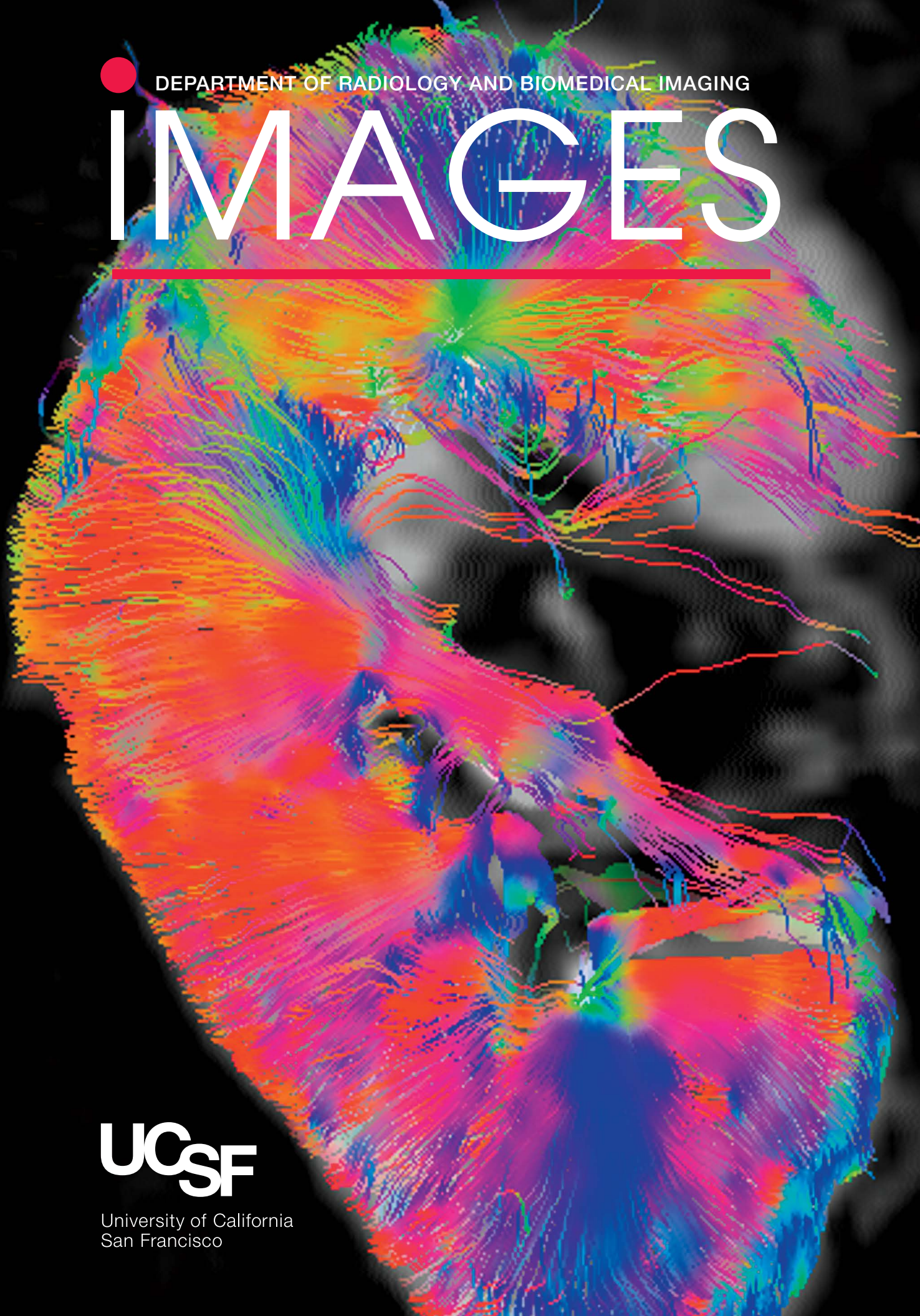
2015

DEPARTMENT OF RADIOLOGY AND BIOMEDICAL IMAGING

IMAGES



UCSF

University of California
San Francisco

About the Cover:

The cover figure shows a color tractography map of a transplanted kidney in a 17-year old girl. The image was processed from diffusion tensor imaging data obtained on a 3 Tesla MRI magnet at the UCSF Mission Bay Hospital. The different colors represent the orientation of flow within the small renal tubules of the transplanted kidney.

This study was performed as part of a pilot study investigating the use of diffusion tensor imaging as a potential non-invasive biomarker for assessment of pediatric renal transplant health. The study was funded by seed grants from the UCSF Department of Radiology and Biomedical Imaging and the Society for Pediatric Radiology.

The image is courtesy of Yi Li MD, a fourth-year Diagnostic Radiology resident, Marsha Lee MD, an assistant clinical professor of Pediatrics in the division of Pediatric Nephrology, Pauline Wong-Worters PhD, a scientist in the Department of Radiology and Biomedical Imaging, John MacKenzie MD, an associate professor in residence and chief of Pediatric Radiology, and Jesse Courtier MD, an assistant professor of clinical Radiology in Radiology and Biomedical Imaging at UCSF.

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Dear Colleagues and Friends,

This year marked my leadership role in two arenas—as chairman of the Department of Radiology and Biomedical Imaging and as president of the RSNA. These two different organizations share a strong focus on the movement toward increased patient-centered care, as the field of radiology adapts to provide more precise care.

The four new, specialized facilities that comprise the new UCSF Mission Bay Hospitals, which opened in February, reflect this trend: UCSF Benioff Children's Hospital San Francisco, UCSF Betty Irene Moore Women's Hospital, UCSF Bakar Cancer Hospital and the UCSF Ron Conway Family Gateway Medical Building. Patient-friendly scan suites at UCSF Benioff Children's Hospital were designed to calm anxiety in kids and help them refocus away from their medical procedures. Chief of Pediatric Radiology and Chief of Radiology at the new hospitals, John Mackenzie, MD, was involved in the selection of the themed Bay Area designs of the children's scanning area. It is truly exciting to see the results of 10 years of planning, construction and hard work on so many levels come to life in these beautiful, spacious and efficient hospitals.

While health care evolves in different forms around the world, there is a common need to move toward precision medicine. Our PET/MRI—now up and running—will directly benefit patients by providing detailed feedback to inform individualized medical decision-making. Kudos to Miguel Pampaloni, MD, Spencer Behr, MD, and Thomas Hope, MD, for their work in getting PET/MRI established at UCSF.

UCSF Radiology now provides imaging services at nine sites in the San Francisco Bay Area, the most recent being the UCSF Imaging Center at Montgomery Street. This small, personalized site focuses on women's imaging. Its goal is to provide excellence in service—both for referring physicians and for patients—at a convenient, downtown location.

I am especially proud to let you know about several achievements by faculty members. The American Society of Neuroradiology awarded William Dillon. MD, its 2015 Gold Medal, noting his "invaluable" scientific contributions to the subspecialty of head and neck radiology, Peter Callen, MD, received the Pioneer Award from the American Society of Ultrasound in Medicine for his decades-long leadership in that field. Our faculty are also represented in a number of important societies: Judy Yee, MD, became president of the Abdominal Society of Radiology in March and Lynne Steinbach, MD, is the current president of the International Skeletal Society.

We continue to rank highly in research and once again are No. 2 in the NIH rankings for diagnostic radiology. I am pleased to announce that in August, Xiaojuan Li, PhD, Rebecca Smith-Bindman, MD, and Benjamin Yeh, MD, received 2015 Distinguished Investigator Awards from the Academy of Radiology Research. In June we celebrated the $50 million in research grants that our research team received in 2014.

One of my goals over the past few years has been to recognize talent and encourage career growth and responsibility by opening up more leadership opportunities within the department. Christopher Hess, MD, PhD, became chief of Neuroradiology in July 2015. Bill Dillon, MD, remains in his leadership role as executive vice chair of the department. John Mongan, MD, will become the vice chair of Informatics in 2016 and is working closely with current Vice Chair, David Avrin, MD, PhD, to prepare for this challenging position.

The department's administrative director, Cathy Garzio, who joined Radiology and Biomedical Imaging 13 years ago, left UCSF in June to become the vice chair and director of Finance and Administration at Stanford University's Department of Medicine. I know Cathy will achieve great things there, but her influence at UCSF and in our department was huge and we all miss her greatly. I am working closely with the Dean's Office and search committee, in partnership with the Department of Otolaryngology, Head and Neck Surgery, to fill the position.

I was very pleased to be honored as the 100th president of RSNA at the Margulis Society's Silver Anniversary Gala. As the Society marks 25 years as the strongest radiological alumni organization in the country, I continue to be impressed by the strong coalition of alumni who generously support our resident and fellowship training. We are grateful to our alumni donors to the Margulis Society for their loyal support.

Our residency remains strong. Once again, all third-year residents passed the Core exam, thanks to their hard work and the guidance and leadership of Program Director Soonmee Cha, MD, and Assistant Program Directors Jason

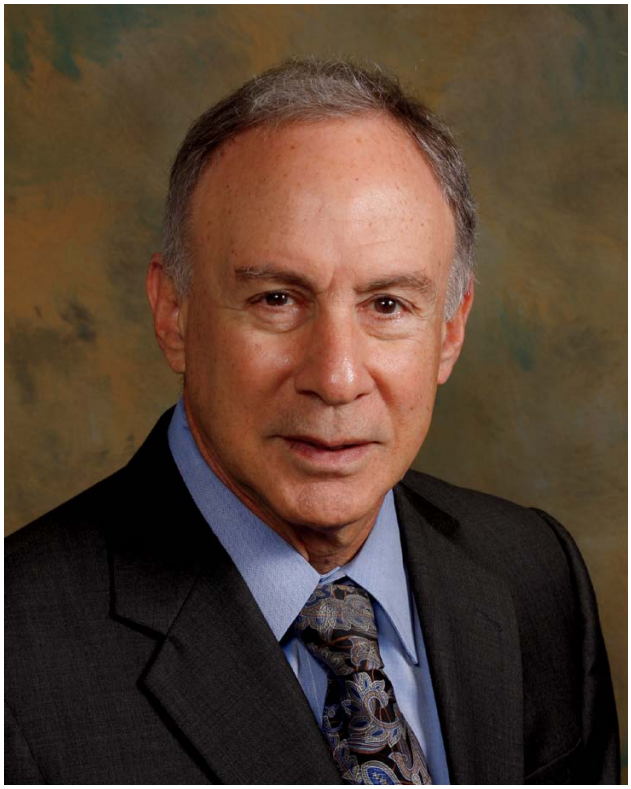
Talbott, MD, PhD, and Stefanie Weinstein, MD. Again this year, Doximity and *U.S. News and World Report* rated us the No. 1 diagnostic radiology residency program.

I look forward to reconnecting with many of you in Chicago on Monday, November 30, at our annual gathering of alumni, faculty, trainees and friends at our RSNA Reception. It will be held at 6:30 P.M. at the Fairmont Millennium Park's Crystal Room, 200 North Columbus Drive, Chicago.

I hope you enjoy the 2015 issue of IMAGES and as always, we welcome your feedback. We value your connection to UCSF Radiology and Biomedical Imaging and wish you great success in the coming year.

Sincerely,

Ronald L. Arenson, MD



Investigating Diffusion Tensor Imaging as a Non-Invasive Biomarker of Pediatric Kidney Transplant Health

Jesse Courtier, MD, and Marsha Lee, MD

Background

In children with end-stage renal disease, kidney transplantation is the preferred choice for therapy, with overall lower long-term morbidity and mortality compared with dialysis. Annually, approximately 800 renal transplants are performed in the United States in children under 18 years of age.

The monitoring of kidney transplant function in pediatric recipients is critical to optimize the longevity of their transplants and therefore their overall quality of life. Transplant rejection, however, cannot be easily determined using routine renal function laboratory tests such as BUN, serum creatinine or calculated eGFR, since rejection can be present even when these values are normal. Thus, renal transplant biopsies are routinely performed to screen for subclinical rejection and to evaluate for rejection in cases of elevated serum creatinine.

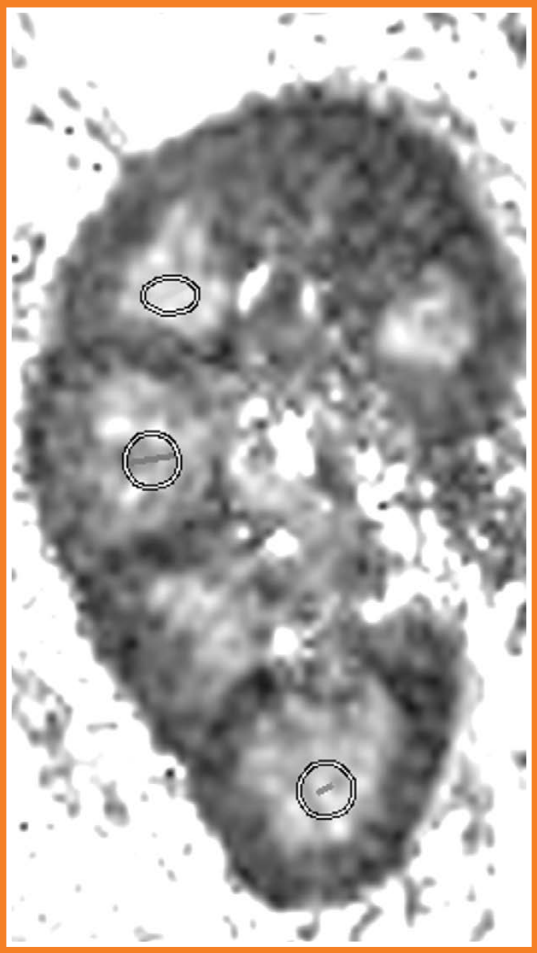


Figure 1 Processed Fractional Anisotropy map of a renal transplant in a 17-year-old girl with regions of interest placed in the renal medulla.

Preliminary work has demonstrated the potential of magnetic resonance diffusion tensor imaging (MR-DTI) with quantified measurement of fractional anisotropy (FA) as a non-invasive method of assessing renal allograft function. Primarily used in neuroimaging, diffusion-weighted imaging (DWI) takes advantage of the differences between water molecular motion (Brownian motion) within various anatomic structures to generate contrast. In general, water molecules with restricted motion (e.g., within nerve tracts) appear hyper-intense compared to water molecules that are in free space (e.g., CSF). Diffusion tensor imaging (DTI) further assesses the directionality of water molecular motion. This has been used to tremendous advantage in neuroimaging where neuro-axonal tracts are longer than they are wide, which results in anisotropic diffusive properties and thus allows for mapping of specific axonal tracts (tractography).

Similar to the brain, renal tubular architecture exhibits a high degree of anisotropy, which lends itself to assessment by DTI. The “degree of straightness” of the renal architecture can be quantified by measuring the FA within the kidney transplant (Figure 1). It is postulated that processes such as rejection lead to distortion of the normally highly organized renal architecture, thus leading to measurable decreases in the FA. This difference can also be seen visually with tractography imaging (Figures 2A and 2B).

Current Research and Preliminary Findings

In a collaborative project of the UCSF Departments of Radiology and Biomedical Imaging, Pediatrics (division of Nephrology), Pathology, and GE Healthcare, this novel application of DTI in pediatric kidney transplants is currently being tested. Seed grants from the UCSF Department of Radiology and Biomedical Imaging and the Society for Pediatric Radiology provided funding. In this study, children with kidney transplants underwent ultrasound-guided renal transplant biopsy for either surveillance or “for-cause” (clinically suspected rejection) indications. These children first underwent MRI with DTI, followed by ultrasound-guided biopsy of their renal transplants on the same day. Multiple FA values were measured in the renal cortex and medulla and compared to histopathologic results.

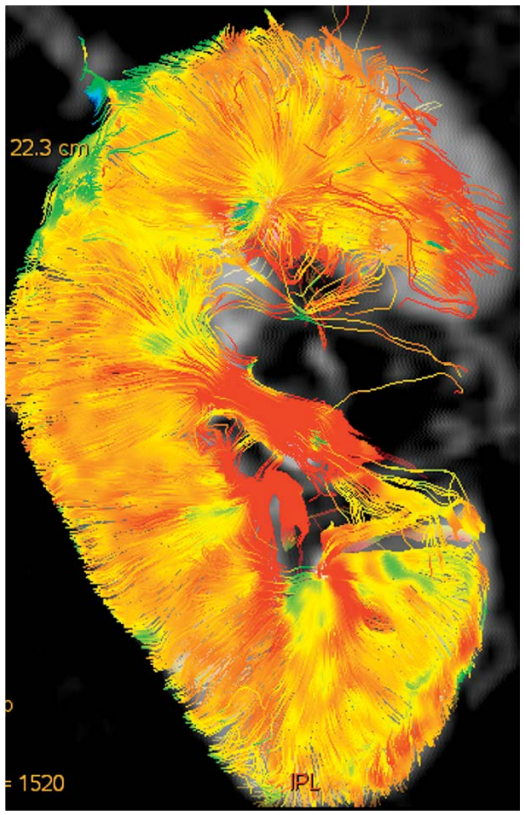


Figure 2A Average Diffusion tractography image of a kidney transplant in a 17-year-old girl. Biopsy results obtained as part of routine surveillance showed normal results with no evidence of rejection.

