ultrasonics*
- Reviewer, *Ultrasonic Imaging*
- Reviewer, *Ultrasound in Medicine and Biology*
- Reviewer, *Veterinary Radiology & Ultrasound*

DAVID FRIEDMAN, M.D.

- Editorial Board, *Current Problems in Diagnostic Radiology*
- Reviewer, *American Journal of Roentgenology*
- Reviewer, *Journal of the American College of Radiology*
- Dean's Award for Excellence in Education, Jefferson Medical College, 2010

GEOFFREY GARDINER, JR., M.D.

- Named as one of the "Best Doctors in America", *Philadelphia Magazine*

ERIC GINGOLD, PH.D.

- President, Delaware Valley Chapter, American Association of Physicists in Medicine
- Member, Radiography and Fluoroscopy Subcommittee, American Association of Physicists in Medicine
- Member, Limited Scope of Practice in Radiography Examination Committee, American Registry of Radiologic Technologists
- Member, Pennsylvania State Committee, Joint Medical Physics Licensure Subcommittee, American Association of Physicists in Medicine
- Member, Diagnostic Work and Workforce Study Subcommittee, American Association of Physicists in Medicine
- Member, Task Group 116, Exposure Indicator in Digital Radiography, American Association of Physicists in Medicine
- Member, Task Group 150, Acceptance Testing and Quality Control of Digital Radiograph Systems, American Association of Physicists in Medicine
- Member, Task Group 153, Digital Radiography Glossary, American Association of Physicists in Medicine
- Image Quality Phantom Reviewer, MRI Accreditation Program, American College of Radiography
- Image Quality Phantom Reviewer, Mammography Accreditation Program, American College of Radiology
- Associate Editor, *Medical Physics*
- Reviewer, *Medical Physics*
- Reviewer, *Pediatric Radiology*
- Reviewer, *Radiology*
- Editors Certificate of Recognition, Review Special Distinction, *Radiology*

BARRY GOLDBERG, M.D.

- Gold Medal Award, American Roentgen Ray Society, 2010
- Lawrence A. Mack Lifetime Achievement Award, Society of Radiologists in Ultrasound, 2009
- President, Radiology Outreach Foundation
- Co-President, International Contrast Ultrasound Society
- Harvey Nisenbaum, M.D. Annual Oration Lecturer, Philadelphia Roentgen Ray Society, 2010
- Chairman, Archives Committee, American Institute of Ultrasound in Medicine
- Chairman, Archives Committee, World Federation for Ultrasound in Medicine and Biology
- Chairman, Committee on Ultrasound, American College of Radiology Imaging Network
- Chairman, Outstanding Researcher/Outstanding Educator Award Review Panel, Research and Education Foundation, Radiological Society of North America
- Chair, Education Committee, World Federation for Ultrasound in Medicine and Biology
- Chair, Ultrasound Working Group, American College of Radiology Imaging Network
- Councilor, World Federation for Ultrasound in Medicine and Biology
- Medical Advisor, Ultrasonic Procedures, Blue Shield of Pennsylvania
- Consultant, United States - Israel Binational Science Foundation
- Consultant, Ultrasound, Philadelphia Zoo, Philadelphia, Pennsylvania
- Professional Consultant, Medicare, Pennsylvania Blue Shield
- Medical Advisor, Ultrasound, World Health Organization

- Member, Administrative Council, World Federation for Ultrasound in Medicine and Biology
- Member, Awards Committee, American Institute of Ultrasound in Medicine
- Member, Public Information Advisory Board, Radiological Society of North America
- Member, Global Steering Group for Education and Training in Diagnostic Imaging, World Health Organization
- Member, Outstanding Researcher Award Review Panel, Research and Education Foundation, Radiological Society of North America
- Member, Past Presidents Committee, American Institute of Ultrasound in Medicine
- Member, Outstanding Researcher/Outstanding Educator Award Review Panel, Research and Education Foundation, Radiological Society of North America
- Member, Public Information Advisors Network, Radiological Society of North America
- Member, Corporate Advisory Council, Radiological Society of North America
- Member, Presidential Advisory Council, American Institute of Ultrasound in Medicine
- Member, Education Council, Radiological Society of North America
- Member, Research and Education Foundation Program Committee, Radiological Society of North America
- Member, Endowment for Education and Research Committee, American Institute of Ultrasound in Medicine
- Member, Committee on International Service, American College of Radiology
- Member, Contrast Agents Panel, American Institute of Ultrasound in Medicine
- Member, Future of Ultrasound in Radiology Advisory Committee, Society of Radiologists in Ultrasound
- Member, Advisory Committee on Ultrasound in Developing Countries, Society of Radiologists in Ultrasound
- Member Fellows Selections Subcommittee for “Clinical Practice”, American Institute For Medical and Biological Engineering
- Representative, Management of Adnexal Masses Technical Expert, American College of Radiology
- Member, Corporate Affairs Committee, Society of Radiologists in Ultrasound
- Member, Foundation International Outreach Committee, American College of Radiology
- Ultrasonography Coordinator, Topics in Radiology, *Journal of American Medical Association*
- Associate Editor, *Journal of Ultrasound in Medicine*
- Associate Editor, *Surgical Endoscopy, Ultrasound, and Interventional Techniques*
- Editorial Advisor, *Journal d'Echographie et de Medecine par Ultrasons*
- Overseas Editorial Adviser, *Borno Medical Journal*
- Editorial Consultant, *Applied Radiology*
- Editorial Consultant, *Chest*
- Editorial Consultant, *Medcom Faculty of Medicine*
- Editorial Consultant, *Pediatrics*
- Member, Advisory Committee, *Ultrasonidos en Medicina*
- Member, Advisory Editorial Board, *Ultrasound in Medicine and Biology*
- Member, Editorial Advisory Board, *West African Journal of Ultrasound*
- Member, Editorial Board, *Advances in Echo Enhancement*
- Member, Editorial Board, *Archives of Clinical Imaging*
- Member, Editorial Board, *Clinics in Diagnostic Ultrasound*
- Member, Editorial Board, *Journal d'Echographie et de Medecine Ultrasonore*
- Member, Editorial Board, *Journal of Clinical Ultrasound in Medicine*
- Member, Editorial Board, *Journal of Surgical Ultrasonology*
- Member, Editorial Board, *Journal of Ultrasound in Medicine*
- Member, Editorial Board, *Journal of Ultrasound in Medicine and Biology*
- Member, Editorial Board, *Radiologia*

- Member, Editorial Board, *Ultrasound International*
- Member, Editorial Board, *Ultrasound International Journal*
- Member, Editorial Board Committee, *Acta Clinica Croatica*
- Member, Editorial Committee, *Journal Ultrasonido*
- Member, International Advisory Editorial Board, *Hungarian Radiology*
- Member, International Editorial Board, *Giornale Italiano di Ecografia Journal*
- Member, International Editorial Board, *Brazilian Radiology Journal*
- Member, International Consultant Committee, *Revista Argentina de Radiologia*
- Member, International Advisory Board, *Indian Journal of Medical Ultrasound*
- Member, International Advisory Board, *Turkish Journal of Diagnostic and Interventional Radiology*
- Member, International Liaison Committee, *Ultrasound in Medicine and Biology*
- Reviewer, *American Journal of Roentgenology*
- Reviewer, *Cancer*
- Reviewer, *Gastroenterology*
- Reviewer, *Gastrointestinal Endoscopy*
- Reviewer, *Health Devices*
- Reviewer, *Journal of the National Cancer Institute*
- Reviewer, *The New England Journal of Medicine*
- Reviewer, *Radiology*
- Most Influential Radiology Educator, AuntMinnie.com, 2009
- Career Educator Award, Jefferson Medical College, 2010

CARIN GONSALVES, M.D.

- Reviewer, *Journal of Vascular and Interventional Radiology*

RICHARD GORNIAK, M.D.

- Reviewer, *Radiology Case Reports (online case reports)*

ETHAN HALPERN, M.D.

- Member, Task Force to Update Guidelines for Prostate Sonography, American College of Radiology
- Member, Public Information Advisors Network, Radiological Society of North America
- Associate Editor, *Academic Radiology*
- Associate Editor, *Radiology*
- Reviewer, *American Journal of Roentgenology*
- Reviewer, *Annals of Internal Medicine*
- Editors Certificate of Recognition, Review Special Distinction, *Radiology*

CHARLES INTENZO, M.D.

- Member, Academic Council, Society of Nuclear Medicine
- Member, Oncology Council, Society of Nuclear Medicine
- Member, Therapy Council, Society of Nuclear Medicine
- Reviewer, *International Journal of Molecular Imaging*

- Reviewer, *Journal of the American Roentgen Ray Society*
- Reviewer, *Journal of Gastrointestinal Cancer*
- Reviewer, *Radiographics*
- Reviewer, *Radiology*

DAVID KARASICK, M.D.

- Reviewer, *American Journal of Roentgenology*
- Reviewer, *Radiographics*
- Reviewer, *Radiology*

STEPHEN KARASICK, M.D.

- Examiner, Gastrointestinal Imaging Section, American Board of Radiology (Honors)

SUNG KIM, M.D.

- Member, Executive Council, Program Development Education Funding, Society of Nuclear Medicine
- Member, Computer and Instrument Council, Society of Nuclear Medicine
- Member, Brain Imaging Council, Society of Nuclear Medicine
- Member, Correlative Imaging Council, Society Nuclear Medicine
- Member, Membership Committee, Society of Nuclear Medicine
- Reviewer, Nuclear Medicine Subcommittee, Education Exhibit Committee, Radiological Society of North America
- Reviewer, *Journal of Nuclear Medicine*

ALFRED KURTZ, M.D.

- Member, Editorial Advisory Board, *Diagnostico Journal*
- Reviewer, *Radiographics*

SONG LAI, PH.D.

- Grant Reviewer, Brain Disorders and Clinical Neuroscience Study Section, National Institutes of Health
- Grant Reviewer, Development of Methods for in vivo Imaging and Bioengineering Research Study Section, National Institutes of Health
- Grant Reviewer, National Sciences and Engineering Research Council of Canada
- Reviewer, *Human Brain Mapping*
- Reviewer, *IEEE Transactions on Medical Imaging*
- Reviewer, *Journal of Magnetic Resonance Imaging*
- Reviewer, *Magnetic Resonance Imaging*
- Reviewer, *Magnetic Resonance in Medicine*
- Reviewer, *Magnetic Resonance Materials in Biology, Physics and Medicine*
- Reviewer, *Medical Physics*
- Reviewer, *NeuroImage*

- Reviewer, *NMR in Biomedicine*
- Reviewer, *Pediatric Research*
- Reviewer, *Stroke*

DAVID LEVIN, M.D.

- Gold Medalist, Radiological Society of North America
- Gold Medalist, Society of Interventional Radiology
- Co-Chair, Future Trends Committee, American College of Radiology
- Member, Commission on Economics, American College of Radiology
- Member, Committee on Radiologist Resources, American College of Radiology
- Member, Media Spokesperson Group, American College of Radiology
- Member, Committee on Evidence-Based Benefits Design, National Business Group on Health
- Member, Public Information Advisory Network, Radiological Society of North America
- Member, Task Force on Imaging, Pennsylvania Medical Society
- Editorial Board, *Journal of the American College of Radiology*
- Reviewer, *American Journal of Roentgenology*
- Reviewer, *Radiology*
- Editors Certificate of Recognition, Review Special Distinction, *Radiology*
- Most Influential Radiology Researcher, AuntMinnie.com, 2009
- Scientific Paper of the Year Award, AuntMinnie.com, 2009: Recent payment and utilization trends in radionuclide myocardial perfusion imaging: Comparison between self-referral and referral to radiologists. *J Am Coll Radiol* 2009; 6:437-441.
- Best Article Award, Health Services & Research, *Journal of the American College of Radiology*, 2009: The disproportionate effect of the Deficit Reduction Act of 2005 on radiologists' private office MRI and CT practices compared with those of other physicians. *J Am Coll Radiol* 2009; 6:620-625.