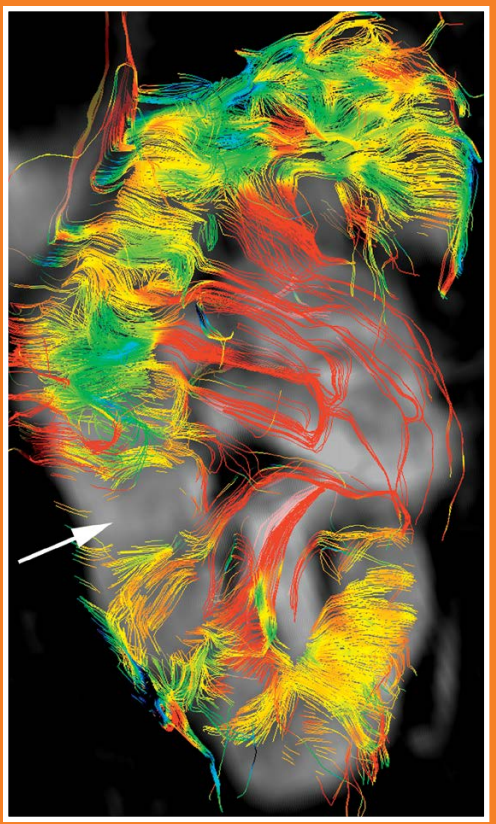


Figure 2B Average Diffusion tractography image of a kidney transplant in a 13-year-old boy. Biopsy results obtained as part of "for-cause" biopsy for clinically suspected rejection showed mild tubulitis, interstitial inflammation and ischemic changes. Note the focal area of scarring in the lower pole (white arrow).

Preliminary assessment of the early data has shown promising results. When comparing patients whose biopsy findings resulted in no change in clinical management versus those whose findings did result in a change in management, we found a significant difference (Figure 3). This could lead to development of a "cut-off value" that could potentially preclude the need for biopsy in certain patients.

Further data analysis is underway and will be submitted for presentation at the 2016 International Pediatric Radiology/Society for Pediatric Radiology joint meeting in Chicago, IL.

Jesse Courtier, MD, is an assistant professor of clinical Radiology in the Department of Radiology and Biomedical Imaging in the Pediatric Radiology section. Marsha Lee, MD, is an assistant clinical professor of Pediatrics in the division of Pediatric Nephrology.

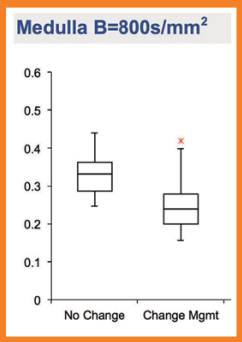


Figure 3 Box-plot of Fractional Anisotropy values measured in the renal medulla of 11 study patients at a value of B=600mm/s2. Fractional Anisotropy values are labeled on the x-axis. Among patients whose biopsy findings resulted in no change in clinical management ("No Change" on the y-axis) versus those whose findings did result in a change in management ("Change Mgmt" on the y-axis), there is clear distinction between the mean values of these groups.

Liver PET/MRI

Thomas Hope, MD, Miguel Pampaloni, MD, PhD, Michael Ohliger, MD, Spencer Behr, MD, Vahid Ravanfar, RT, Henry VanBrocklin, PhD, James Slater, RPh, PhD, Carina Mari Aparici, MD, Judy Yee, MD, Eric Nakakura, MD, Emily Bergsland, MD, Carlos Corvera, MD, Daniel Vigneron, PhD, and Sharmila Majumdar, PhD

Hepatic imaging benefits greatly from the use of MRI compared to CT. In addition to contrast dynamics you can investigate T2 signal intensity and diffusion weighted imaging that can help detect and characterize hepatic lesions in ways that are not possible on CT. PET/MRI promises to provide a significant advance in clinical staging compared to PET/CT for hepatic lesions.

Imaging using FDG

Fluorodeoxyglucose (FDG) is the most common PET radiotracer used in clinical medicine. There are numerous clinical indications for imaging hepatic metastatic disease, although FDG PET is used infrequently to evaluate primary liver malignancy. Combining focused liver MRI has demonstrated an ability to increase the detection of small hepatic metastases that can change patient care. This is particularly relevant in patients with colorectal cancer being treated with curative resection. In addition to metastatic disease, there may be a role in the setting of hepatocellular carcinoma. Well-differentiated HCCs are typically not FDG avid, but poorly differentiated and infiltrative lesions are frequently hypermetabolic. Particularly in the setting of infiltrative HCC, FDG PET/MRI can help delineate the margins of the malignancy, which can aid in surgical resection (Figure 1).

How to solve the issue of motion

Motion is a significant issue with hepatic imaging, which is exacerbated in the setting of PET/MRI. In addition to the respiratory blurring seen with PET/CT, there is respiratory ghosting due to the numerous breath-holds performed during the simultaneous PET and MRI acquisitions. Many solutions have been proposed, which frequently depend on acquiring an MR-based motion tracker throughout the PET acquisition. This approach is limited as it interferes with the acquisition of the diagnostic liver imaging sequences. Therefore we decided to use respiratory bellows to provide a gating signal, allowing for continuous acquisition of MR sequences. Using this approach we remove all data associated with breath-holds and restrict PET data to that

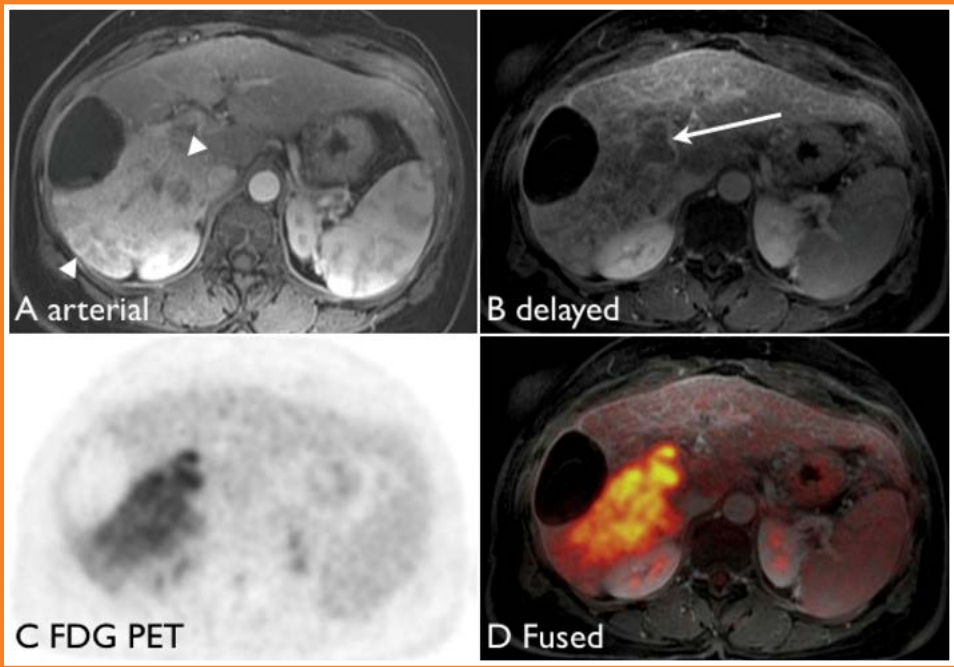


Figure 1 Example of FDG PET/MRI in a patient with infiltrative HCC demonstrating the utility of FDG to help discriminate between possible vascular shunting (A, arrow heads) associated with portal vein thrombus (B, white arrow) and (C) metabolically active infiltrative tumor. Fused imaging (D) demonstrates that the entire right lobe of the liver has been replaced by infiltrative HCC.

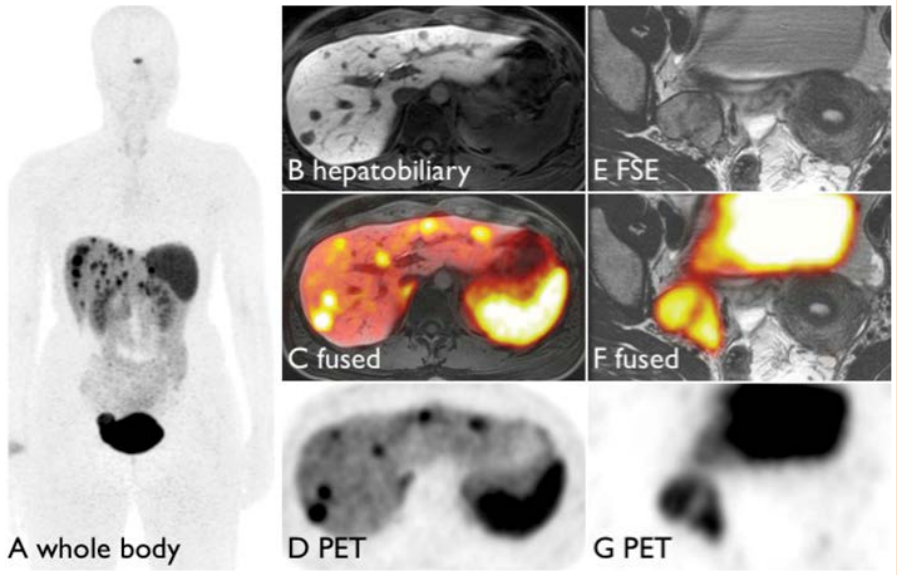


Figure 2 Example of coronal MIP and coronal slices from a patient with multiple avid liver metastases. WB PET refers to the bed position acquired during whole body imaging that has respiratory blurring and minimal ghosting (arrows). The full acquisition from the 15 minute Liver PET acquisition demonstrates significant respiratory blurring and ghosting (dotted and solid boxes). When respiratory compensation is applied using a bellows-derived gating signal, both the respiratory blurring and ghosting are effectively removed.

acquired during end expiration. This approach results in motion-artifact free images (Figure 2).

Role of hepatobiliary contrast agents

Hepatobiliary agents such as gadoxetate disodium have a significant portion of biliary excretion, allowing for the acquisition of a hepatobiliary phase about 15 to 20 minutes after injection. During the hepatobiliary phase, the hepatic parenchyma enhances due to biliary excretion of contrast. At the same time, lesions that do not contain functional hepatocytes, for example metastases, are markedly hypointense. This results in increased detection of metastatic lesions compared to PET or CT imaging.

Another benefit is that the markedly hyperintense liver parenchyma allows for robust navigation using the liver dome. Additionally, the contrast of the liver is relatively static compared to dynamic imaging immediately after injection. Because of this, high-resolution free-breathing images can be acquired that further improve the detection of metastatic foci. Finally, the use of respiratory navigated imaging creates an MRI image that is acquired during end-expiration, and therefore fused accurately to the respiratory compensated PET data.

DOTA-TOC and DOTA-TOC PET/MRI

DOTA-TOC is a somatostatin analog, similar to Octreotide, used primarily to image patients with neuroendocrine tumors. It is labeled with Gallium-68, allowing for PET imaging. Ga-68 DOTA-TOC has a number of benefits over Octreotide: First, the imaging study is performed one hour after injection instead of one day later. Second the dose associated with the exam is roughly half. Third, the study has better detection sensitivity.

During the past year we started an investigational new drug approved study to evaluate Ga-68 DOTA-TOC in patients with somatostatin receptor-positive malignancies. To date, we have enrolled more than 100 patients in the study. The availability of this agent through the FDA-approved study has transformed the way that oncologists stage and restage patients with neuroendocrine tumors at UCSF.

The liver is the most common site for neuroendocrine tumor metastasis. This makes for a perfect combination of DOTA-TOC and PET/MRI. We initially compared DOTA-TOC PET/CT and PET/MRI in 10 patients to evaluate the benefit of PET/MRI to PET/CT and found that both hepatobiliary-phase imaging and diffusion-weighted imaging detected more hepatic metastasis compared to contrast enhanced CT, with similar detection sensitivities for extrahepatic disease. Currently DOTA-TOC PET/MRI is available through a research protocol at UCSF.

Future work

Future work in liver PET/MRI will focus on two main areas. First is the improvement in motion correction. Although respiratory bellows are capable of removing the majority of respiratory motion associated with breath holds and respiratory blurring, a significant amount of data remains unused in the final reconstruction leading to noisy images. Improved PET reconstruction models taking into account patient-specific motion need to be implemented to create images

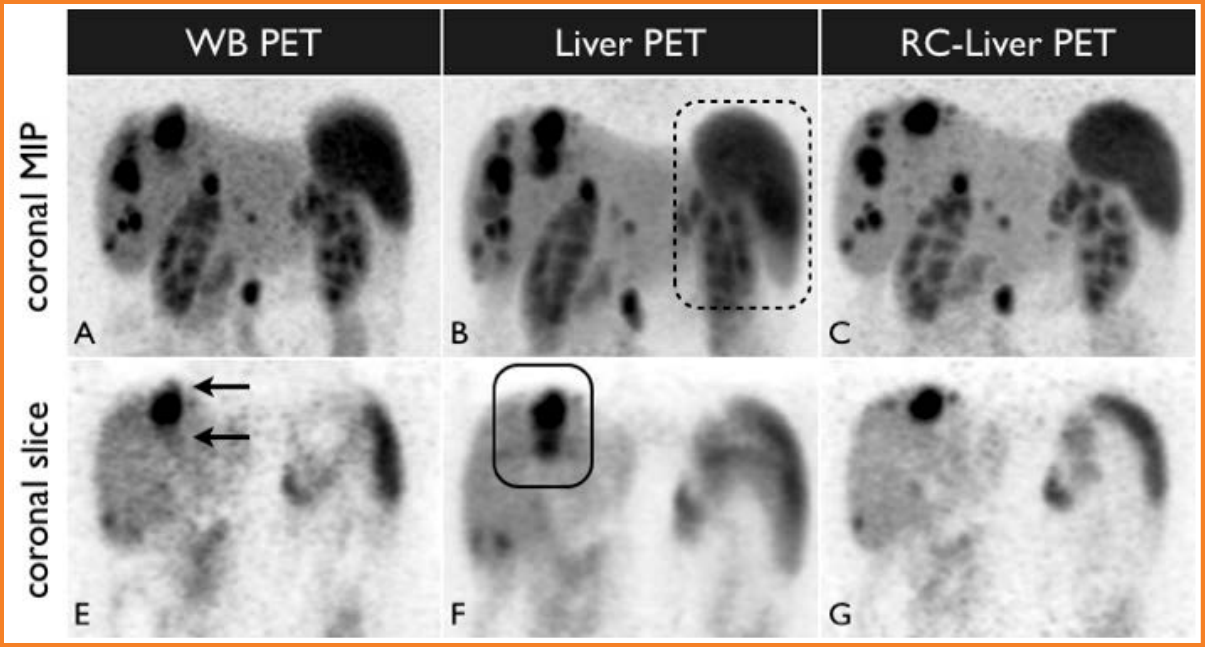


Figure 3 Example of a patient with metastatic rectal carcinoid demonstrating numerous hepatic metastases and a right pelvic side-wall avid metastasis. Navigated hepatobiliary phase imaging (B) fuses accurately with the respiratory compensated PET data (C) providing specificity for the metastasis detected on MRI. In the pelvis, the small field of view T2 weighted imaging can be used to provide improved soft tissue characterization compared to CT. In this case the relationship between the nodal metastasis and the sciatic nerve is demonstrated allowing for improved surgical planning.

without respiratory blurring without requiring long bed position PET acquisitions.

Second is a focus on patient comfort and speed. The two most common complaints from patients undergoing PET/MRI, other than the noise from MR imaging, are breath-holds and long study times. By incorporating more free breathing sequences in the whole body acquisition and leveraging newer sequences like variable refocusing flip angle SSFSE, we should be able to shorten scan times while removing the majority of breath-holds, thereby improving patient comfort throughout the study.

References

1. Hope TA, Pampaloni MH, Nakakura E, VanBrocklin H, Slater J, Jivan S, Aparici CM, Yee J, Bergsland E. Simultaneous (68)Ga-DOTA-TOC PET/MRI with gadoxetate disodium in patients with neuroendocrine tumor. *Abdom Imaging*. 2015 Aug;40(6):1432-40.
2. Hope TA, Verdin EJ, Bergsland EK, Ohliger MA, Corvera CU, Nakakura EK. Correcting for respiratory motion in liver PET/MRI: preliminary evaluation of the utility of bellows and navigated hepatobiliary phase imaging. *EJNMMI Physics*. 2015:2(1):21.

Thomas Hope, MD, is an assistant professor; Miguel Hernandez Pampaloni, MD, PhD, is an associate professor and chief of Nuclear Medicine; Michael Ohliger, MD, PhD, is an assistant professor; Spencer Behr, MD, is an assistant professor, and Vahid Ravanfar, RT, is a radiologic technologist in the Department of Radiology and Biomedical Imaging. Henry VanBrocklin, PhD, is a professor in the Department of Radiology and Biomedical Imaging; James Slater, RPh, PhD, is the department's radiopharmaceutical manager; Carina Mari Aparici, MD, is an associate professor; Judy Yee, MD, is a professor, vice chair of Radiology and Biomedical Imaging, and chief of Radiology at the San Francisco VAMC. Eric Nakakura, MD, is an associate professor in the Department of Surgery; Emily Bergsland, MD, is a professor in the Department of Medicine;, and Carlos Corvera, MD, is a professor in the Department of Surgery. Daniel Vigneron, PhD, is a professor and Sharmila Majumdar, PhD, is a professor and vice chair of research in the Department of Radiology and Biomedical Imaging.