JI-BIN LIU, M.D.

- Member, Medical Advisory Board, International Certification and Education Accreditation Foundation
- Member, Editorial Board, *Chinese Journal of Medical Imaging Technology*
- Member, Editorial Board, *Journal of Ultrasound in Clinical Medicine*
- Grant Reviewer, National Natural Science Foundation of China
- Reviewer, *Chinese Journal of Ultrasonography*
- Reviewer, *Journal of Clinical Ultrasound*
- Reviewer, *Journal of Ultrasound in Medicine*
- Reviewer, *Ultrasonics*
- Reviewer, *Ultrasound in Medicine and Biology*

JEFFREY MCCANN, M.D.

- Reviewer, *Journal of Vascular and Interventional Radiology*

CHRISTOPHER MERRITT, M.D.

- Member, Strategic Planning Committee, College of Physicians
- Member, Committee on Administration, College of Physicians
- Member, Ultrasound Curriculum Committee, Society of Radiologists in Ultrasound
- Contributing Editor, *Breast Diseases Quarterly*
- Advisory Editor, *Ultrasound in Medicine and Biology*
- Advisory Editor, *Ultrasound Quarterly*
- Member, International Advisory Board, *Turkish Journal of Diagnostic and Interventional Radiology*
- Reviewer, *Academic Radiology*
- Reviewer, *American Journal of Roentgenology*
- Reviewer, *Radiology*

DONALD MITCHELL, M.D.

- Chair, Abdominal Subcommittee, Structured Reporting Committee, Radiological Society of North America
- Chair, MRI Committee, RadLex, Radiological Society of North America
- Member, Steering Committee, Liver Imaging Reporting and Data System (LIRADS), American College of Radiology
- Member, Committee on Clinical Growth, International Society for Magnetic Resonance in Medicine
- Member, Expert Panel on Women's Imaging, American College of Radiology Appropriateness Criteria, American College of Radiology
- Managing Editor, MRI Teaching File Resident and Fellow Section, American College of Radiology
- Associate Editor, *Journal of Magnetic Resonance Imaging*
- Member, Editorial Board, *Abdominal Imaging*
- Member, Editorial Board, *Radiology*
- Reviewer, *Academic Radiology*
- Reviewer, *American Journal of Roentgenology*
- Reviewer, *Investigational Radiology*
- Reviewer, *Radiographics*

WILLIAM MORRISON, M.D.

- Chairman, Finance Committee, Society of Skeletal Radiology
- Secretary, Executive Committee, Society of Skeletal Radiology
- Corporate Liason, Society of Skeletal Radiology
- Member, Expert Panel on Musculoskeletal Radiology, American College of Radiology Appropriateness Criteria, American College of Radiology
- Member, Expert Panel on Musculoskeletal Radiology, Continuous Professional Improvement Series, American College of Radiology
- Member, Program Subcommittee, American Roentgen Ray Society
- Volunteer, Musculoskeletal Maintenance of Certificate Cognitive Exam Committee, American Board of Radiology
- Associate Editor, Musculoskeletal Section, *Radiology*
- Member, Consulting Editorial Board, *Skeletal Radiology*
- Guest Editor, *MRI Clinics of North America*

- Guest Editor, *Seminars in Musculoskeletal Radiology*
- Reviewer, Scientific Abstracts, 110th Annual Meeting, American Roentgen Ray Society
- Reviewer, *American Journal of Roentgenology*
- Reviewer, *Journal of Magnetic Resonance Imaging*
- Reviewer, *Osteoarthritis and Cartilage*
- Reviewer, *Radiology*
- Reviewer, *Skeletal Radiology*

LEVON NAZARIAN, M.D.

- Naming of the “Levon and Claudia Nazarian Radiology Center”, Yerevan State Medical University, Yerevan, Armenia, 2010
- Humanitarian and Medical Outreach Award, Armenian American Health Professionals Organization
- Vice Chair, Corporate Affairs Committee, Society of Radiologists in Ultrasound
- Member, Board of Governors, American Institute of Ultrasound in Medicine
- Chair, Written Clinical Examination, Ultrasound Imaging, American Board of Radiology
- Member, Constitution Committee, American Institute of Ultrasound in Medicine
- Member, Program Committee, Society of Radiologists in Ultrasound
- Member, Public Information Advisors Network, Radiological Society of North America
- Medical Advisor, RSNA-ACR Public Information Web Site
- Examiner, Ultrasound Imaging Section, American Board of Radiology
- Editor-in-Chief Designate, *Journal Ultrasound in Medicine*
- Associate Editor, *Journal of Ultrasound in Medicine*
- Member, Advisory Editorial Board, *Ultrasound in Medicine and Biology*
- Member, Editorial Advisory Council, *The New American Medical Journal*
- Consultant to the Editor, *Radiology*
- Reviewer, *Clinical Orthopaedics and Related Research*
- Reviewer, *Academic Radiology*
- Reviewer, *American Journal of Roentgenology*
- Reviewer, *Archives of Dermatology*
- Reviewer, *Radiology Case Reports*
- Reviewer, *Journal of Orthopedic Research*
- Reviewer, *Journal of Rheumatology*
- Reviewer, *Ultrasound Quarterly*
- Distinguished Service Award, American Board of Radiology
- Distinguished Reviewer, *American Journal of Roentgenology*
- Best Speaker Award, American Roentgen Ray Society 2009 Annual Meeting (awarded January, 2010)
- Named as one of the “Best Doctors in America”, *Philadelphia Magazine*
- Cum Laude Award, Education Exhibit, 95th Scientific Assembly and Annual Meeting of the Radiological Society of North America, 2009: Identifying nerve entrapment syndromes: An ultrasound and MRI correlation.

LAURENCE NEEDLEMAN, M.D.

- Vice-President, Board of Directors, Intersocietal Commission on Accreditation of Vascular Laboratories
- Member, Board of Directors, Pennsylvania Radiological Society

- Member, Ultrasound Guidelines and Standard Committee, American College of Radiology
- Chair, Collaborative Committee, Practice Guideline for the Performance of Peripheral Venous Ultrasound Examination, American College of Radiology and American Institute of Ultrasound in Medicine
- Chair, Collaborative Committee, Practice Guideline for the Performance of an Ultrasound Examination of the Extracranial Cerebrovascular System, American College of Radiology and American Institute of Ultrasound in Medicine
- Member, Collaborative Committee, Practice Guideline for the Performance of Ultrasound Vascular Mapping for Preoperative Planning of Dialysis Access, American College of Radiology and American Institute of Ultrasound in Medicine
- Member, Endowment for Education and Research Committee, American Institute of Ultrasound in Medicine
- Member, Continuous Professional Improvement Panel, Ultrasound, American College of Radiology
- Member, Public Information Advisors Network, Radiological Society of North America
- Reviewer, Intersocietal Commission on Accreditation of Vascular Laboratories
- Grant Reviewer, Medicine Endowment for Education and Research, American Institute of Ultrasound
- Member, Editorial Board, *Journal of Ultrasound in Medicine*
- Reviewer, *Journal of Ultrasound in Medicine*
- Reviewer, *Radiology*

PATRICK O’KANE, M.D.

- Consultant, Belarus-American Chernobyl Thyroid Project, Columbia University/National Institutes of Health/National Cancer Institute
- Reviewer, *Radiographics*

LAURENCE PARKER, PH.D.

- Reviewer, *Journal of the American College of Radiology*

VIJAY RAO, M.D.

- President-Elect, American Association for Women Radiologists
- Member, Board of Trustees, Research and Education Foundation, Radiological Society of North America
- Member, Finance Committee, American Association for Women Radiologists
- Member, Bylaws Committee, American Association for Women Radiologists
- Member, Research and Education Board of Trustee Liaison to Radiological Society of North America Education Committee, Radiological Society of North America
- Member, Individual Giving Subcommittee, Research and Education Foundation, Radiological Society of North America
- Member, Research and Education Evaluation Committee, Radiological Society of North America
- Member, Clinical Practice Committee, American Society of Head and Neck Radiology
- Member, Future Trends Committee, American College of Radiology
- Member, Practice Leaders Committee, American College of Radiology

- Member, Practice Leaders Web Subcommittee, American College of Radiology
- Member, Utilization Management Committee, American College of Radiology
- Association of Program Directors in Radiology Liaison to Society of Chairmen of Academic Radiology Departments
- Assistant Editor, Health Policy, *Journal of the American Roentgen Ray Society*
- Reviewer, Scientific Exhibits, *Radiographics*, 95th Scientific Assembly and Annual Meeting of the Radiological Society of North America
- Reviewer, Scientific Abstracts, 95th Scientific Assembly and Annual Meeting of the Radiological Society of North America
- Reviewer, Scientific Abstracts, 57th Annual Meeting of the Association of University Radiologists
- Reviewer, Scientific Abstracts, 42nd Annual Meeting of the American Society of Head and Neck Radiology
- Reviewer, *Academic Radiology*
- Reviewer, *American Journal of Neuroradiology*
- Reviewer, *Health Affairs*
- Reviewer, *Radiographics*
- Reviewer, *Radiology*
- Named as one of the “Best Doctors in America”, *Philadelphia Magazine*
- Named as one of “America’s Top Doctors for Cancer”, Castle Connolly Medical Ltd.

CHRISTOPHER ROTH, M.D.

- Reviewer, *Journal of Magnetic Resonance Imaging*

SHARON SEGAL, D.O.

- Outstanding Clinician Award, Jefferson Medical College, 2010

CONOR SHORTT, M.D.

- Judy Dubbs Memorial Research Award, 2010

LISA TARTAGLINO, M.D.

- Reviewer, *Radiographics*

MATHEW THAKUR, PH.D.

- John G. McAfee Gold Medal Award, International Society of Radiolabeled Blood Elements
- Delegate-at-Large, Society of Nuclear Medicine
- Member, Board of Governors, Greater New York Chapter, Society of Nuclear Medicine
- Member, Board of Directors, Society of Nuclear Medicine
- Member, Advisory Committee, US Pharmacopea
- Member, Advisory Committee, Kuwait Medical Research Council
- Member, Advisory Committee, International Atomic Energy Agency

- Chair, Young Investigators Award Committee, International Society of Radiolabeled Blood Elements
- Member, Publication Committee, Society of Nuclear Medicine
- Member, Financial Committee, Society of Nuclear Medicine
- Member, Public Relations Committee, Society of Nuclear Medicine
- Member, Grant Review Service, Foundation for Medical Research, Vienna, Austria
- Member, Board of Directors, Eagle Alliance
- Member, Scientific Program Committee, 10th Congress of the World Federation of Nuclear Medicine Biology
- Member, Award Committee, Society of Nuclear Medicine
- Ad hoc member, Grant Review Service, National Institutes of Health
- Member, Editorial Board, *European Journal of Nuclear Medicine and Molecular Imaging*
- Member, Editorial Board, *Journal of the Association of Latin American Societies of Nuclear Medicine and Biology*
- Member, Editorial Board, *Journal of the Indian Association of Clinical Medicine*
- Member, Editorial Board, *Journal of Labeled Compounds and Radiopharmaceuticals*
- Member, Editorial Board, *Journal of Nuclear Medicine*
- Member, Editorial Board, *Journal of Nuclear Medicine and Biology*
- Member, Editorial Board, *Nuclear Medicine Communications*
- Member, Editorial Board, *Turkish Journal of Nuclear Medicine*
- Reviewer, *Bioconjugate Chemistry*
- Reviewer, *Bioorganic and Medicinal Chemistry*
- Reviewer, *Circulation*
- Reviewer, *European Journal of Nuclear Medicine*
- Reviewer, *Journal of Labeled Compounds and Radiopharmaceuticals*
- Reviewer, *Journal of Nuclear Medicine*
- Reviewer, *Journal of Nuclear Medicine and Biology*
- Reviewer, *Netherland Government Grant*
- Reviewer, *Nuclear Medicine Communications*
- Reviewer, *Oncology*
- Reviewer, *Veterinarian Journal of Pharmaceuticals and Therapy*