UCSF Medical Center Opens at Mission Bay

John MacKenzie, MD

This year's signal achievement was our February 1 move into the long-awaited UCSF Medical Center at Mission Bay. This is an enormous undertaking for the Medical Center and Radiology Department: A $1.5 billion, 878,000 square foot campus, which serves three distinct groups of patients and is home to the UCSF Bakar Cancer Hospital, the UCSF Betty Irene Moore Women's Hospital, and UCSF Benioff Children's Hospital.

Arriving at opening day was a 10-year undertaking that involved a tremendous amount of planning and the invaluable support of our community and donors. All of us can proudly say that we are positioned at Mission Bay to serve adults, children and their families better than ever.

The complex has San Francisco's only emergency room for children, and a rooftop helipad to bring critically ill patients from regional hospitals. Robots help carry supplies, food and medicine throughout the hospital. Our radiology department is particularly notable for the brand-new, state-of-the-art equipment (four MRI machines, three CT, SPECT-CT and PET-CT machines) and team approach to imaging care. We also can refer patients to the China Basin campus to use its new PET/MRI facilities. The pediatric neuroradiology, abdominal imaging, nuclear medicine and ultrasound sections all share a common reading room, which has enabled helpful consultations and learning for our residents and fellows.

An Environment Especially Made for Children

At UCSF Benioff Children's Hospital, integrated teams of experts in a spectrum of pediatric disorders diagnose and treat patients. Sharing space with the UCSF Betty Irene Moore Women's Hospital also allows us to help with the imaging care of new mothers and babies during the transition from fetal to neonatal life.

The imaging facilities of the new UCSF Benioff Children's Hospital are especially child-friendly. We have developed an incredible team of child life specialists who help families and children get through imaging examinations. Our imaging suites are themed with activities and scenes unique to the Bay Area: Instead of sliding into a cramped scanner, patients can imagine a ride in a cable car, a trip on a boat or a camping trip in Muir Woods. This innovative approach helps patients hold still (better images!), reduces the need for anesthesia, and is vital to an environment designed to reduce anxiety and reinforce positive feelings about the health care experience.

We are proud to have accomplished so much this year, and thrilled to be serving patients and their families with compassionate imaging teams in a state-of-the art facility designed to provide the best in medical care.

John MacKenzie, MD, is an associate professor in residence, chief of Radiology at Mission Bay Medical Center, and section chief of Pediatric Radiology at UCSF.

UCSF DOCUMENTS & MEDIA - MARCO SANCHEZ

A patient-friendly scan suite. While wearing video goggles, patients may view videos from our library or DVDs brought from home.

UCSF Opens New Imaging Center at Montgomery Street

On September 2, UCSF Radiology and Biomedical Imaging celebrated the grand opening of its smallest and newest site—the UCSF Medical Center at Montgomery Street.

The facility offers advanced radiological and imaging services, and is configured as an integrated health center. There are three practices co-located on same floor: UCSF Imaging Center, UCSF Women's Health Primary Care and Golden Gate Obstetrics & Gynecology.

Ruth Goldstein, MD, chief of Ultrasound at UCSF and co-director of UCSF Montgomery Street noted the emphasis on "personalized service" and "prompt scheduling" at the facility. Imaging services offered at UCSF Montgomery Street include screening mammography, bone densitometry and ultrasound, all performed on site by UCSF radiologists using state-of-the-art equipment.

UCSF Montgomery Street Imaging Center is located in downtown San Francisco. The center, which features exposed brick walls, offers a warm and comfortable welcome. The surrounding neighborhood features ample parking options, accessible public transportation, and is close to a broad variety of eateries in and around the Ferry Building and the Embarcadero.

"We are focusing both on community engagement and outstanding customer service," noted Chair Ronald Arenson, MD. "Thanks to the dedication of our physicians and staff and our new neighbors in the area, we are delivering on these goals."

ELISABETH FALL PHOTOGRAPHY

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UCSF Imaging Center at Montgomery Street opens its doors.

Christopher Hess, MD, PhD, Becomes Neuroradiology Section Chief

A major change in the department's leadership structure occurred in June 2015, when William Dillon, MD, was succeeded by Christopher Hess, MD, PhD, as Neuroradiology section chief. "Our Neuroradiology section is superb, and I am very proud of the depth and breadth of faculty that Bill has hired and mentored over the years. It is equally exciting to see Chris Hess step into this important leadership role," said Chairman Ron Arenson, MD, in announcing the change. Dillon will remain in his role as executive vice chair of the department.

Hess, associate professor of Radiology and Neurology, joined the faculty in 2008 after completing his residency and fellowship at UCSF, internship at California Pacific Medical Center, and medical and graduate school at the University of Illinois. He currently serves as chair for Quality & Safety and associate director of the department's T32 Program. Hess previously held the positions of Neuroradiology fellowship director, Residency Selection Committee director, and chief of Neuroradiology at the San Francisco Veterans Administration Medical Center. He is recognized internationally as an outstanding neuroradiologist and researcher, with expertise in computational neuroimaging, high-field and diffusion MRI, and vascular disorders. He is on the editorial board of the American Journal of Neuroradiology and PLoS ONE, chairs the ISMRM Diffusion Study Group, and the RSNA Refresher Course Track Chair for neuroradiology.

In 1983, following his fellowship at UCSF, Dillon joined the Radiology faculty and advanced through the ranks to professor of Radiology, Neurology, and Neurosurgery. He was appointed neuroradiology section chief in 1992 (the third section chief since the group was created by Dr. Hans Newton in 1959), and in 1997 was named vice chair for research. In 2004, he was honored with the Elizabeth A. Guillaumin Endowed Professorship of Radiology. In 2007, Dillon became the executive vice chair of the department.

Dillon has received the Gold Medal Award from the American Society of Head and Neck Radiology (2007), the Francis A. Sooy, MD, Award for Clinical Excellence from the Department of Otolaryngology (1992), the J. Elliott Royer Award for Academic Contributions to Neurology from the San Francisco Neurological Society (2011), the ASNR Award

for Outstanding Contribution to Research (2013) and the American Society of Neuroradiology's Gold Medal Award (2015). He served as senior editor of the American Journal of Neuroradiology from 1998-2011, president of the American Society of Head and Neck Radiology in 1993, and president of the ASNR in 2001. He remains active in the leadership of both societies, most recently chairing the 2013 strategic plan review for the ASNR.

Arenson noted that the department is "celebrating and acknowledging two great careers—one leaving a tremendous legacy and the other bringing fresh perspective for the future."

Mark Wilson, MD, Named to Hideyo Minagi Endowed Chair

Noting that "there is simply no more deserving appointee," Department Chairman Ron Arenson, MD, announced the appointment of Mark Wilson, MD, to the Hideyo Minagi Endowed Chair in Radiology and Biomedical Imaging. "Dr. Minagi has been a devoted and outstanding educator and citizen of this department. His example has been an inspiration to so many, including Mark. I know Dr. Minagi is delighted that Mark will hold this chair bearing his name."

Mark Wilson, MD, is a professor in residence and vice chair of the department. He also is chief of Radiology and chief of Interventional Radiology at the San Francisco General Hospital. Wilson received his MD from the University of Michigan Medical School, Ann Arbor, in 1990. He completed his residency in Radiology at UCSF in 1995, followed by a fellowship in Interventional Radiology, in 1996. He joined the faculty in 1997, and moved to SFGH in 2006, where he became chief in 2008.

"Mark has been a strong advocate at SFGH for improving equipment and facilities in the interest of furthering patient care. He has recruited an outstanding faculty to SFGH, and truly leads by example, continuing to put in many hours in the IR suite despite his administrative role," said Arenson, "He has used funds to support equipment purchases in the county's constrained financial environment, and has been a great partner to the dean's office and the city."

One of Wilson's major research areas is the development and testing of magnetically navigated, coil-tipped angiographic catheters in the MRI environment. He also has developed interventional MRI-guided therapies—a new therapeutic modality that combines all facets of his background in engineering, interventional procedures and MR technology.

Arenson noted Wilson's strong commitment to teaching and to diversity. "Given his excellence in each aspect of our three missions, and his devotion to San Francisco General," said Arenson "he is an outstanding choice to hold a chair named in honor of Dr. Minagi."

UCSF DOCUMENTS & MEDIA - MARCO SANCHEZ

Emily Webb, MD, Appointed UCSF Academy Chair

Emily (Emma) Webb, MD, was appointed to the Academy Chair for Education in Radiology and Biomedical Imaging effective July 1, 2015. “Given her devotion to undergraduate medical education in radiology, Emma is an excellent choice to hold the Academy Chair for Education,” said Chairman Ron Arenson, MD. “This will give her an opportunity to further develop the medical education program in the department and to expand her impact as an educator at UCSF.”

Chair holders are members of the Haile T. Debas Academy of Medical Educators and serve as liaisons between the Academy and their academic departments. There are now 19 appointed Academy chair holders in 17 UCSF departments.

Webb is an associate professor of Clinical Radiology in the Section of Abdominal Imaging. She received her medical degree from New York Medical College in 2000, and completed her residency in Diagnostic Radiology in 2004 at Yale University. Her fellowship was in Abdominal Imaging at UCSF in 2006, after which she became a faculty member. Webb co-chairs the Medical Student Education Committee and is the co-director of the Goldberg Learning Center for Advanced Imaging Education. She is a key instructor for core Radiology courses and serves as a mentor to medical students. Her recent research efforts have focused on educational research, and she has published multiple papers on improving medical education. Webb was elected to the Haile T. Debas Academy of Medical Educators in 2012.

“Emma is truly committed to promoting educational innovation and scholarship at UCSF,” noted Arenson. “In her roles on the department’s Medical Student Education Committee and the Goldberg Learning Center, Emma oversees all of the radiology content in the School of Medicine curriculum. She has contributed greatly to the development of outstanding undergraduate medical education at the UCSF School of Medicine.”

UCSF DOCUMENTS & MEDIA - MARCO SANCHEZ

Rizwan Aslam, MBChB, Accepts Position as Medical Director for MD Anderson's New West Houston Imaging Facility

Rizwan Aslam, MBChB, former professor of Radiology at UCSF, accepted the position of professor of Diagnostic Imaging at The University of Texas MD Anderson Cancer Center (MD Anderson) in August. He is the medical director of MD Anderson's new West Houston Imaging Facility. "MD Anderson is gaining an outstanding leader," said Department Chairman Ron L. Arenson, MD. "We are sorry to see Riz leave UCSF, but know that he will be highly successful in his new position."

Aslam received his MBChB from the University of Aberdeen Medical School, Scotland, United Kingdom in 1991. He completed his residency in radiology and internal medicine in the UK. His 2003 fellowship was completed in Abdominal Imaging at UCSF's Department of Radiology and Biomedical Imaging, where he served as a faculty member from 2003 until 2015.

Aslam noted that he envisions MD Anderson's West Houston Medical Facility becoming "the go-to diagnostic radiology center for patients living in the outlying areas of West Houston." Aslam also plans to continue his work in the technique of virtual colonoscopy and the utilization of newer MRI contrast agents to evaluate the liver and the abdominal vasculature.

Cathy Garzio, MBA, Accepts Vice Chair Position at Stanford University Department of Medicine

Cathy Garzio, MBA, administrative director of three UCSF departments including the Department of Radiology and Biomedical Imaging where she served from 2002-2015, left UCSF in June to become the vice chair and director of Finance and Administration at Stanford University's Department of Medicine. Garzio joined UCSF nearly 25 years ago and spent the last 13 years in the Department of Radiology and Biomedical Imaging.

"There have been so many achievements and milestones in our work together in Radiology, and her involvement in the department has been very broad," noted Chair Ron Arenson, MD, in his announcement. "We first worked together in 1995, when UCSF implemented IDX, its first clinical information system, and Cathy was the liaison to the School of Medicine for the front-end scheduling and registration design. I am very proud that I succeeded in luring her back to work in Radiology."

Garzio was the administrator of the Clinical Cancer Center, and served for several years in the UCSF Department of Medicine as a practice manager and administrative director prior to joining Radiology and Biomedical Imaging in 2002. Highlights of Garzio's 2002–2015 career noted by Arenson include, "finding and developing China Basin as a major off-site research and clinical presence on campus; her recent work on faculty and staff engagement; the work she has done on campus and in the School of Medicine on gender diversity; and the many, many hours spent recruiting, mentoring, and developing what I believe to be the best staff and management team in the School of Medicine."

Garzio served on numerous UCSF and community committees, including task forces related to practice management, research administration, academic personnel and clinical operations. She also worked with national organizations including the Association of Administrators in Academic Radiology and the Society of Academic Chairs of Radiology. Garzio served as vice-chair of the UCSF Committee on the Status of Women from 2009 until her departure.

She received several UCSF awards, including the Holly Smith Award for Exceptional Service in 2007 and the Chancellor Diversity Award for the Advancement of Women

UCSF DOCUMENTS & MEDIA - MARCO SANCHEZ

in 2014. Garzio was also a co-author, with Arenson, of *A Practical Guide to Leadership and Management in Academic Radiology* (Charles C. Thomas, Springfield, IL: 2012), a book based on the authors' experience and success in managing the Radiology Department at UCSF.

"As a leader in the School of Medicine and on campus, Cathy leaves behind a network of colleagues and collaborators who will continue to be very helpful to this department," noted Arenson. "This is a tremendous opportunity for Cathy. We all wish her well in her new position."

New Faculty

Bianca Carpentier, MD

Assistant Professor of Clinical Radiology

Abdominal Imaging and Breast Imaging

Bianca Carpentier received her medical degree from New York Medical College, Valhalla, New York in 2009. In 2010, she completed a one-year internship at Mt. Auburn Hospital, Harvard Medical School in Cambridge, Massachusetts. From 2010–2014, she completed a four-year Diagnostic Radiology residency at Boston University in Massachusetts, followed by a Women's Imaging/Ultrasound fellowship combination at UCSF in 2015. Her areas of interest include breast imaging, mammography, breast MRI, ultrasound, fetal imaging, ultrasound-guided procedures, and medical education. In August 2015, Carpentier accepted an assistant professor of clinical radiology position in Abdominal Imaging and Breast Imaging at San Francisco General Hospital and UCSF Mount Zion.

Joshua Clayton, MD

Assistant Professor of Clinical Radiology

Cardiac and Pulmonary Imaging

In 2009, Joshua Clayton received his medical degree from Saint Louis University School of Medicine in Missouri. In 2010, he completed a one-year internship at the Albert Einstein Medical Center in Philadelphia, Pennsylvania. From 2010–2014, Clayton completed his Diagnostic Radiology residency at the same institution, followed by a Cardiothoracic Radiology fellowship at UCSF in 2015. His areas of interest are cardiothoracic imaging, thoracic trauma, thoracic emergency, pulmonary infectious disease, CT-guided chest biopsy, and lung transplantation complications. In July 2015, Clayton joined radiology as an assistant professor of clinical radiology in the Cardiac and Pulmonary Imaging section at SFGH.

Rita Freimanis, MD

Professor

Breast Imaging

Rita Freimanis obtained her medical degree from Bowman Gray School of Medicine, Winston-Salem, North Carolina in 1985. In 1990, she completed her four-year Diagnostic Radiology residency program at the North Carolina Baptist Hospital/Bowman Gray School of Medicine. Before Freimanis came to UCSF, she was a professor in the department of radiology at Wake Forest University School of Medicine, as well as the previous director of its Breast Imaging Fellowship Program and vice chair of Education. She is interested in mammography, breast ultrasound, breast MRI, image guided breast biopsy, multidiscipline breast cancer approach, breast tomosynthesis, and chest radiology. In July 2015, Freimanis accepted a professor position in Breast Imaging at UCSF Mount Zion.

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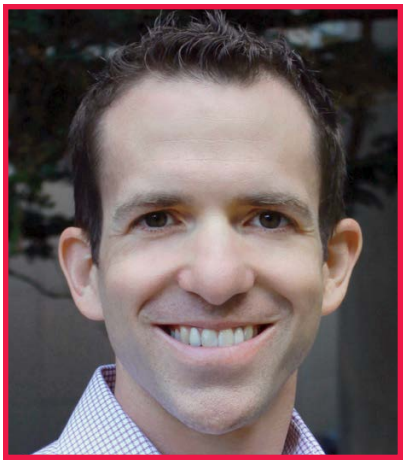
Shital Gandhi, MBBS

Assistant Professor of Clinical Radiology

Ultrasound

In 2001, Shital Gandhi received her medical degree from Grant Medical College in Mumbai, India. In 2003, she completed a one-year internship at the Albany Medical Center in New York. In 2007 she completed her four-year Diagnostic Radiology residency at Long Island College Hospital, Brooklyn, New York, followed by an Abdominal Imaging fellowship at UCSF. Gandhi is interested in ultrasound, neuroradiology, patient safety, work efficiency and medical school education. In July 2015, Gandhi accepted an assistant professor of clinical radiology position in the Ultrasound subspecialty section at UCSF.



Travis Henry, MD

Assistant Professor of Clinical Radiology

Cardiac and Pulmonary Imaging

Travis Henry received his medical degree from Vanderbilt University School of Medicine in Nashville, Tennessee in 2005. In 2006, he completed a one-year internship at Vanderbilt University Hospital. In 2010, he completed his four-year Diagnostic Radiology residency at Washington University School of Medicine in St. Louis, Missouri, followed by a Cardiothoracic Radiology fellowship in 2011. Prior to joining UCSF, Henry was an assistant professor in Radiology and Imaging Sciences at Emory University School of Medicine in Atlanta, Georgia, where he was also the assistant program director of the Diagnostic Radiology Residency program. His professional interests include radiology education, thoracic and cardiac radiology, osiriX, 3D imaging and webinars. In September 2015, he accepted an assistant professor of clinical radiology position in the Cardiac and Pulmonary Imaging section at UCSF.

Priyanka Jha, MBBS

Assistant Professor of Clinical Radiology

Abdominal Imaging

In 2007, Priyanka Jha obtained her medical degree from Mulana Azad Medical College, Delhi, India. In 2010, she finished a one-year internship at St. Vincents Medical Center, Bridgeport, Connecticut. She completed her four-year Diagnostic Radiology residency at the University of California, Davis in 2014, followed by an Abdominal Imaging fellowship at UCSF. Her areas of interest are oncologic imaging, hepatocellular carcinoma, placental imaging, women's imaging, MRI, emergency/trauma radiology and radiation dose reduction. In July 2015, Jha accepted an assistant professor of clinical radiology position in Abdominal Imaging at the VAMC and UCSF.

Marc D. Kohli, MD

Associate Professor of Clinical Radiology

Director of Clinical Informatics

Marc Kohli joined the department in November 2015 as Director of Clinical Informatics. He also joins the clinical faculty in the Abdominal Imaging Section.

Kohli received his medical degree in 2003 from the Indiana University School of Medicine, where he also did a radiology residency, followed by a fellowship in abdominal imaging and informatics. From 2009–2015 he was an assistant professor in Radiology and Imaging Sciences at Indiana University, where he was Director of Quality and Safety from 2010–2015, becoming Director of Informatics in 2015.

Kohli's clinical work at Indiana University included ultrasound and abdominal imaging, with a focus in GU and oncology. He enjoys teaching, both in the clinical arena and through lectures. His research interests lie in the areas of global health and informatics. Kohli hopes to use informatics to improve clinical operations both within the department, and with our hospital partners.

Vishal Kumar, MD

Assistant Professor of Clinical Radiology

Interventional Radiology

In 2007, Vishal Kumar obtained his medical degree from David Geffen School of Medicine, University of California, Los Angeles. In 2008, he completed a one-year internal medicine internship at OliveView UCLA Medical Center in Sylmar, California. From 2008–2009, Kumar completed one year of his Diagnostic Radiology residency program at Harbor-UCLA in Torrance, California, and from 2009–2012, he finished the remainder of his Diagnostic Radiology residency at UCSF, followed by a Vascular and Interventional Radiology fellowship at UCSF in 2013. In 2014, Kumar held a diagnostic and interventional radiologist position at the Sutter Medical Group in Sacramento, California, and shortly after, he accepted a diagnostic and interventional radiologist position at Seton Medical Center, Daly City, California. In July 2015, Kumar returned to UCSF as an assistant professor of clinical radiology in the Interventional Radiology section at UCSF and SFGH.

Amie Lee, MD

Assistant Professor of Clinical Radiology

Breast Imaging

Amie Lee received her medical degree from the University of California, San Francisco in 2009. In 2010, she completed a one-year internship with Kaiser Permanente in Oakland, California, and she finished a four-year Diagnostic Radiology residency at the University of Washington, Seattle in 2014. This was followed by a Women's Imaging fellowship at UCSF, completed in 2015. Lee's interests focus on breast cancer, breast MRI, mammography, quality assurance, and medical education. In July 2015, Lee accepted an assistant professor of clinical radiology position in the Breast Imaging subspecialty at UCSF Mount Zion.

Evan Lehrman, MD

Assistant Professor of Clinical Radiology

Interventional Radiology

In 2006, Evan Lehrman received his medical degree from Mount Sinai School of Medicine in New York, New York. He completed his one-year medical internship at Beth Israel Medical Center, New York in 2007. From 2007–2011, Lehrman completed his four-year Diagnostic Radiology residency at Mount Sinai School of Medicine. In 2012, he completed an Interventional Radiology fellowship at UCLA, followed by a Cardiovascular Radiology fellowship in 2014, and an Abdominal Imaging fellowship at UCSF in 2015. His areas of interest include portal hypertension, portal vein embolization, transjugular intrahepatic portosystemic shunt, direct intrahepatic portosystemic shunt, balloon-occluded retrograde transvenous obliteration of varices, central venous occlusion and recanalization, liver transplant intervention, interventional oncology, and percutaneous nephrolithotomy. In July 2015, Lehrman accepted an assistant professor of clinical radiology position in the Interventional Radiology subspecialty at UCSF and SFGH.

Matthew Zapala, MD, PhD

Assistant Professor of Clinical Radiology

Pediatric Radiology

In 2007, Matthew Zapala received his PhD in biomedical science-bioinformatics from the University of California, San Diego, where he also completed his medical degree in 2009. In 2010, he completed his one-year internship at Scripps Mercy Hospital in San Diego, California. From 2010–2014, Zapala finished his four-year Diagnostic Radiology residency at the University of California, San Diego, followed by a pediatric radiology fellowship with the Boston Children's Hospital. His areas of interest focus on pediatric radiology, genomics, radiogenomics, bioinformatics, statistical genetics, low-dose CT, child abuse, and fluoroscopy. In August 2015, Zapala accepted an assistant professor of radiology position in the pediatric radiology section at UCSF Mission Bay.

Administrative Appointments

Heather Nichols Beck

Heather Nichols Beck, who joined the department in January 2015 as Special Projects analyst, is responsible for strategic and operational projects, including those in key quality and safety areas. She works closely with senior leaders including the vice chair of Clinical Services, associate chair of Quality and Safety and the director of Hospital Operations.

She served as accreditation manager (2009–2015) in the School of Medicine's Office of Graduate Medical Education, working with 80 clinical departments, residency and fellowship programs on ACGME accreditation.

From 2006–2009, she worked in the Office of the Vice Provost, Academic Affairs, as the Faculty Mentoring Program coordinator and Academic Affairs analyst, where she helped develop and launch Chancellor's Council on Faculty Life initiatives. From 2001–2006, she worked in the Dean's Office, School of Pharmacy, supporting the Educational Policy Committee, coordinating events and retreats, and assisting with communications. She holds a BA from San Francisco State University.

Laurel Skurko

Laurel Skurko joined the department in February 2015 as marketing director.

Skurko has helped institutions achieve their goals for 20 years through effective strategies paired with quantitative metrics to measure results. She uses tools like blogs and social media alongside traditional approaches to build community trust and amplify institutional voice.

As principal of Linc Marketing, Skurko's healthcare engagements included supporting the Lucile Packard Foundation with fundraising and social media; working with Children's Medical Center of Dallas to reduce ER visits; and implementing a re-branding for The Blende Dental Group. Skurko also worked in the consumer products industry with Procter & Gamble in brand-management and with Estee Lauder in business development.

Her writing has appeared in the San Francisco Chronicle and the peer-reviewed American Journal of Chinese Medicine.

Fluent in French and Japanese, Skurko holds a BA in Human Biology from Stanford University and an MBA from the Harvard Business School.

Daniel Dominguez-Moncada

In January 2015, Daniel Dominguez-Moncada became director of administration for Radiology and Biomedical Imaging and Otolaryngology–Head and Neck Surgery. He also provides consultation to Radiology at the UCSF Medical Center. He is responsible for career consultation, human resources and employee services, and learning and development initiatives.

Dominguez-Moncada has more than 20 years of human resources, training and development, administration, operations, and business experience. He served in leadership as a manager for HR Service Center E (2012–2015), providing strategic skills as UCSF HR was centralized campus wide. He is "most proud" of serving as the HR manager in the School of Medicine, Dean's Office (2010–2012) when Chancellor Hawgood was the Dean. In that role, he managed the Leadership Development Program, from which many UCSF administrative leaders have graduated.

He received his BS in Business Management and Marketing from the University of Phoenix. He describes himself as a "strong advocate for taking charge of your own career."

New Radiology and Biomedical Imaging Mentoring Program

Christine Glastonbury, MBBS

Our Radiology Department has extraordinary faculty. Our faculty are leaders of national societies and committees, writers of seminal papers, chapters and textbooks, NIH grant awardees, gold medal winners, RSNA presidents (!) and outstanding leaders in our field as clinicians, scientists and teachers. There is so much expertise and so much experience that can be shared.

Our Department also has a strong history of outstanding teaching and mentoring with our Mentoring Program seen as the benchmark at UCSF. Mentoring is hard work and time-consuming but it can be highly valuable to junior faculty and is highly valued in our department.

In response to changing faculty needs, we launched a new Radiology Mentoring Program in January 2015 (National Mentoring Month). Its goal is to create a supportive framework for faculty in the form of a Mentoring Network. We want to guide junior faculty to uncover and develop their skills and abilities and to pursue their passion for radiology. We aim to connect like-minded peers, senior faculty and other scientists, and clinicians. These mentors can help guide their protégés to success, instruct, advise and introduce them to opportunities to expand their skills.

In June 2015, Judy Yee, MD, received our inaugural Radiology Award for Outstanding Mentoring, in recognition of her extraordinary contributions to the careers of many junior and mid-level faculty. David Saloner, PhD, who is co-chief of the Mentoring Program, was nominated for both the UCSF Lifetime Achievement in Mentoring award and the UCSF Distinction in Mentoring award. Many other faculty work tirelessly in connecting, guiding, and advising our faculty, fellows, and residents. Thank you to the many experienced faculty who have embraced the new Mentoring Program—it is with your dedication and generosity of time and expertise that our junior faculty can better navigate their way to success. We look forward to sharing their stories.

ELISABETH FALL PHOTOGRAPHY

Drs. Judy Yee and Christine Glastonbury at the presentation of the Radiology Award for Outstanding Mentoring.

Honors and Awards

Ronald L. Arenson, MD
- President, Radiological Society of North America

David E. Avrin, MD, PhD
- Visiting Radiologist, Moi University Medical School, Eldoret, Kenya

A. James Barkovich, MD
- 14th Annual Faculty Research Lectureship—Clinical Science, UCSF Academic Senate

Matthew Bucknor, MD
- UCSF School of Medicine Dean's Diversity Fund Scholar

Peter W. Callen, MD
- Joseph H. Holmes Pioneer Award for Clinical Science, American Institute of Ultrasound in Medicine

Joshua Clayton, MD
- Outstanding Fellow Teacher Award, UCSF Radiology and Biomedical Imaging

Peter Callen, MD, was recognized with the Joseph H. Holmes Pioneer Award for Clinical Science from the American Institute of Ultrasound in Medicine honoring his decades of significant contribution to the growth and development of diagnostic ultrasound.

William P. Dillon, MD, received the 2015 Gold Medal Award from the American Society of Neuroradiology for his "invaluable personal scientific contributions to the subspecialty of head and neck radiology."

Pierre A. Cohen, MD
- Senior Researcher, Keio Research Institute at Shonan Fujisawa, Keio University, Japan

Miles B. Conrad, MD
- Hideyo Minagi Outstanding Teacher Award, UCSF Radiology and Biomedical Imaging

William P. Dillon, MD
- Gold Medal, American Society of Neuroradiology
- Research Committee Member, American Society of Neuroradiology
- ASNR Outreach Professor for Mumbai, India, American Society of Neuroradiology, January 2015

Benjamin L. Franc, MD
- Henkin Fellow in Government Relations and Public Policy, Society of Nuclear Medicine and Molecular Imaging

Rita I. Freimanis, MD
- James L. Quinn III, MD, Award for Teaching Excellence, Wake Forest School of Medicine, Radiology
- Top Cancer Doctors in America, Newsweek

Alisa D. Gean, MD
- Author, *Brain Injury: Applications from War and Terrorism.* Lippincott-Williams & Wilkins (Wolters Kluwer Health), Philadelphia, PA. First Edition (2014)
- Sommelier, Level 2 (Napa Valley College)
- Wine and Spirits Education Trust (WSET), Level 2
- Certified Specialist of Wine (CSW)

Christine Glastonbury, MBBS
- Visiting Professor, UC San Diego, December 2014
- Keynote lecture, ARRS Annual Meeting, "HPV-Associated Oropharyngeal Carcinoma"
- Editorial Board, American Journal of Neuroradiology
- Editorial Board, Clinical Imaging
- Senior Member-at-Large, American Society of Head and Neck Radiology
- Visiting Professor, Patel Memorial Lecture Long Island Jewish Medical Center-North Shore

Christopher P. Hess, MD, PhD
- Appointed chief, Neuroradiology

Michael Hope, MD
- Promoted to associate professor in residence
- Recipient, 2015 Excellence in Teaching Award, Haile T. Debas Academy of Medical Educators, UCSF

Bonnie N. Joe, MD, PhD
- Promoted to professor in residence

Robert K. Kerlan, Jr, MD
- Charles T. Dotter Lecturer, "Interventional Radiology: Adapting to the Changing World of Health Care," Society of Interventional Radiology, March 2015

Maureen Kohi, MD
- Grand Rounds Speaker, "Uterine Artery Embolization: Fact or Fiction?" UCSF Radiology and Biomedical Imaging, March 2015

Thomas Lang, PhD
- Appointed associate dean for research, UCSF School of Dentistry

Thomas Link, MD
- Howard Steinbach Memorial Lecturer, "Quantitative Imaging and Biomarkers - the Future of Radiology?," UCSF Radiology and Biomedical Imaging, May 2015
- Keynote Address, "New Imaging Techniques in the Diagnosis of Bone Diseases," International Society of Bone Morphometry, 13th Congress, Japan
- Editor in Chief, Current Radiology Reports
- Editorial Board, American Journal of Roentgenology

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John Mongan, MD, PhD, has accepted the position of vice chair for Informatics, effective July 1, 2016. In the interim, he will serve as associate chair for Informatics under the mentorship of Dr. David Avrin, who will continue as the vice chair until next July.

Cindy Lee, MD
- RSNA Certificate of Merit Award, 2014
- Keynote Speaker, Asian-Pacific Quality Forum for Medical Imaging, Taipei, Taiwan, November 2015
- Research Committee Member, American College of Radiology National Mammography Database
- Steering Committee Member, American College of Radiology National Mammography Database
- Scientific Program Committee Member, American College of Medical Quality

Xiaojuan Li, PhD
- 2015 Distinguished Investigator Award, Academy of Radiology Research
- Promoted to professor in residence

John Mongan, MD, PhD
- Appointed associate chair for Informatics

Daria Motamedi, MD
- Scientific Program Committee, Radiological Society of North America
- Item Writing Committee, American Roentgen Ray Society

BRAD NAKANO

David M. Naeger, MD, (left) was honored with the UCSF Academic Senate Distinction in Teaching Award, recognizing a single junior faculty member among all UCSF schools. Presenting the award is Judy Yee, MD (right).

Pratik Mukherjee, MD, PhD

- E. Ralph Heinz Annual Lecture in Neuroradiology, Duke University, Durham, NC
- President, American Society of Functional Neuroradiology
- Chair of Neuroradiology and Head & Neck Imaging, Scientific Program Committee, Radiological Society of North America

David M. Naeger, MD

- UCSF Academic Senate Distinction in Teaching Award
- Grand Rounds Speaker, "Medical Student Education in Radiology: Have We Been Doing It Wrong for the Past 50 Years?," UCSF Radiology and Biomedical Imaging, September 2015
- Chair, Nuclear Medicine Section, American Roentgen Ray Society Review Course Subcommittee
- Secretary-Treasurer, Alliance of Medical Student Educators in Radiology, Association of University Radiologists
- Promoted to associate professor of Clinical Radiology

Srikantan Nagarajan, PhD

- Keynote Address, University of Wisconsin; Neuroimaging, Computational Neuroscience, and Neuroengineering Workshop, April 2015
- Co-Editor-in-Chief, Frontiers in Human Neuroscience
- Editorial Board, Journal of Neural Engineering
- Editorial Board, Neuroimage
- Editorial Board, Frontiers in Brain Imaging Methods

Miguel Hernandez Pampaloni, MD, PhD

- Promoted to associate professor of Clinical Radiology

Valentina Pedoia, PhD

- Bruce Hasegawa Award for Excellence in Biomedical Imaging, UCSF Radiology and Biomedical Imaging
- Surbeck Young Investigator Award, UCSF Radiology and Biomedical Imaging
- Magna Cum Laude abstract, ISMRM 23th Annual Meeting and Exhibition, Toronto, Canada
- Best Poster, Musculoskeletal MR Study Group, ISMRM 23th Annual Meeting and Exhibition, Toronto, Canada

Liina Poder, MD

- Recipient, 2015 Excellence in Teaching Award, Haile T. Debas Academy of Medical Educators, UCSF

BRAD NAKANO

The 2015 Bruce Hasegawa Award for Excellence in Biomedical Imaging was awarded to Valentina Pedoia, PhD. Pedoia received her doctoral degree in Computer Science from Insubria University in Como and Varese, Italy. She is a member of the Muskuloskeletal Research Interest Group under the mentorship of Dr. Sharmila Majumdar. This award continues a track record of recognition that Pedoia has obtained from international societies, and as third-place finalist for the Surbeck Award. Presenting the Hasegawa Award is Ron Arenson, MD (left).