TERRI TUCKMAN, M.D.

- Member, Professional Development Committee, American Medical Women's Association
- Member, Committee on Gender Equity, American Medical Women's Association

ANNINA WILKES, M.D.

- Member, Medical Advisory Board, Susan A. Komen Foundation
- Member, Speakers Bureau, Susan A. Komen Foundation
- Member, The Breast Health Global Initiative
- Member, Reach to Recovery Program Committee, American Cancer Society
- Member, Medical Advisory Board, Linda Creed Breast Cancer Foundation

ADAM ZOGA, M.D.

- Member, Expert Panel, Musculoskeletal Radiology Appropriateness Criteria, Bone Tumors, American College of Radiology
- Member, Finance Committee, Society of Skeletal Radiology
- Member, Scientific Program Committee, Annual Meeting, American Roentgen Ray Society
- Member, Editorial Board, Seminars in Musculoskeletal Radiology
- Guest Editor, *Radiologic Clinics of North America*
- Reviewer, *American Journal of Radiographics*
- Reviewer, *American Journal of Radiology*
- Reviewer, *American Journal of Roentgenology*
- Reviewer, *Radiology Case Reports*
- Best Speaker Award, American Roentgen Ray Society 2009 Annual Meeting (awarded January, 2010)

APPENDIX IV - ACTIVE GRANTS

07/01/09 - 06/30/10

(Report reflects entire project period awarded and TJU fiscal year expensed)

NIH/OTHER FEDERAL GRANTS

PRINCIPAL INVESTIGATOR	TITLE OF PROJECT	FUNDING SOURCE	FUNDING DATES	DIRECT COSTS	INDIRECT COSTS	TOTAL COSTS FUNDED
Flanders, A. Z51402	caBIG - In Vivo Imaging Workspace	NIH (NCI) thru Booz Allen Hamilton Inc	02/15/09 - 02/14/10	\$18,092	\$9,860	\$27,952
Flanders, A. Z55301 (subcontract)	In Silico Research Center for Excellence	NIH (SAIC-Frederick) thru Emory University Contract #29XS193	08/24/09 - 08/23/13	\$55,219	\$30,095	\$85,314
Forsberg, F. R84301	Subharmonic Microbubble Signals for Pressure Estimation	NIH (NHLBI) R21 HL081892	01/15/07 - 12/31/09	\$330,284	\$145,908	\$476,192
Forsberg, F. R97601	Noninvasive and Accurate Measurement of Portal Hypertension	NIH (NIDDKD) RC1 DK087365	09/30/09 - 06/30/11	\$684,766	\$210,176	\$894,942
Forsberg, F. R99001	Quantitative Subharmonic Breast Imaging	NIH (NCI) R01 CA140338	05/01/10 - 02/28/14	\$1,651,250	\$419,678	\$2,070,928
Forsberg, F. X12301	Noninvasive Subharmonic Pressure Estimation for Monitoring Breast cancer	U.S. Army Medical Research Acq. W81XWH-08-1-0503	09/01/08 - 08/31/11	\$297,357	\$162,060	\$459,417
Forsberg, F. Z54401 (subcontract)	IVUS Detection of Rupture Prone Plaques	NIH (NHLBI) thru University of Rochester R01 HL088523	07/15/09 - 06/30/11	\$90,428	\$46,644	\$137,072

Forsberg, F. Z55901 (subcontract)	Sonothrombolysis of Vascular Clots with Targeted Bubbles	NIH (NHLBI) thru NuvOx Pharma R44 HL071433	12/07/09 - 12/31/10	\$14,385 --- \$950 (current fiscal yr)	\$7,840 --- \$518 (current fiscal yr)	\$22,225 --- \$1,468 (current fiscal yr)
Goldberg, B. R74401	US Detection of Sentinel Lymph Nodes in Melanoma	NIH (NCI) R01 CA100370	08/01/04 - 07/31/09	\$621,943 --- \$17,391 (current fiscal yr)	\$325,778 --- \$15,984 (current fiscal yr)	\$947,721 --- \$33,375 (current fiscal yr)
Goldberg, B. R93801	Contrast-Enhanced Ultrasound Detection of Secondary Lymph Nodes	NIH (NCI) R21 CA137733	12/01/08 - 11/30/10	\$220,000 --- \$93,344 (current fiscal yr)	\$119,900 --- \$46,676 (current fiscal yr)	\$339,900 --- \$140,020 (current fiscal yr)
Halpern, E. R83101	US Prostate Cancer Detection with Dutasteride Pretreatment	NIH (NCI) R01 CA118003	07/14/06 - 12/31/10	\$710,324 --- \$169,710 (current fiscal yr)	\$390,678 --- \$91,807 (current fiscal yr)	\$1,101,002 --- \$261,517 (current fiscal yr)
Intenzo, C. Z37201	Positron Emission Tomography Pre- and Post-treatment Assessment for Locally Advanced Non-small Cell Lung Carcinoma	NIH thru ACRIN (cooperative group)	01/01/05 - 12/31/09	\$32,000 --- \$1,091 (current fiscal yr)	\$8,000 --- \$218 (current fiscal yr)	\$40,000 --- \$1,309 (current fiscal yr)
Intenzo, C. Z56501	ACRIN 6685: FDG-PET of Head and Neck Cancer	NIH thru ACRIN (cooperative group)	01/01/10 - 12/31/10	\$21,667 --- \$0 (current fiscal yr)	\$4,333 --- \$0 (current fiscal yr)	\$26,000 --- \$0 (current fiscal yr)
Intenzo, C. Z56701	ACRIN 6688: Phase II Study of 3'-deoxy-3'18F Fluorothymidine (FLT) in Invasive Breast Cancer	NIH thru ACRIN (cooperative group)	04/01/10 - 03/31/13	\$98,967 --- \$0 (current fiscal yr)	\$19,793 --- \$0 (current fiscal yr)	\$118,760 --- \$0 (current fiscal yr)
Mitchell, D. G09001	ACRIN PA 4002: Angle Interleaved Projection Reconstruction with K-Space Weighted Image Reconstruction for Dynamic Contrast MRI of Cancer Therapy Response	PA Department of Health thru ACRIN (cooperative group)	08/01/07 - 12/31/09	\$69,304 --- \$3,568 (current fiscal yr)	\$17,326 --- \$892 (current fiscal yr)	\$86,630 --- \$4,460 (current fiscal yr)
Morrison, W. Z45501 (subcontract)	Skeletal Development in Clubfoot Treatment	NIH thru Drexel University R21 AR053255	09/01/06 - 07/31/09	\$8,818 --- \$0 (current fiscal yr)	\$4,849 --- \$0 (current fiscal yr)	\$13,667 --- \$0 (current fiscal yr)

O'Kane, P. Y00501	IPA for Chornobyl Research Unit	NIH (NCI)	04/01/06 - 10/31/11	\$12,420 --- \$3,579 (current fiscal yr)	\$0 --- \$0 (current fiscal yr)	\$12,420 --- \$3,579 (current fiscal yr)	\$12,420 --- \$3,579 (current fiscal yr)
Thakur, M. AG0205	Health Research Formula Fund	PA Department of Health	01/01/10 - 12/31/13	\$83,000 --- \$0 (current fiscal yr)	\$0 --- \$0 (current fiscal yr)	\$83,000 --- \$0 (current fiscal yr)	\$83,000 --- \$0 (current fiscal yr)
Thakur, M. R76901	PET Imaging of Breast Cancer Using Oncogene Expression	NIH (NCI) R01 CA109231	04/01/05 - 02/28/11	\$1,019,422 --- \$105,885 (current fiscal yr)	\$550,604 --- \$58,237 (current fiscal yr)	\$1,019,422 --- \$105,885 (current fiscal yr)	\$1,570,026 --- \$164,122 (current fiscal yr)
Thakur, M. R78701	Improved Molecular Imaging with SPECT	NIH R01 EB001809	09/10/03 - 07/31/09	\$582,099 --- \$15,027 (current fiscal yr)	\$321,928 --- \$3,066 (current fiscal yr)	\$582,099 --- \$15,027 (current fiscal yr)	\$904,027 --- \$18,093 (current fiscal yr)
Thakur, M. R89101	PET for Molecular Imaging of Small Animals	NIH S10 RR023709	04/01/08 - 03/31/10	\$500,000 --- \$50,000 (current fiscal yr)	\$0 --- \$0 (current fiscal yr)	\$500,000 --- \$50,000 (current fiscal yr)	\$500,000 --- \$50,000 (current fiscal yr)
Thakur, M. R98401	Optical Imaging for Translational Cancer Research	NIH S10 RR026678	03/04/10 - 03/03/11	\$174,955 --- \$174,955 (current fiscal yr)	\$0 --- \$0 (current fiscal yr)	\$174,955 --- \$174,955 (current fiscal yr)	\$174,955 --- \$174,955 (current fiscal yr)
Wolf, M. Z47501	A Randomized Phase III Trial of Bevacizumab with Irinotecan or Beverizumab with Temozolomide in Recurrent Glioblastoma	NIH thru ACRIN (cooperative group)	01/01/07 - 12/31/09	\$8,000 --- \$32 (current fiscal yr)	\$2,000 --- \$8 (current fiscal yr)	\$8,000 --- \$32 (current fiscal yr)	\$10,000 --- \$1,115 (current fiscal yr)
Wolf, M. Z56901	ACRIN 6686/RTOG 0825 Trial: Advanced Imaging	NIH thru ACRIN (cooperative group)	06/29/10 - 04/30/11	\$51,750 --- \$0 (current fiscal yr)	\$10,350 --- \$0 (current fiscal yr)	\$51,750 --- \$0 (current fiscal yr)	\$62,100 --- \$1,115 (current fiscal yr)
TOTAL NIH/FEDERAL FUNDING				\$7,356,450	\$2,807,800	\$7,356,450	\$10,164,250
CURRENT TJU FY NIH/ FEDERAL FUNDING				\$1,016,457	\$357,904	\$1,016,457	\$1,374,361

Active Grants

07/01/09 - 06/30/10

(Report reflects entire project period awarded and TJU fiscal year expensed)

FOUNDATION/NON-PROFIT ORGANIZATION GRANTS

PRINCIPAL INVESTIGATOR	TITLE OF PROJECT	FUNDING SOURCE	FUNDING DATES	DIRECT COSTS	INDIRECT COSTS	TOTAL COSTS FUNDED
Parker, L. N03001	How Much Could Substitution of US for CT Save in Imaging Evaluation of Appendicitis	American Institute of Ultrasound in Medicine	01/27/09 - 09/30/10	\$50,000 -- \$15,023 (current fiscal yr)	\$0 -- \$0 (current fiscal yr)	\$50,000 -- \$15,023 (current fiscal yr)
Rao, V. F65401	Center for Research on Utilization of Imaging Services	American College of Radiology	01/01/04 - 5/16/11	\$476,840 -- \$80,620 (current fiscal yr)	\$0 -- \$0 (current fiscal yr)	\$476,840 -- \$80,620 (current fiscal yr)
TOTAL NON-PROFIT FUNDING				\$526,840	\$0	\$526,840
CURRENT TJU FY NON-PROFIT FUNDING				\$95,643	\$0	\$95,643