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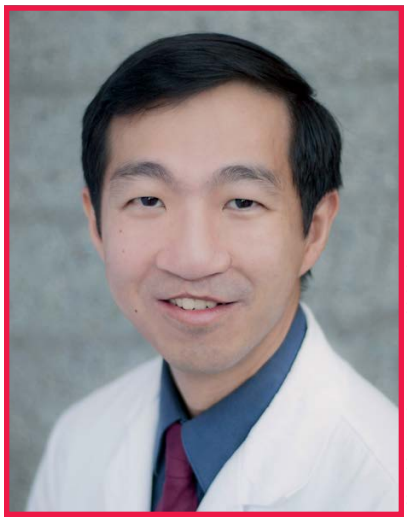

UCSF DOCUMENTS & MEDIA - MARCO SANCHEZ

(l–r) Xiaojuan Li, PhD, Rebecca Smith-Bindman, MD, and Benjamin M. Yeh, MD, each received Distinguished Investigator Awards from the Academy of Radiology Research and have been inducted as members of the Distinguished Investigator Council.

Elissa Price, MD

- Recipient, 2015 Excellence in Teaching Award, Haile T. Debas Academy of Medical Educators, UCSF
- Visiting Professor, Memorial Sloan-Kettering Cancer Center and Weill Cornell Medical College, New York, NY
- Member, Society of Breast Imaging-American College of Radiology Breast Cancer Screening Leadership Group

SMITA JACOB

Bhavya Rehani, MD, has been working to advance health on a global scale. This year she launched an RSNA-funded virtual classroom to reach radiology students worldwide and founded the first Radiology Interest Group for the Coalition of Universities for Global Health with former UCSF vice chancellor and founding executive director of UCSF Global Health Sciences, Haile Debas, MD.

Bhavya Rehani, MD

- Editorial Board, Journal of Global Radiology
- Developer, RSNA-funded UCSF virtual classroom for global Radiology training
- Founder, Radiology Interest Group, Consortium of Universities for Global Health

Sabrina Ronen, PhD

- Board of Trustees Member, World Molecular Imaging Society

Vinil Shah, MD

- Grand Rounds Speaker, “Back Pain: Appropriate Use of Imaging to Correlate with Symptoms and to Direct Treatment: Shifting Focus from Anatomic-Structural Basis of Pain to Inflammatory Mediated Pain,” Department of Medicine, SFVAMC, March 2015
- Instructor, Spine Intervention Society

Rebecca Smith-Bindman, MD

- 2015 Distinguished Investigator Award, Academy of Radiology Research
- Invited Speaker, Women in Government, Charleson, SC

Lynne Steinbach, MD

- Lifetime Achievement Award, American Board of Radiology
- Editor’s Recognition Award with Distinction, Radiology
- Distinguished Reviewer, Journal of Magnetic Resonance Imaging
- Certificate of Distinction, Skeletal Radiology
- President, International Skeletal Society

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Jason Talbott, MD, PhD, chair of the Resident Selection Committee.

Jason Talbott, MD, PhD
- Chair, Resident Selection Committee

Thienkhai Vu, MD
- Promoted to associate clinical professor

Emma M. Webb, MD
- Grand Rounds Speaker, "Medical Student Education in Radiology: Have We Been Doing It Wrong for the Past 50 Years?," UCSF Radiology and Biomedical Imaging, September 2015
- Chair for Education, Haile T. Debas Academy

Stefanie Weinstein, MD
- Promoted to associate professor of Clinical Radiology

Mark W. Wilson, MD
- Appointed to Hideyo Minagi Endowed Chair

Judy Yee, MD
- President, Society of Abdominal Radiology
- Chair, Colon Cancer Committee, American College of Radiology
- Chair, Public Information Committee, RSNA
- Chair, RadioGraphics Gastrointestinal Radiology Panel, RSNA
- Editors Recognition Award for Reviewing with Distinction, Radiology
- 2015 Radiology Faculty Mentoring Award, UCSF Radiology and Biomedical Imaging
- Keynote Speaker, Queen Mary Hospital, Hong Kong
- Keynote Lecture, American Roentgen Ray Society
- Editorial Board, RadioGraphics
- Editorial Board, Abdominal Imaging
- Editorial Board, Journal of Computer Assisted Tomography

Benjamin Yeh, MD
- 2015 Distinguished Investigator Award, Academy of Radiology Research
- Top Doctor 2015, Radiology Specialty, San Francisco Magazine
- Outstanding Medical Student Mentor Award, UCSF Radiology and Biomedical Imaging
- Editorial Board, American Journal of Roentgenology
- Assistant Editor, Gastrointestinal Imaging

Esther Yuh, MD, PhD
- Promoted to associate professor in residence

Susan D. Wall, MD
- Vice Chair, UCSF Academic Senate Committee on Privilege and Tenure
- UCSF representative, UC Systemwide Committee on Privilege and Tenure

David Wilson, MD, PhD
- Promoted to associate professor in residence

Ronald Zagoria, MD
- Editor-in-chief, Emergency Radiology
- Top Cancer Doctors in America, Newsweek

Xiaoliang Zhang, PhD
- Promoted to professor in residence

Excellence and Progress are Hallmarks of Diagnostic Radiology Residency

Soonmee Cha, MD

Our residency program is in a continuous motion of improvement and progress. The 2014–2015 academic year was yet another year of outstanding accomplishments for our residents and residency program. We have firmly established the groundwork for preparation of the new CORE curriculum, new board system, and Milestones project—all now integrated into the residency program.

In February 2015, our new Pediatric and Women's hospitals opened at Mission Bay. With the help of many, the transition of our residents to the new hospitals has been smooth and seamless. Jesse Courtier, MD, one of our pediatric radiologists, has assumed the role of site director at Mission Bay and has done an incredible job supporting and implementing the needs of our residency program throughout the transition process. His dedication to teaching is second to none and our residents benefit from his innovative teaching methods and attention to detail in preparing the new call room at Mission Bay.

Since becoming the program coordinator, Sandria Wong has done an outstanding job overseeing the administrative aspects of our program and taking care of all the logistics for our 55 residents. Cindy Flores Gaytan, our education coordinator, has become an invaluable member of the program, supporting the infrastructure of curriculum scheduling and improving the daily lives of our residents.

In September 2014, our residency program was ranked number one in the country by a peer review process evaluating more than 50,000 nominations submitted by board-certified physicians to *U.S. News & World Report* and Doximity. It takes a village to train the best and the brightest residents who will be the next leaders, innovators, and educators of our specialty. In our program, we are fortunate to have many people who take pride and ownership of this village to guide and support our outstanding residents.

Additional highlights include our hosting of the 2015 Phillips Vydareny Imaging Interpretation Competition at the annual meeting of the Association of University Radiologists in New Orleans. For the third year in a row, our third-year residents who took the ABR CORE exam all passed, performing above the national average. We also did great in our match and a fantastic group of 14 highly sought-after new residents started our program in July 2015.

In conclusion I would like to thank the three past chief residents—Ryan Kohlbrenner, MD, Valentin Lance, MD, and Aaron Miracle, MD—for their outstanding leadership and contributions. They worked tirelessly by my side to improve our program curriculum and the residency experience for our residents. The implementation of our new curriculum, the Milestone Project, and new evaluation tools would not have been possible without their support and exemplary work ethic. Our current chiefs—Hriday Shah, MD, Eric Ehman, MD, and Javier Villanueva-Meyer, MD—have come on board enthusiastic to continue the great track record set by the graduating chief residents. I look forward to working with them in the coming year. I am truly blessed to work with and for the best radiology residents in the country.

MATT DENTON

2015–2016 Chief Diagnostic Radiology Residents (l–r): Hriday Shah, MD, Eric Ehman, MD, and Javier Villanueva-Meyer, MD.

Resident Accomplishments 2014–2015

Awards:

Marcel Brus-Ramer, MD: Cum Laude Award, Educational Exhibit. RSNA, 2014

Nicholas Burris, MD: Magna Cum Laude Award, ISMRM, 2015

Robert Flavell, MD, PhD: RSNA Roentgen Resident/Fellow Research Award, 2015

Yi Li, MD: Cum Laude Award, Educational Exhibit, RSNA, 2014

Marc Mabray, MD: Margulis Society Resident Research Award, 2015; Scientific Trainee Prize, 3rd Place, AUR, 2015; Louis Gilula, MD Mentored Paper Award, 3rd Place, ASSR, 2015

Aaron Miracle, MD: UCSF Radiology and Biomedical Imaging, Elmer Ng Award for Outstanding Resident, 2015

Service:

Mariam Aboian, MD, PhD: Scientific Volunteer, UCSF Radiology and Biomedical Imaging Exhibit, Bay Area Science Festival, 2014

Nicholas Burris, MD: Reviewer, Journal of Magnetic Resonance Imaging

Kavi Devulapalli, MD, MPH: Trainee member, RSNA Educational Committee

Eric Ehman, MD: Chief Resident, 2015–2016

Patrick Gonzales, MD: Member, UCSF Residents and Fellows Committee; Member, Radiation Oversight Committee

Luis Gutierrez, MD: Margulis Society Class Representative (PGY4)

Kimberly Kallianos, MD: Chairperson, UCSF Residents and Fellows Council; Resident Member, UCSF Executive Medical Board; Trainee Member, SCMR Women in CMR Working Group

R. Phelps Kelley, MD: Margulis Society Class Representative (PGY3)

Ryan Kohlbrenner, MD: Chief Resident, 2014–2015

Benjamin Laguna, MD: Margulis Society Class Representative (PGY2)

Valentin Lance, MD: Chief Resident, 2014–2015

Aaron Miracle, MD: Chief Resident, 2014–2015

Sara Plett, MD: Member, UCSF School of Medicine, Dean's Office Communication Advisory Board; Margulis Society Fellow Representative

Hriday Shah, MD: Chief Resident, 2015–2016

ELISABETH FALL PHOTOGRAPHY

Aaron Miracle, MD, Elmer Ng Awardee 2015 with Residency Director Soonmee Cha, MD.

Hari Trivedi, MD: UCSF, Medical Student Ultrasound-guided Procedure instructor, 2015

Javier Villanueva-Meyer, MD: Chief Resident, 2015–2016; Margulis Society Class Representative (PGY5)

Exhibits, Posters and Presentations:

Mariam Aboian, MD, PhD: In-person Communication with a Radiologist in the Emergency Department Results in Improved Two-Way Communication of Information, and May Improve Patient Care. Aboian M, Brus-Ramer M, Tillack A, Mamlouk M and Marcovici P. Oral Presentation, RSNA, 2014

Vignesh Arasu, MD: Comparison of Gadolinium vs Iron Based MRA Blood Pool Contrast Agents used in Assessment of Peripheral Vascular Disease. Arasu VA, Gaspar WJ, Downey RT, Aslam R, Hope TA. Educational Exhibit. RSNA, 2014

Dynamic Imaging of Normal Function and Dysfunction. Yeh MJ, Arasu VA, Merry G, Hope TA, Weinstein S, Aslam R. MRI Evaluation of the Female Pelvic Floor. Educational Exhibit. RSNA, 2014

Nicholas Burris, MD: Aortic Stiffness with Bicuspid Aortic Valve Is Variable and Not Predicted By Conventional Parameters in Young Patients. Burris NS, Dyverfeldt P, Hope MD. Poster Presentation. CMR, 2015

Detection of Pulmonary Nodules by Ultra-short TE Sequences in Oncology Patients using a PET/MR System.

Burris NS, Larson P, Johnson KM, Hope MD, Behr S, Hope TA. Oral Presentation. ISMRM, 2015

Evidence of Early Left Ventricular Dysfunction in Bicuspid Aortic Valve Patients Identified by MRI-Based Wave Intensity. Burris NS, Dyverfeldt P, Hope MD. Oral Presentation. ISMRM, 2015

Marcel Brus-Ramer, MD: Minimally Invasive Percutaneous Injection into the Spinal Cord Using Flat Detector CT with MR Overlay In a Porcine Phantom: Proof of Concept and Preliminary Findings with Standard and Convection-Enhanced Delivery Techniques. Talbott J, Brus-Ramer M, Cooke D, Nicholson A, and Salegio E. Oral Presentation. ASSR, 2015

In-person Communication with a Radiologist In the Emergency Department Results in Improved Two-Way Communication of Information, and May Improve Patient Care. Aboian M, Brus-Ramer M, Tillack A, Mamlouk M, and Marcovici P. Oral Presentation. RSNA, 2014

When to Call the Plumber? Identifying and Treating Spinal CSF leaks in the Setting of Spontaneous Intracranial Hypotension. Brus-Ramer M, Yuh EL, Talbott JF, and Dillon WP. Educational Exhibit. RSNA, 2014.

Kavi Devulapalli, MD, MPH: Aneurysmal Bone Cysts: Imaging Review, Pitfalls in Diagnosis and Treatment Overview. Educational Exhibit. RSNA, 2014

Eric Ehman, MD: Fused Color Map Diffusion Weighted and T2 Images versus Contrast Enhanced Imaging for the Detection of Path-Proven Bowel Inflammaton in Pediatric MR Enterography. Ehman EC, Phelps AS, Ohliger MA, et al. SPR, 2015

Ehman EC, Umetsu SE, Fidelman N, et al. CT and MR Imaging Features as Predictors of Residual or Recurrent Hepatocellular Carcinoma after Trans-Arterial or Percutaneous Treatment. SAR, 2015

Ehman EC, Behr SC, Aslam R, et al. A Review of LI-RADS Categorization in 195 Pathology Proven Hepatocellular Carcinomas. RSNA, 2014

Ehman EC, Umetsu S, Yeh BM, et al. Liv-er Dye: A Radiology-Pathology Correlation of Treated and Recurrent Liver Lesions. Educational Exhibit, RSNA, 2014

Robert Flavell, MD, PhD: FDGamines for Imaging of the Acidic Tumoral Microenvironment. Oral Presentation. AUR, 2015

Application of Good's Buffers to PH Imaging Using Hyperpolarized 13C-MRI. ISMRM, 2015

Radiosynthesis and in vitro Evaluation of N-aryl-18F-Fluorodeoxyglyosylamines as Prodrugs for Imaging the Acidic Interstial Microenvironment." ISRS and SNMMI, 2015

Non-FDG avid Malignancy on PET/CT: Pitfalls and Prognostic Significance. Educational Exhibit. RSNA, 2014

Kimberly Kallianos, MD: Kallianos, K, Brooks, G, Higgins, C, Ordovas, K. Evaluation of Myocardial Fibrosis by Post Gadolinium T1 Measurement in Patients with Pulmonary Hypertension. SCR, 2015

Ryan Kohlbrenner, MD: Patient Radiation Dose Reduction During Transarterial Chemoembolization Using A Novel X-Ray Fluoroscopy Imaging Acquisition and Processing Platform. Kohlbrenner R, Kolli KP, Taylor AG, Kohi MP, Fidelman N, LaBerge JM, Kerlan RK, Gould R. Oral Presentation. RSNA, 2014

Radiation Dose Reduction In Body Interventional Radiology: Clinical Results Utilizing a New Imaging Acquisition and Processing Platform. Kohlbrenner R., Kolli K. P., Taylor A., Kohi M, Fidelman N, LaBerge J, Kerlan R, Gould R. Oral Presentation, AAPM, 2014

Semi-Automated Small Bowel Segmentation With Automated Centerlining On Thin-Slice CT. Kohlbrenner R, Qayyum A, Avrin, DE. RSNA, 2014

Marc Mabray, MD: Central Nervous System Vasculitis and Vasculopathy: Imaging Clues to Differentiate From Demyelinating Disease. Villanueva-Meyer J, Mabray M, Cha S. Educational Exhibit RSNA, 2014

The Brain and Spinal Injury Center (BASIC) Spinal Cord Injury Score (SCI): A Novel, Simple, and Reproducible Method for Assessing Severity of Acute SCI Using Axial T2 MRI. Mabray M, Whetstone W, Readdy W, Ferguson A, Bresnahan J, Beattie M, Mabray M, Pan J, Hawryluk G, Saigal R, Manely G, Dhall S. Talbott J. Oral Presentation. ASSR, 2015

Capture of Small Iron Oxide Particles with a Prototype Magnetic Filter Designed for Intravenous Filtration of Intra-arterially Infused Particles: The Effects of Particle Type. Mabray M, Lillaney P, Losey A, Yang J, Sze C, Patel A, Saeed M, Cooke D, Wilson M, Hetts S. Poster presentation SIR, 2015

Prediction of Acute Thoracic Spinal Cord Injury on MR Imaging: Comparison of a Novel Prognostic Axial Grading System to Traditional Sagittal Grading. Mabray M, Whetstone W, Dhall S, Ferguson A, Bresnahan J, Beattie M, Manley G, Talbott J. Oral presentation. AUR, 2015

Acute Cervical Spinal Cord Injury on MRI: Comparison of a Prognostic Axial Grading System to Traditional MRI Predictors of Spinal Cord Injury. Mabray M, Whetstone W, Dhall S, Ferguson A, Bresnahan J, Beattie M, Manley G, Talbott J. Oral Presentation. ASNR, 2015

In-vitro and In-vivo Capture of Iron Oxide Nanoparticles with an Endovascular Magnetic Filter: A Novel Paradigm For Chemoembolization With Potential Applications To Head And Neck Cancer. Mabray M, Lillaney P, Losey A, Yang J, Sze C, Patel A, Saeed M, Cooke D, Wilson M, Hetts S. Oral Presentation. ASNR, 2015

Resting State Functional Connectivity of the Hippocampus in Patients Receiving

Radiation Therapy for Extra-Axial Tumors. Mabray M, Barani I, Joel S, Mullick R, Cha S. Poster Presentation. ISMRM, 2015

Members of the Diagnostic Radiology Residency, Class of 2015.