**Active Grants
07/01/09 - 06/30/10**

(Report reflects entire project period awarded and TJU fiscal year expensed)

INDUSTRIAL GRANTS

PRINCIPAL INVESTIGATOR	TITLE OF PROJECT	FUNDING SOURCE	FUNDING DATES	DIRECT COSTS	INDIRECT COSTS	TOTAL COSTS FUNDED
Cavanaugh, B. J43001	Assessment of the Clinical Value of SuperSonic Shear Wave Elastography	SuperSonic Imagine	10/16/08 - 10/16/11	\$86,945 -- \$21,054 (current fiscal yr)	\$20,986 -- \$6,387 (current fiscal yr)	\$107,931 -- \$27,441 (current fiscal yr)
Flanders, A. A53601	ADCON-L MRI Research Project	GliaTech	09/01/01 - 12/31/50	\$25,000 -- \$596 (current fiscal yr)	\$6,250 -- \$0 (current fiscal yr)	\$31,250 -- \$596 (current fiscal yr)
Goldberg, B. J45901	GOP iCE US™ Software Evaluation	Context Vision AB	01/23/09 - 01/23/10	\$32,000 -- \$7,861 (current fiscal yr)	\$7,375 -- \$0 (current fiscal yr)	\$39,375 -- \$7,861 (current fiscal yr)
Goldberg, B. J56701	Characterization of Focal Liver Lesions with Sonovue-Enhanced Ultrasound Imaging: A Phase III, Inpatient Comparative Study versus Unenhanced Ultrasound Imaging Using Histology or Combined Imaging/Clinical Data as Truth Standard	Bracco Diagnostics	12/17/09 - 12/31/10	\$85,500 -- \$22,484 (current fiscal yr)	\$20,000 -- \$2,270 (current fiscal yr)	\$105,500 -- \$24,754 (current fiscal yr)
Halpern, E. J56801	Cost-Benefit Analysis of Triple Rule-Out Studies Using iCT for ER Chest Pain Patients	Philips Healthcare	08/01/09 - 07/31/10	\$10,000 -- \$0 (current fiscal yr)	\$0 -- \$0 (current fiscal yr)	\$10,000 -- \$0 (current fiscal yr)
Intenzo, C. J43801	An Exploratory, Open Label, Multi-Center, Non-Randomized Study of (F-18)RGD-K5, K5-100	Siemens Molecular Imaging	09/30/08 - 09/29/09	\$13,626 -- \$3,871 (current fiscal yr)	\$3,406 -- \$500 (current fiscal yr)	\$17,032 -- \$4,371 (current fiscal yr)

Liu, J. J35601	Fluorescence Guided Surgery	General Electric Company	12/21/07 - 08/30/09	\$43,521 -- -- \$0 (current fiscal yr)	\$10,255 -- -- \$6,090 (current fiscal yr)	\$53,776 -- -- \$6,090 (current fiscal yr)
Mitchell, D. J47001	Fatty Liver and Metabolic Syndrome	Philips Medical Systems North America	09/01/08 - 09/01/09	\$20,500 -- -- \$0 (current fiscal yr)	\$4,500 -- -- \$0 (current fiscal yr)	\$25,000 -- -- \$0 (current fiscal yr)
Mitchell, D. J47101	Evaluation of Hepatocellular Carcinoma Response	Philips Medical Systems North America	01/08/09 - 06/05/10	\$10,000 -- -- \$0 (current fiscal yr)	\$2,500 -- -- \$0 (current fiscal yr)	\$12,500 -- -- \$0 (current fiscal yr)
Sharma, D. A81301	Digital Imaging Research	AGFA Corporation	11/15/04 - 11/30/09	\$21,633 -- -- \$982 (current fiscal yr)	\$4,783 -- -- \$0 (current fiscal yr)	\$26,416 -- -- \$982 (current fiscal yr)
Thakur, M. E14101	Atomlab 5000 Plus Dose Calibrator Testing Study	Biodex Medical Systems	04/23/09 - 04/22/10	\$2,500 -- -- \$0 (current fiscal yr)	\$0 -- -- \$0 (current fiscal yr)	\$2,500 -- -- \$0 (current fiscal yr)
Thakur, M. J43901	Supplement to NIH Grant	NuView Radio- Pharmaceuticals	07/24/08 - 02/28/10	\$49,700 -- -- \$12,127 (current fiscal yr)	\$12,425 -- -- \$0 (current fiscal yr)	\$62,125 -- -- \$12,127 (current fiscal yr)
			TOTAL INDUSTRIAL FUNDING CURRENT YEAR INDUSTRIAL FUNDING	\$400,925 -- -- \$68,975 (current fiscal yr)	\$92,480 -- -- \$15,247 (current fiscal yr)	\$493,405 -- -- \$84,222 (current fiscal yr)
			TOTAL FUNDING	\$8,284,215	\$2,900,280	\$11,184,495
			TOTAL CURRENT YEAR FUNDING	\$1,181,075 (current fiscal yr)	\$373,151 (current fiscal yr)	\$1,554,226 (current fiscal yr)

APPENDIX V - PENDING GRANTS

07/01/09 - 06/30/10

(Report reflects entire award period and first year of award)