Aaron Miracle, MD: Diffusion Weighted Imaging (DWI) of Esthesioneuroblastoma: Differentiation from Other Sinonasal Masses. Miracle AC, El-Sayed I, Glastonbury CM. ASHNR, 2014

Sara Plett, MD: Histiocytosis for the Radiologist. Valenzuela D, Plett S, Behr S. Education Exhibit. RSNA, 2014

Hari Trivedi, MD: The T2 Factor: Utility of T2 Signal Change In Predicting Treatment Success Following MR Guided Focused Ultrasound Of Symptomatic Uterine Fibroids. Trivedi HM, Kohi M, Westphalen AC, Rieke V, Taylor AG, Kolli KP, Fidelman N, Kerlan RK, Jacoby V. SIR, 2015

Expected Imaging Findings and Potential Complications After MR-guided Focused Ultrasound of Symptomatic Fibroids, Kohi M, Rizwan A, Trivedi HM, Yee J, Weinstein S. SAR, 2015

David Valenzuela, MD: Histiocytosis for the Radiologist. Valenzuela D, Plett S, Behr S. Education Exhibit. RSNA, 2014

Vanja Varenika, MD: Retrospective MRI Analysis of Variant Sciatic Nerve Anatomy In Relation To The Piriformis Muscle. Varenika, V., Lutz, A., Beaulieu, C., Bucknor, M. ISS, 2015

Javier Villanueva Meyer, MD: Pediatric Chest CT at Chest Radiograph Doses: When is the Ultralow-dose Chest CT Clinically Appropriate? Villanueva-Meyer J, Naeger D, Courtier J, Hope M, Mackenzie, J, Phelps, A. Scientific Presentation SPR, 2015

Ultra-Low Dose Chest CT in Children. Villanueva-Meyer J, Naeger D, Courtier J, Hope M, Mackenzie, J, Phelps, A. Oral Presentation UCSF FAIR 2015

Central Nervous System Vasculitis and Vasculopathy: Imaging Clues to Differentiate From Demyelinating Disease. Villanueva-Meyer J, Mabray M, Cha S. Educational Exhibit. RSNA, 2014

Teach a Man to Fish: Clinical Applications of Brain PET Tracers by Biochemical Schema. Villanueva-Meyer J, Wilson D. Educational Exhibit RSNA 2014

Jennifer Wan, MD: Tarsal Coalition: A Review of Diagnostic Imaging and Treatment. Wan JJ, Steinbach, L. Education Exhibit. ISS, 2015

Jean Yeh, MD: Yeh MJ, Arasu VA, Merry G, Hope TA, Weinstein S, Aslam R. MRI Evaluation of the Female Pelvic Floor: Dynamic Imaging of Normal Function and Dysfunction. Educational Exhibit, RSNA 2014

Grants:

Jacob D. Brown, MD, PhD: NIH-T-32 Training Grant, UCSF, 2014–2015

Vignesh Arasu, MD: NIH-T32 Training Grant, UCSF, 2015–2016

Nicholas Burris, MD: NIH-T32 Training Grant, UCSF, 2014–2015; Educational Travel Stipend, ISMRM, 2015; RSNA Fellow Grant 2015–2016

Robert R. Flavell, MD, PhD: NIH-T32 Training Grant, UCSF, 2014–2015; RSNA Research Fellow Grant 2015–2016; AUR/ACR Scholar Program Grant, 2015

Kimberly Kallianos, MD: NIH-T32 Training Grant, UCSF, 2015–2016

Rahi Kumar, MD: RSNA Research Resident Grant, 2014

Marc Mabray, MD: NIH-T32 Training Grant, UCSF, 2014–2015; AUR/ACR Scholar Program Grant, 2015

Hugh McGregor, MD: UCSF Department of Radiology and Biomedical Imaging Seed Grants, 2014

Incoming Diagnostic Radiology Residents—Class of 2019


BRAD NAKANO

Colin Burke, MD

2014–2015 PGY1, St. Mary's Medical Center, San Francisco, CA

MD 2014 University of Miami, Miller School of Medicine, FL

Research:

2011–2012 Radiology Dept., University of Miami, FL

Clinical Activities:

2011 Summer Medical Student, Interventional Radiology, UCSF

2010, 2011 Nicaragua Medical Missions (University of Miami, FL)

Selected Publications:

Burke CT, Taylor AG, Ring EJ, Kerlan RK. Creation of a Percutaneous Mesocaval Shunt to Control Variceal Bleeding in a Pediatric Patient. *Pediatr Radiol.* 2013 Sep; 43(9): 1218-1220.

Burke CT, Salsamendi JT, Shivank BS, Pitcher JD. Transarterial Embolization of Large Retroperitoneal Ganglioneuromas. Journal of Vascular and Interventional *Radiology*. 2014 Mar; 25(3): 490-3.


BRAD NAKANO

Andrew L. Callan, MD

2014–2015 PGY1, Kaiser Permanente, San Francisco, CA

MD 2014 University of California, San Francisco, School of Medicine

Selected Publications:

Wong SK, Barkovich AJ, Callen AL, Filly RA. Supratentorial abnormalities in the Chiari II Malformation: III: The Interhemispheric Cyst . *J. Ultrasound Med.* 2009 Aug;28(8):999-1006

Callen, AL and Filly, RA . Supratentorial Abnormalities in the Chiari II Malformation, I: The Ventricular Point. *J. Ultrasound Med.* 2008 27: 33-38, 2008 .

Callen AL, Stengel JW, Filly, RA. Supratentorial Abnormalities in the Chiari II Malformation, II: Tectal Morphologic Changes. *J. Ultrasound Med.* 28: 29-35, 2009.


BRAD NAKANO

Maureen Chapman, MD, MA

2014–2015 PGY1, St. Joseph Mercy Hospital, Ann Arbor, MI

MD 2014 University of Michigan Medical School, Ann Arbor, MI

MA 2009 Stanford University, Stanford, CA

Honors and Awards:

2014 Roger A. Berg Prize in Radiology, University of Michigan

2013 Alpha Omega Alpha

Research:

2010–2013 ALS Neuroimaging Group, Ann Arbor, MI

Selected Publications:

Chapman MC, Jelsone-Swain L, Johnson TD, Gruis KL, Welsh RC. Diffusion tensor MRI of the corpus callosum in amyotrophic lateral sclerosis. *J. Magn. Reson. Imaging*, 2013 Jul; doi10.1002/jmri.2421.

Chapman MC, Jelsone-Swain L, Fling BW, Johnson TD, Gruis KL, Welsh RC. Corpus callosum area in amyotrophic lateral sclerosis. *Amyotroph Lateral Scler*, 2012 Oct; 13(6): 589-91.


BRAD NAKANO

John Colby, MD, PhD

2014–2015 PGY1, John A. Burns School of Medicine, University of Hawaii

MD 2014 University of California, Los Angeles, David Geffen School of Medicine

PhD 2012 Neuroengineering, University of California, Los Angeles

Honors and Awards:

2013 Alpha Omega Alpha

2006–2014 Medical Scientist Training Program, National Institute of General Medical Sciences

Research:

2012–2014 Developmental Cognitive Neuroimaging Lab, Children's Hospital Los Angeles, CA

Selected Publications:

Roussotte FF, Gutman BA, Madsen SK, **Colby JB,** Narr KL, Thompson PM. The Apolipoprotein E Epsilon 4 Allele is Associated with Ventricular Expansion Rate and Surface Morphology in Dementia and Normal Aging. *Neurobiol Aging.* 2014 Jun; 35(6), 1309–17.

Roussotte FF, Gutman BA, Madsen SK, **Colby JB,** Thompson PM. Combined Effects of Alzheimer Risk Variants in the CLU and ApoE Genes on Ventricular Expansion Patterns in the Elderly. *J Neurosci.* 2014 May 7;34(19):6537-45.


BRAD NAKANO

Adam Coy, MD

2014–2015 PGY1, Santa Clara Valley Medical Center, San Jose, CA

MD 2014 Emory University School of Medicine, Atlanta, GA

Service:

2014–2015 Resident Health Link Committee, Santa Clara Valley Medical Center, CA

2012–2014 Student Interviewer, Emory University, School of Medicine Admissions Committee

Selected Publications:

Wick CA, McClellan JH, Arepalli CD, Auffermann WF, Henry TS, Khosa F, **Coy AM**, Tridandapani S. Characterization of Cardiac Quiescence from Retrospective Cardiac Computed Tomography using a Correlation-Based Phase-To-Phase Deviation Measure. *Med Phys.* 2015 Feb;42(2):983-93.


BRAD NAKANO

Kirema I. Garcia-Reyes, MD

2014–2015 PGY1, Duke University School of Medicine, Durham, NC

MD 2014 Duke University School of Medicine, Durham, NC

Honors and Awards:

2013 Alpha Omega Alpha

2010–2014 Dean's Merit Scholarship, Duke University School of Medicine, NC

Research:

2012–2014 Dept. of Radiology, Duke University, Durham, NC

Selected Publications:

Palmeri ML, Miller ZA, Glass TJ, **Garcia-Reyes K**, Gupta RT, Rosenzweig SJ, Kauffman C, Polascik TJ, Buck A, Kulbacki E, Madden J, Lipman SL, Rouze NC, Nightingale KR. B-mode and Acoustic Radiation Force Impulse (ARFI) Imaging of Prostate Zonal Anatomy: Comparison with 3T T2-weighted MR Imaging. *Ultrason Imaging.* 2015 Jan;37(1):22-41.

Garcia-Reyes K, Passoni NM, Palmeri ML, Kauffman CR, Choudhury KR, Polascik TJ, Gupta RT. Detection of Prostate Cancer with Multiparametric MRI (mpMRI): Effect of Dedicated Reader Education on Accuracy and Confidence of Index and Anterior Cancer Diagnosis. *Abdom Imaging*. 2015 Jan;40(1):134-42.


BRAD NAKANO

Courtney L. Heath, MD

2014–2015 PGY1, West Suburban Medical Center, Oak Park, IL

MD 2014 University of Chicago, Pritzker School of Medicine

Research:

2011 Dept. of Radiology, University of Chicago, Pritzker School of Medicine

2007–2010 Dept. of Neurobiology and Physiology, Northwestern University

Selected Publications:

Lawhn-Heath C, Buckle C, Christoforidis G, Straus C. Utility of Head CT in the Evaluation of Acute Vertigo/Dizziness in the Emergency Dept.. *Emerg Radiol.* Jan 2013;20(1):45-9.

Rangarajan KV, Lawhn-Heath C (co-first author), Feng L, Kim T, Cang J, Liu X. Detection of Visual Deficits In Aging DBA/2J Mice by Two Behavioral Assays. *Curr Eye Res.* May 2011;36(5):481-91.


BRAD NAKANO

Yilun Koethe, MD

2014–2015 PGY1, Santa Clara Valley Medical Center, CA

MD 2014 Duke University School of Medicine, Durham, NC

Research:

2012–2015 NIH Clinical Center, Bethesda, MD

Selected Publications:

Koethe Y, Xu S, Velusamy G, Wood BJ, Venkatesan AM. Accuracy and Efficacy of Percutaneous Biopsy and Ablation using Robotic Assistance under Computed Tomography Guidance: A Phantom Study. *Eur Radiol.* 2014 Mar;24(3):723-30.

Koethe Y, Widemann BC, Hajjar F, Wood BJ, Venkatesan AM. PET-Guided Biopsy with Needle Navigation Facilitates the Diagnosis of Angiosarcoma in Neurofibromatosis Type 1. *Pediatr Blood Cancer.* 2013 Dec;60(12):E166-9.


BRAD NAKANO

Benjamin A. Laguna, MD

2014–2015 PGY1, St. Mary's Medical Center, San Francisco, CA

MD 2014 University of Pennsylvania, Perelman School of Medicine, Philadelphia

Research:

2012–2015 Dept. of Radiology, GI and Breast Division, University of Pennsylvania

2011 Agnew Surgical Society Research Fellowship

Selected Publications:

Laguna BA, Iyer RS, Rudzinskin ER, Royal JL, Stanescu AL. Torsion of a Giant Mesocolic Lipoma in a Child with Bannayan-Riley-Ruvalcaba Syndrome. Pediatr Radiology. 2015 Mar;45(3):449-52.

Yan C, Laguna BA, Marlowe LE, Keller MD, Treat JR. Herpes Zoster Duplex Bilateralis in an Immunocompetent Adolescent Boy: A Case Report and Literature Review. Pediatr Dermatol. 2014 May–Jun;31(3):341-4.


BRAD NAKANO

Aaron D. Losey, MD

2014–2015 PGY1, California Pacific Medical Center, San Francisco, CA

MD 2014 UC Berkeley–UCSF Joint Medical Program

MS 2011 UC Berkeley–UCSF Joint Medical Program

Research:

2012–2014 Dept. of Radiology and Biomedical Imaging, UCSF

2009–2011 Dept. of Pediatrics, UCSF

Selected Publications:

Losey AD, Lillaney P, Martin AJ, Cooke DL, Wilson MW, Thorne BR, Sincic RS, Arenson RL, Saeed M, Hetts SW. Magnetically Assisted Remote-controlled Endovascular Catheter for Interventional MR Imaging: *In Vitro* Navigation at 1.5 T versus X-ray Fluoroscopy. *Radiology.* 2014 Jun;271(3):862-9.

Martin AJ, Lillaney P, Saeed M, **Losey AD**, Settecase F, Evans L, Arenson RL, Wilson MW, Hetts SW. Digital Subtraction MR Angiography Roadmapping for Magnetic Steerable Catheter Tracking. *J Magn Reson Imaging.* 2015 Apr;41(4):1157-62.


BRAD NAKANO

Bryce A. Merritt, MD

2014–2015 PGY1, California Pacific Medical Center, San Francisco, CA

MD 2014 Northwestern University, Feinberg School of Medicine, Chicago, IL

Honors and Awards:

2013 Alpha Omega Alpha

2013 Phi Rho Sigma Dennis Award, Feinberg School of Medicine, Chicago, IL

Research:

2011–2014 Dept. of Radiology, Northwestern University, Chicago, IL

Selected Publications:

Merritt BA, Turin A, Markl M, Malaisrie SC, McCarthy PM, Carr JC. Association between Leaflet Fusion Pattern and Thoracic Aorta Morphology in Patients with Bicuspid Aortic Valve. *J Magn Reson Imaging.* 2014 Aug;40(2):294-300.


BRAD NAKANO

Ashley Oladipo, MD

2014–2015 PGY1, Alameda County Medical Center, Oakland, CA

MD 2014 Howard University College of Medicine, Washington, DC

Honors and Awards:

2014 Alpha Omega Alpha

2014 Mordecai W. Johnson Endowed Scholarship, Howard University College of Medicine

2010–2013 Trustee Scholarship, Howard University College of Medicine

Research:

2011–2014 Dept. of Radiology, Howard University Hospital

2010–2014 Dept. of Neurology, Howard University College of Medicine and Johns Hopkins University

BRAD NAKANO

Yujie Qiao, MD

2014–2015 PGY1, Morristown Memorial Hospital, Morristown, NJ

MD 2014 University of Virginia, Charlottesville, VA

Research:

2011–2014 Dept. of Radiology, University of Virginia, Charlottesville, VA

Selected Publications:

Ulflacker A, **Qiao Y**, Easley GG, Patrie J, Lambert A, de Lange, EE. Fluoroscopically-Guided Jejunal Extension Tube Placement through Existing Gastrostomy Tubes: Analysis of 391 Procedures. *Diagn Interv Radiol.* 2015 Nov–Dec;21(6):488-93.

Qiao Y, Zhu G, Patrie J, Xin W, Michel P, Jovin T, Eskandari A, Wintermark M: Optimal Perfusion Computed Tomographic Thresholds for Ischemic Core and Penumbra are Not Time Dependent in the Clinically Relevant Time Window. *Stroke*. 2014;45(5):1355-62.

BRAD NAKANO

Adam Schwertner, MD

2014–2015 PGY1, University of Chicago NorthShore Program, IL

MD 2014 University of Chicago, Pritzker School of Medicine, IL

Honors and Awards:

2014 Alpha Omega Alpha

Selected Publications:

Schwertner A, Straus C. Becoming a Better Intern: The Fundamentals of Radiology in Internal Medicine. MedEdPORTAL; April 2014.

Lesko A, Goss K, Yang F, **Schwertner A**, Hulur I, Onel K, Prosperi J. The APC Tumor Suppressor is Required for Epithelial Cell Polarization and Three-Dimensional Morphogenesis. *Biochim Biophys Acta.* 2015 Mar; 1854(3):711-23.

Diagnostic Radiology Residents 2015–2016

Second-Year Residents (PGY3)

Matthew Barkovich, MD
Lindsay Busby, MD, MPH
Kevin Connolly, MD
Jason Curtis, MD
Emily Edwards, MD
Michael Heller, MD
Neeta Kannan, MD
R. Phelps Kelley, MD
Mai Le, MD
Joseph Leach, MD, PhD
Patrick Mulligan, MD
Adi Price, MD
Daniel Sonshine, MD

Nuclear Medicine Resident

Lorenzo Nardo, MD

Third-Year Residents (PGY4)

Deddeh Ballah, MD
Micky Cabarrus, MD
Billy Carson, MD
Kavi Devulapalli, MD
Luis Gutierrez, MD
Daniel Hendry, MD
Michael Holmes, MD
Brandon Ishaque, MD
Eric Jordan, MD
Spencer Lake, MD
Zhixi Li, MD
Hari Trivedi, MD
Vanja Varenika, MD
Jennifer Wan, MD

Fourth-Year Residents (PGY5)

Mariam Aboian, MD, PhD
Vignesh Arasu, MD
Eric Ehman, MD
Kimberly Kallianos, MD
Rahi Kumar, MD
Yi Li, MD
Scott Mahanty, MD
Hugh McGregor, MD
Christopher Mutch, MD, PhD
Hriday Shah, MD
Christopher Starr, MD, PhD
Javier Villanueva-Meyer, MD
Genevieve Woodard, MD, PhD
Jean Yeh, MD

Diagnostic Radiology Residency Graduates—Class of 2015

Congratulations to our 2015 graduates. We wish them success in their new fellowship positions.

Jacob D. Brown, MD, PhD
Plans: Fellowship, Neuroradiology, UCSF

Marcel Brus-Ramer, MD, PhD
Plans: Fellowship, Neuroradiology, UCSF

Nicholas S. Burris, MD
Plans: Fellowship, Cardiac and Pulmonary Imaging, UCSF

Matthew L. Eltgroth, MD, MS
Plans: Fellowship, Interventional Radiology, UCSF

Robert R. Flavell, MD, PhD
Plans: Fellowship, Nuclear Medicine, UCSF

Elisabeth Garwood, MD
Plans: Fellowship, Musculoskeletal Imaging, New York University

Patrick C. Gonzales, MD
Plans: Fellowship, Interventional Radiology, UCSF

Ryan Kohlbrenner, MD
Plans: Fellowship, Interventional Radiology, UCSF

Valentin A. Lance, MD
Plans: Fellowship, Musculoskeletal Imaging, UC San Diego

Marc C. Mabray, MD
Plans: Fellowship, Neuroradiology, UCSF

Aaron C. Miracle, MD, MS
Plans: Fellowship, Neuroradiology, UCSF

Sara K. Plett, MD
Plans: Fellowship, Interventional Radiology, UCSF

David M. Valenzuela, MD
Plans: Fellowship, Abdominal Imaging and Ultrasound

ELISABETH FALL PHOTOGRAPHY

2015 Diagnostic Radiology Residency Graduates (l–r, top row) Matthew Eltgroth, MD, Robert Flavell, MD, PhD, Marc Mabray, MD, Aaron Miracle, MD, Ryan Kohlbrenner, MD, Jacob Brown, MD, PhD (l–r, bottom row) Residency Director Soonmee Cha, MD, Assistant Residency Director Jason Talbott, MD, Patrick Gonzales, MD, David Valenzuela, MD, Sara Plett, MD, Nicholas Burris, MD, Valentin Lance, MD, Elisabeth Garwood, MD, Marcel Brus-Ramer, MD, PhD, and Chairman Ron Arenson, MD.

Clinical Fellows and Instructors 2015–2016

Clinical Fellows:

Matthew Alexander, MD
Neurointerventional

Jason Balkman, MD
Breast Imaging/Ultrasound

Brian Bentley, DO
Abdominal Imaging

Abigail Berniker, MD
Cardiac and Pulmonary Imaging

Jacob D. Brown, MD, PhD
Neuroradiology

Marcel Brus-Ramer, MD, PhD
Neuroradiology

Nicholas S. Burris, MD
Cardiac and Pulmonary Imaging

Susana Candia, MD
Abdominal Imaging

Daniel Chow, MD
Neuroradiology

Lisa Chu, MD
Abdominal Imaging

Edwin Chu, MD
Musculoskeletal

Robert Darflinger, MD
Neurointerventional

Rahul Desikan, MD, PhD
Neuroradiology

Rebecca Dumont Walter, PhD
Neuroradiology

Matthew L. Eltgroth, MD, MS
Interventional Radiology

Robert R. Flavell, MD, PhD
Nuclear Medicine

Patrick C. Gonzales, MD
Interventional Radiology

Jacob Harter, MD
Musculoskeletal

Nicole Hughes, MD
Pediatrics

Benjamin Jabara, MD
Interventional

Kal Kinder, MD
Abdominal Imaging

Ryan Kohlbrenner, MD
Interventional Radiology

Bernice Lau, MD
Abdominal Imaging

Jennifer Leung, MD
Breast Imaging and Ultrasound

Jenny Lu, MD
Abdominal Imaging and Ultrasound

Marc C. Mabray, MD
Neuroradiology

Katharine Maglione, MD
SFGH Breast Imaging

Kareem Mawad, MD
Abdominal Imaging

Aaron C. Miracle, MD
Neuroradiology

Brett Mollard, MD
Abdominal Imaging

Nicholas Monu, MD
Abdominal Imaging

Lina Nayak, MD
Breast Imaging, Mt. Zion

Vicky Nguyen, MD
Breast Imaging, Mt. Zion

Andrew Nicholson, MD
Neuroradiology/Neurointerventional

Jao Ou, MD, PhD
Abdominal Imaging

Tanvi Patel, MD
Breast Imaging and Ultrasound

Sara K. Plett, MD
Interventional Radiology

Fabio Settecase, MD
Neurointerventional

Ramya Srinivasan, MD
Musculoskeletal

Louise Truong, MD
Breast Imaging and Ultrasound

David M. Valenzuela, MD
Abdominal Imaging and Ultrasound

Xin (Cynthia) Wu, MD
Neuroradiology

Clinical Instructors:

Jared Narvid, MD
Neuroradiology

Alireza Radmanesh, MD
Neuroradiology

Ashesh Thaker, MD
Neuroradiology

Brent Weinberg, MD, PhD
Neuroradiology

Master of Science in Biomedical Imaging Continues to Grow

The Master of Science in Biomedical Imaging (MSBI) program recently graduated its fourth class of students and a new group of 20 students is enrolled for the 2015–16 academic year. Approximately half our MSBI students come from University of California undergraduate programs, while the remainder hail from around the US and Asia. Students enter the program with varying undergraduate experiences, but are rapidly brought up to speed on the scientific underpinnings of medical imaging technologies.

ELISABETH FALL PHOTOGRAPHY

2015 UCSF MSBI Graduate Class. Back row (l–r) David Saloner, PhD, Omar Rutledge, Terry Lee, Hecong Qin, Roksana Sadegi, Liz Phillips, Gina Kirkish, Yukai Zou, Alastair Martin, PhD. Middle row (l–r) Sam Huang, Andrew Leynes, Jeff Hu, Divya Gupta, Liz Li, Tiffany Kwak. Front row (l–r) Nate Jenkins, Jay Yu, Joe Zhang, Solomon Tang.

The MSBI faculty features 14 professors from the department, under the leadership of Program Director David Saloner, PhD, and Director of Graduate Studies Alastair Martin, PhD. New course instructors for the 2015–16 academic year include Dugyu Tosun-Turgut, PhD, and Michael Evans, PhD. Guest lectures from clinical faculty are common and give the students a much-appreciated perspective on how imaging technology is applied in the clinical setting. Program administration for the 2014–15 class was handled by Robert Smith and Melinda Parangan-Chu, who guided the students from the initial application process through graduation.

Classroom Learning Supports Hands-On Experiences

The MSBI program core courses deliver in-depth training in the principles of *in-vivo* imaging modalities. Students also choose from a wide set of electives related to imaging applications for major diseases and different organ systems. The program covers all major medical imaging technologies, as well as topics such as Image Processing and Research Study Design. Following their coursework, students bring the various elements of their learning together in applied research projects, working with faculty supervisors or as interns with industry partners.

MSBI students benefit from the wide range of state-of-the-art imaging facilities in the department. The students consistently report that the hands-on activities, where they get to operate and perform experiments using these imaging systems, are the highlight of the MSBI program. A very high percentage of MSBI students remain through the summer academic quarter to apply their newly honed skills on a wide range of research projects under the supervision of UCSF faculty. These projects culminate in an MSBI imaging symposium that is held in late August to highlight the students' research accomplishments.

MBSI Graduates Move On

Of the more than 55 graduates to date, many have continued on to PhD and MD programs. Others have continued the research work they began as a student in labs throughout the department. Still others pursue career opportunities in industries that employ imaging technology. For example, we have forged a strong cross affiliation with Genentech, which has hosted several MSBI students as interns.

Goldberg Center

The Goldberg Center remains committed to developing and promoting innovative ways to teach radiology to medical students.

In 2016, UCSF will launch an entirely new curriculum for the School of Medicine. The new Bridges curriculum, funded by a $1-million grant from the American Medical Association, will be the culmination of many years of work and planning. It is intended to fundamentally transform our approach to medical education and train "21st century physicians" to work within complex medical systems to improve health care and advance science for future generations of patients. The Goldberg Center Co-Directors, David Naeger, MD, and Emily Webb, MD, have been part of the process since the beginning. Their goal: developing a new, required radiology curriculum that will teach all medical students the fundamentals of proper imaging utilization. Read more at http://meded.ucsf.edu/bridges.

Naeger and Webb detailed the Bridges curriculum in a Department of Radiology and Biomedical Imaging Grand Rounds presentation entitled, "Medical Student Education in Radiology: Have We Been Doing It Wrong for the Past 50 Years?" Historically, medical student education in radiology has focused on teaching basic imaging interpretation. There is growing recognition that this is a flawed objective. Students don't have time to become competent image interpreters over the course of medical school, nor is it an appropriate goal for the majority of students who plan to go into other fields of medicine. If interpretation is made to seem easy, it devalues the role and extensive training of radiologists. If more than four years of dedicated imaging training, followed by a rigorous certification is in the best interests of patients, why are we teaching students to do what we do *without* that level of training and certification? How can students regard radiologists as skilled consultants,

BRAD NAKANO

Dr. Elissa Price, an assistant professor in the Breast Imaging section at Mt. Zion, explains ultrasound-guided biopsy procedure to a group of medical students.

if our job is overly simplified in introductory textbooks and they're encouraged to interpret films on their own?

Meanwhile, the inappropriate use and ordering of medical imaging exams is common, This results in inefficient resource allocation, medical dollars wasted without net benefit, needless risk to patients (including radiation exposure and contrast administration), and poor physician productivity (hours lost correcting errors triggered by incorrect exam ordering). Not surprisingly, there is a growing emphasis on the safe, cost-effective, and appropriate ordering of radiology studies. Giving students the skills they need to be excellent referring physicians, namely a clear and sophisticated understanding of which imaging tests are most appropriate and safest under a variety of clinical circumstances, is the most valuable information we can impart. It is critical that this information be presented by imaging experts, and not limited to anecdotal experiences on the wards.

At UCSF we have developed a longitudinal imaging curriculum, taught by radiologists, that aims to teach what all medical students need to know about medical imaging: 1) Which exams are best to order and why. 2) How to order these exams safely and effectively. 3) Where to seek guidance when needed.

We continue to bring these ideas and related curricular innovations to the national radiology education community through lectures, meeting programming, and committee participation. Both Webb and Naeger are now members of the Alliance of Medical Student Educators in Radiology Executive Board. In this forum they can exchange ideas with other education leaders and have an impact on national education policy.

Kudos to Committee Members and Staff Members

The faculty and resident members of the Medical Student Education Committee supervise the Goldberg Center's academic activities. Our resident representatives include Spencer Lake, MD, our new resident liaison for Medical Student Education, and Kimberly Kallianos, MD, who remains on the committee after completing her liaison year in her new capacity as resident director for the Radiology Primer elective. Other faculty members include Andrew Phelps, MD, Brett Elicker, MD, Vickie Feldstein, MD, Stefanie Weinstein, MD, Lynne Steinbach, MD, Miles Conrad, MD, Elissa Price, MD, Judy Yee ,MD, and Khai Vu, MD.

For more information about the Goldberg Learning Center's activities, please contact Bren Ahearn (Bren.Ahearn@ucsf.edu) or visit radiology.ucsf.edu/education/medical-students.

The Henry I. Goldberg Center for Advanced Imaging Education is the headquarters for all medical student education in the Department of Radiology and Biomedical Imaging. The Center oversees radiology instruction in the pre-clinical core curriculum, provides imaging workshops during clinical clerkships, offers a variety of radiology electives spanning both clinical applications of radiology and imaging research, and offers career advising and mentoring to UCSF medical students.

Alumni News 2015

1967

Charles A. Gooding, MD, and **Gretchen A.W. Gooding (1975), Mill Valley, CA,** continue their travels. This year they sent a picture from Half Dome in Yosemite National Park taken during an October 2015 trip.

Charles and Gretchen Gooding at Half Dome, Yosemite in 2015.

1974

Stephen F. Albert, MD, Paradise Valley, AZ, sent a photo from his South American trip in August 2015. He writes: "those are tour group badges not hospital IDs."

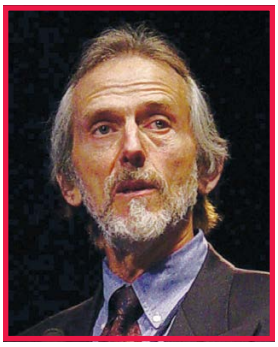
Nancy and Steve Albert at Iguazu Falls, on the border of the Argentina province of Misiones and the Brazilian state of Parana.

Peter S. Moskowitz, MD, Palo Alto, CA, was awarded emeritus status in January 2013 by the Stanford University School of Medicine where he is a clinical professor of Radiology, emeritus. He continues to read cases twice per month at Lucile Packard Children's Hospital, Stanford. He is also the executive director of the Center for Professional and Personal Renewal in Palo Alto, where he offers career transition and life coaching for physicians. He presented the keynote lecture, "How to Make Your Non-Clinical Career Transition," at the SEAK Conference, *Non-Clinical Careers for Physicians*, in Chicago, October 24-25 2015. He also authored the July 2015 op-ed in *Radiology*, entitled "Gathering Storm Clouds Suggest the Need for a Culture Change in Radiology: Radiologist-Centered Imaging."

Peter S. Moskowitz

1980

Michael Brant-Zawadzki, MD, FACR, Newport Beach, CA, has been named senior physician executive at Hoag Hospital. He also holds the Ron and Sandi Simon Endowed Chair as the executive medical director of Hoag Neurosciences Institute.



Michael Brant-Zawadzki

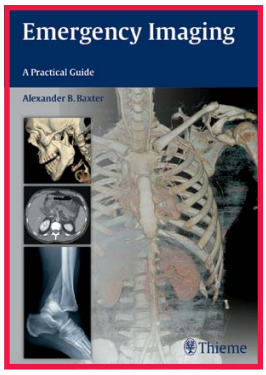
1981

William G. Bradley, Jr, MD, PhD, San Diego, CA, received the 2015 American Roentgen Ray Society Gold Medal, that organization's highest honor. He continues at UC San Diego, where he is professor and chair of the Department of Radiology.

William Bradley (center) receiving the ARRS Gold Medal in Toronto, Canada.

1984

Alexander Baxter, MD, New York, NY, recently published a textbook, *Emergency Imaging: A Practical Guide,* intended as an introductory emergency imaging text for radiology residents and non-radiologists who deal with trauma and emergencies. He will chair the American Society of Emergency Radiology Core Curriculum Illustration project this year.



Alexander Baxter's new textbook *Emergency Imaging: A Practical Guide.*

James Spies, MD, MPH, Washington, DC, professor and chair of the Department of Radiology at Georgetown University Hospital, has been named a trustee of the American Board of Radiology.

James B. Spies

1986

Jeffrey Dieden MD, Lafayette, CA, a Bay Area native, announced that he will be retiring from Kaiser Oakland in December to pursue his other interests, including outdoor adventures, volunteering, playing with his grandkids and cheering for the California Golden Bears, "another of his almae matres."