NIH/OTHER FEDERAL GRANTS

PRINCIPAL INVESTIGATOR	TITLE OF PROJECT	FUNDING SOURCE	FUNDING DATES	DIRECT COSTS	INDIRECT COSTS	TOTAL COSTS FUNDED
Cavanaugh, B. (subcontract)	A New Ultrasound Method for Early Breast Tumor Characterization	USAMRAA thru J&W Medical	04/01/12 - 09/30/12	\$38,709	\$21,290	\$59,999
Flanders, A. FUNDED	caBIG - In Vivo Imaging Workspace	NIH (NCI) thru Booz Allen Hamilton Inc	06/15/10 - 01/14/11	\$3,968	\$1,032	\$5,000
Flanders, A. FUNDED	Value of MRI and DTI as Biomarkers for Classifying Acute Spinal Cord Injury	USAMRAA	12/01/10 - 11/30/13	\$495,510	\$270,053	\$765,563
Forsberg, F.	Monitoring Breast Cancer Treatment with Parametric Subharmonic Imaging	NIH	04/01/11 - 03/31/16	\$950,001	\$522,369	\$1,472,370
Halpern, E.	Active Surveillance of Prostate Cancer with Contrast-Enhanced Ultrasound	NIH	04/01/11 - 03/31/16	\$2,397,651	\$1,318,377	\$3,716,028
Halpern, E.	Active Surveillance of Prostate Cancer with Contrast-Enhanced Ultrasound	USAMRAA	09/30/11 - 09/29/15	\$749,174	\$412,046	\$1,161,220
Mitchell, D.	ACRIN6690: Prospective Multicenter Comparison of Multiphase Contrast Enhanced CT and Multiphase Contrast Enhanced MRI for Diagnosis of HCC and Liver Transplant Allocation	NIH thru ACRIN (cooperative group)	10/01/10 - 12/31/11	\$132,000	\$33,000	\$165,000
				\$66,000	\$16,500	\$82,500
				(-01 year)	(-01 year)	(-01 year)

Rao, V. (subcontract)	Evaluation of the Medicare Imaging Demonstration Project	CMS thru CAN	10/01/10 - 09/30/14	\$182,907 -- \$62,255 (-01 year)	\$100,459 -- \$34,100 (-01 year)	\$283,366 -- \$96,355 (-01 year)
Thakur, M. (Co-PI) FUNDED	PET Imaging of KRAS2 Activation to Guide EGFR Targeting in Cancer Therapy	NIH	07/01/10 - 04/30/14	\$1,900,807 -- \$442,412 (-01 year)	\$580,002 -- \$180,552 (-01 year)	\$2,480,809 -- \$622,964 (-01 year)
Thakur, M.	VPAC1 Receptor-Targeted PET Imaging for Prostate Cancer	NIH	04/01/11 - 03/01/15	\$1,905,574 -- \$452,543 (-01 year)	\$705,916 -- \$190,961 (-01 year)	\$2,611,490 -- \$643,504 (-01 year)
TOTAL NIH GRANT FUNDING				\$8,756,301	\$3,964,544	\$12,720,845
TOTAL FIRST YEAR NIH FUNDING				\$2,011,416 (-01 year)	\$963,217 (-01 year)	\$2,974,633 (-01 year)

APPENDIX V - PENDING GRANTS

07/01/09 - 06/30/10

(Report reflects entire award period and first year of award)

FOUNDATION/NON-PROFIT ORGANIZATION GRANTS

PRINCIPAL INVESTIGATOR	TITLE OF PROJECT	FUNDING SOURCE	FUNDING DATES	DIRECT COSTS	INDIRECT COSTS	TOTAL COSTS FUNDED
Cavanaugh, B. (subcontract)	A Novel Ultrasound Technique to Track Breast Cancer Tumor Morphology	Avon Foundation thru J&W Medical	01/01/12 - 06/30/12	\$22,727 -- \$22,727 (-01 year)	\$2,273 -- \$2,273 (-01 year)	\$25,000 -- \$25,000 (-01 year)
TOTAL NIH GRANT FUNDING				\$22,727 -- \$22,727 (-01 year)	\$2,273 -- \$2,273 (-01 year)	\$25,000 -- \$25,000 (-01 year)
TOTAL FIRST YEAR NIH FUNDING				\$22,727 -- \$22,727 (-01 year)	\$2,273 -- \$2,273 (-01 year)	\$25,000 -- \$25,000 (-01 year)

APPENDIX V - PENDING GRANTS

07/01/09 - 06/30/10

(Report reflects entire award period and first year of award)

INDUSTRIAL GRANTS

PRINCIPAL INVESTIGATOR	TITLE OF PROJECT	FUNDING SOURCE	FUNDING DATES	DIRECT COSTS	INDIRECT COSTS	TOTAL COSTS FUNDED
McCann, J.	St. Jude Medical Angio-Seal™ Vascular Closure Device Interventional Radiology Clinical Registry	St. Jude Medical	08/01/10- 07/31/11	\$31,600 -- \$31,600 (-01 year)	\$7,900 -- \$7,900 (-01 year)	\$39,500 -- \$39,500 (-01 year)
TOTAL INDUSTRIAL FUNDING						
TOTAL INDUSTRIAL FUNDING				\$31,600	\$7,900	\$39,500
TOTAL FIRST YEAR INDUSTRIAL FUNDING				--	--	--
TOTAL FIRST YEAR INDUSTRIAL FUNDING				\$31,600	\$7,900	\$39,500
TOTAL FIRST YEAR INDUSTRIAL FUNDING				(-01 year)	(-01 year)	(-01 year)
TOTAL PENDING FUNDING						
TOTAL PENDING FUNDING				\$8,810,628	\$3,974,717	\$12,785,345
TOTAL PENDING FUNDING				--	--	--
TOTAL FIRST YEAR PENDING FUNDING				\$2,065,743	\$973,390	\$3,039,133
TOTAL FIRST YEAR PENDING FUNDING				(-01 year)	(-01 year)	(-01 year)