Jeffrey Dieden

1993

Thomas Pounds, MD, Sacramento, CA, writes that his group, Radiological Associates of Sacramento, was bought by Sutter Medical Foundation. He has been working in its Medical Imaging Department since February 2014.

1996

Jean-Francois (Jeff) Geshwind, MD, PhD, began his tenure as chair of the Department of Diagnostic Radiology at Yale School of Medicine and chief of Diagnostic Radiology at Yale-New Haven Hospital in April 2015. He was honored with our department's 2015 Outstanding Alumni Award.

ELISABETH FALL PHOTOGRAPHY

Jeff Geschwind and Susan Wall at the 2015 commencement award ceremony.

1998

Jessica W.T. Leung, MD, Houston TX, has left California Pacific Medical Center for a position at MD Anderson Cancer Center, where she has been appointed section chief of Breast Imaging.

2000

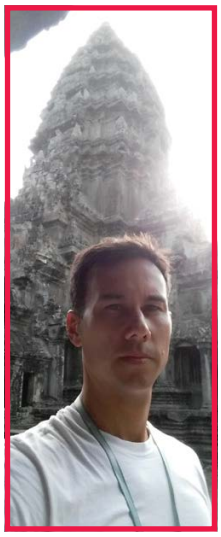
Christopher Schultz, MD, Napa, CA, is serving the UCSF alumni community as a Margulis Society Board member. When away from his practice at Radiology Medical Group of Napa he and his family "continue to enjoy the Napa Valley lifestyle; sharing time with our children, playing tennis and, though living in wine country, striving to perfect my homebrew offerings."

Christopher Schultz with daughters Kennedy and Presley, wife Sheila, and son Kingston.

2008

Brian H. Ching, MD, Honolulu, HI, is doing well at Tripler Army Medical Center in Honolulu. He received the 2014 Teacher of the Year Award while still finding time to travel to Angkor Wat in Cambodia and Disneyland in Anaheim with his 8- and 10-year-old sons.

Brian Ching at Disneyland with sons Carsten and Mattias.



Brian Ching at Angkor Wat, Cambodia in 2015.

Nick G. Costouros, MD, Menlo Park, CA, has been awarded our department's Outstanding Clinical Faculty Award. He is in the Nuclear Medicine Department at Sutter Health Palo Alto Medical Foundation and continues as volunteer clinical faculty at UCSF.

ELISABETH FALL PHOTOGRAPHY

Nick Costouros and Chair Ron Arenson

Derk D. Purcell, MD, Mill Valley, CA, has been named president of the Board of Directors of the Margulis Society.

2009

Amita Kamath, MD, Austin, TX, recently left Mount Sinai Hospital in New York to start working as a junior associate at Austin Radiological Association in her specialty, body imaging. She and her family have relocated to Austin from New York City and are "getting used to life in Texas!"

2012

Ingrid Burger, MD, Los Angeles, CA, is now the chief of Ultrasound at Kaiser Permanente, Los Angeles Medical Center.

Ginger Merry, MD, Denver, CO, announced that "Jack Nolte Schell was born in May 2015, much to the delight of his parents and big sister Willa who is quickly approaching 3 years old." Merry is at Kaiser Permanente Colorado in Denver and recently assumed the role of Breast Imaging Department Value Advisor, a role designed to "improve quality, service and affordability."

Jack Nolte Schell

Ginger with Jack in the baby carrier, Willa and Brannan.

2013

Rita Gidwaney, MD, Duarte, CA, spoke at an iiCME conference in Mumbai, India, in October 2015. She discussed advances in breast imaging, breast cancer awareness and the epidemiology of breast cancer in Indian women. She has "always been interested in international health, and this was a wonderful opportunity to share knowledge of breast cancer imaging with radiologists from other countries."

Rita Gidwaney (front, center-right) next to course speaker G.W. Eklund (front, center) and course director Michael Linver (front, center-left) in Mumbai, India.

2014

Nancy Benedetti, MD, Denver, CO, has accepted a position at Radiology Imaging Associates in Denver.

DAVID SUTPHIN

Nancy Benedetti

Nazima Kathiria, MD, San Diego, CA, became academic chief of chest imaging at the Naval Medical Center, San Diego and had a baby boy, Porter, born in May 2015.

Nazima Kathiria (right) with her husband and their son, Porter.

The Margulis Society

Derk D. Purcell, MD, succeeded Jim Chen, MD, PhD, as board president of the Margulis Society, Radiology and Biomedical Imaging's alumni organization, in July 2015. His two-year term will last until June 2017.

Purcell is a diagnostic radiologist at California Advanced Medical Imaging Associates in the Bay Area. He received his MD in 2003 from UCSF, and did an internship at St. Mary's Medical Center in San Francisco. Purcell completed a diagnostic radiology residency at UCSF, followed by a neuroradiology fellowship and a clinical instructorship.

Silver Anniversary Gala

On March 28 the Margulis Society held the 25th Margulis Society Anniversary Gala at the Olympic Club in downtown San Francisco. More than 200 alumni, faculty and trainees were there to honor chairman Ron Arenson, MD, who was celebrated as the 100th president of the RSNA.

The event drew alumni from many diverse years of the residency and fellowship training, and from different locales. Bill Brody, MD, PhD, and Bill Bradley, MD, came up from San Diego. Michael Carducci, MD, was here from Las Vegas. Other attendees included Diana Baker, MD, and Stephanie Jun, MD. Many alumni warmly greeted Gautham Reddy, MD, MPH, former residency director and chief of Thoracic Imaging, who came from Seattle, Washington. Special thanks to Donna Hoghooghi, MD, Margulis Society Board member and former president of the UCSF School of Medicine Alumni Association. She was instrumental in helping to plan the event and sponsored the department at the Olympic Club.

The Gala included both a silent auction and live auction offering prizes donated by various sections, including popular items such as a day at the ballpark with Bob Kerlan, MD, and the IR Team, a wine tasting and BBQ at the home of Drs. Brett Elicker and Emma Webb, and a three-night stay in Park City, Utah as a guest of the Avrins (featuring a breakfast of David Avrin's famous French toast!). Every section in the Department donated a fun and interesting auction item, helping to make this a very successful event.

The Margulis Society will be looking for a larger venue when the Gala is held again in 2017!

ALL PHOTOS - ELISABETH FALL PHOTOGRAPHY

Margulis Society Gala
March 28, 2015 at the Olympic Club

Alumni, faculty, and trainees enjoy the Silver Anniversary Gala

Mabray Earns Margulis Society 2015 Research Award

At commencement 2015, Marc Mabray, MD, was recognized with the Margulis Society Excellence in Research Award. In selecting Mabray for the award, the selection committee noted his "very impressive output' of publications as a resident at UCSF.

Career Conference 2015

This marked the 15th year for the Margulis Society Career Conference for radiology residents and fellows. It remains a popular event for trainees and alumni. Once again, the discussion was moderated by board member Erik Gaensler, MD, of Bay Imaging Consultants. A panel of alumni discussed and debated the finer points of their career paths in both private practice and academic institutions. "It was gratifying to hear both Diana Baker, MD, and Naveen Kumar, MD, recall sitting in the audience at this event a decade or so ago," Gaensler noted. "I hope some of our audience will soon be on the panel."

ELISABETH FALL PHOTOGRAPHY

Marc Mabray, MD, Margulis Society Resident Research Awardee with Chair Ron Arenson.

BRAD NAKANO

Career Panel 2015. Back Row: Soonmee Cha, MD, UCSF Diagnostic Radiology residency program director; Spencer Behr, MD, UCSF Diagnostic Radiology fellowship director; Erik Gaensler, MD, BICRAD; Cindy Lee, MD, UCSF; Naveen Kumar, MD, Kaiser San Rafael; Yee-Li Sun, MD, Kaiser SF. Front Row: David Avrin, MD, PhD, UCSF; Michael Federle, MD, Stanford University; Ron Arenson, MD, chair, UCSF Radiology & Biomedical Imaging; Diana Baker, MD, CAIMA; Jeffrey Dieden, MD, Kaiser Oakland.

The Honor Roll of Donors

The Margulis Society and the Department of Radiology and Biomedical Imaging gratefully acknowledge the following donors for their generous contributions. This list reflects gifts made between July 1, 2014 and June 30, 2015.

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Radiology Continuing Medical Education

Highlights

The June 2015 international course, Imaging Down Under, held at the Four Seasons Hotel in Sydney, Australia was an overwhelming success. More than 100 attendees participated in a general session and three optional specialty workshops. The course was chaired by Rizwan Aslam, MD, and Ron Zagoria, MD, FACR. Other UCSF faculty in attendance included Brett Elicker, MD, Christopher Hess, MD, PhD, Bonnie Joe, MD, PhD, Antonio Westphalen, MD, MA, and Judy Yee, MD, FACR.

What to Look Forward to in 2016

In 2016 we'll continue to offer our signature courses in Kona, Hawaii, along with many other CME opportunities in the Bay Area. Please visit our website to see a complete listing of CME offerings: radiology.ucsf.edu/cme/upcoming.

The Annual Review course will return to the Hotel Nikko San Francisco in Union Square on February 28–March 4, 2016. This comprehensive course continues to attract a vast number of practicing radiologists. It offers a unique opportunity for a detailed review of all systems and modalities presented by world-renowned UCSF Radiology faculty. Attendance earns you more than 20 self-assessment SAM-CME credits. It is a good way to satisfy the ABR continuous certification requirements with UCSF.

We are returning to the Tenaya Lodge in Yosemite for our Practical Diagnostic Imaging course scheduled for May 22–27, 2016. The program is designed for general radiologists and will be chaired by David Naeger, MD. Mark your calendars.

The Bermuda Shorts: Practical Tips for Covering On-Call course returns to the Fairmont Southampton in the summer of 2016. The course is designed to bridge the gap between the need for subspecialty expertise and the reality of covering general call. Make plans to join us in Bermuda June 26–July 1, 2016.

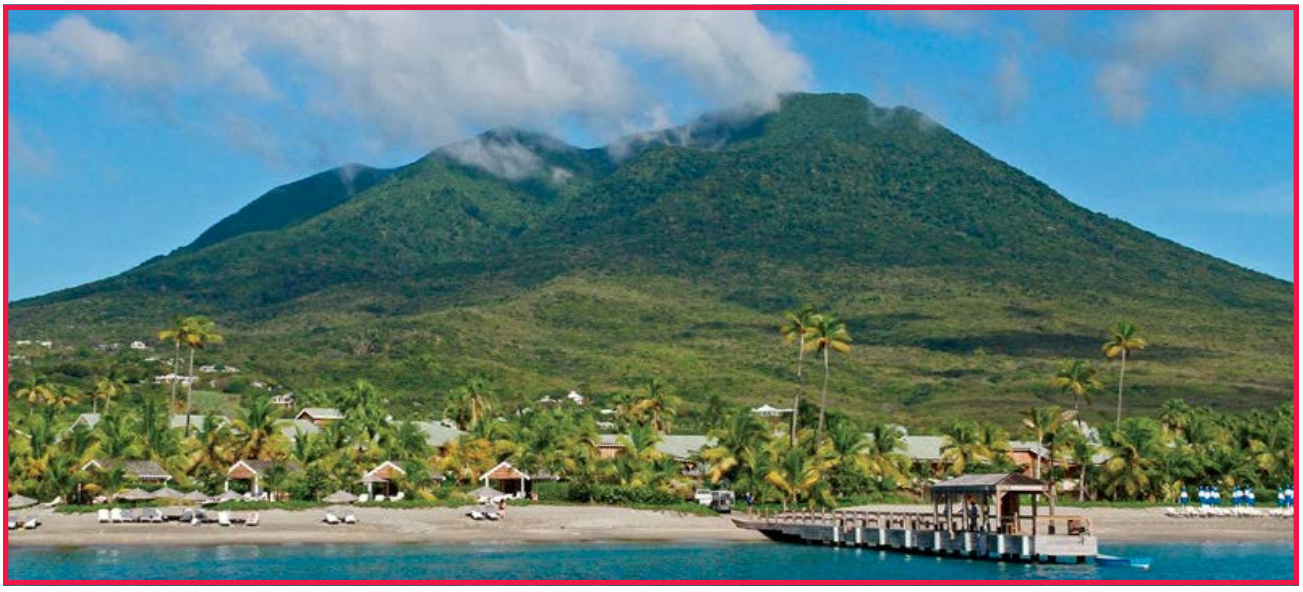
Our Maui course will be held October 15–19, 2016 at the Fairmont Kea Lani. This time we're taking you to Wailea for our CME fun-in-the-sun program. Hope to see you there.

We're taking our Imaging Warm-Up course to an exciting new destination in the Caribbean! Course dates are December 4–9, 2016. General radiologists will spend mornings working with our world-class teachers and relax in the afternoons at the beautiful Four Seasons Resort in Nevis in the West Indies. Mark your calendars.

Save When Attending UCSF Courses

We reward loyal customers for attending our courses. The UCSF Radiology CME Loyalty Program offers three reward levels: Silver, Gold and Platinum and each of them will give a 10%, 20% or 30% discount off registration fees for EVERY course you attend. Please visit radiology.ucsf.edu/cme/loyalty_program to learn more.

We hope to see you at future CME courses!



Nevis Island in the West Indies

2016 UCSF Radiology Continuing Medical Education Calendar

January 10–15, 2016
Breast Imaging & Optional Workshop
Fairmont Orchid, Kona, HI

January 17–22, 2016
Practical Body Imaging
Fairmont Orchid, Kona, HI

January 31–February 2, 2016
Musculoskeletal MR Imaging
Omni Rancho Las Palmas Resort, Palm Springs, CA

February 3–5, 2016
Abdominal & Pelvic Imaging: CT/MR/US
Omni Rancho Las Palmas Resort, Palm Springs, CA

February 7–12, 2016
Neuro & Musculoskeletal Imaging
Fairmont Orchid, Kona, HI

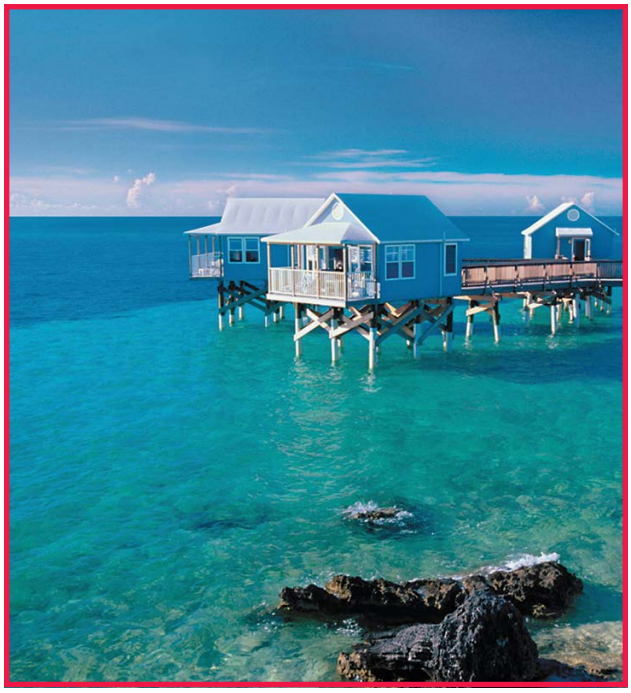
February 25–27, 2016
Virtual Colonoscopy Workshop
UCSF China Basin Research Center, San Francisco, CA

February 28–March 4, 2016
UCSF Radiology Annual Spring Review:
Comprehensive Fundamentals
Hotel Nikko Union Square, San Francisco, CA

March 4–6, 2016
Breast Imaging Update
Marriott Union Square, San Francisco, CA

May 22–27, 2016
Diagnostic Imaging at Yosemite
Tenaya Lodge, Fish Camp, CA

June 2–4, 2016
Virtual Colonoscopy Workshop
UCSF China Basin Research Center, San Francisco, CA



Scenic Bermuda

June 26–July 1, 2016
Diagnostic Imaging in Bermuda
Fairmont Southampton, Southampton, Bermuda

August 29–Sept 2, 2016
Interventional Radiology Review
UCSF Parnassus Medical Campus, San Francisco, CA

October 16–21, 2016
Imaging in Maui
Fairmont Kea Lani, Wailea, HI

December 4–9, 2016
Imaging Warm-Up
Four Seasons Resort, Nevis-West Indies

FOR FURTHER INFORMATION PLEASE CONTACT:

UCSF Radiology Continuing Medical Education

Tel: 415-476-5731 E-mail: cme@radiology.ucsf.edu Website: radiology.ucsf.edu/cme

Course dates, locations and course titles are subject to change prior to brochure publication.

Innovative Work Presented at 2015 Surbeck Young Investigator Awards

The Ninth Annual Surbeck Young Investigator Awards were presented at UCSF Mission Bay's Byers Auditorium on March 13. UCSF's scientific community and Department of Radiology and Biomedical Imaging faculty members were welcomed to the event by Sarah Nelson, PhD, director of the Surbeck Laboratory, and the president of the INDNJC Board of Directors, Richard Gowen, PhD. Three young investigators working in the Margaret Hart Surbeck Laboratory presented their award-winning work.

First Place Prize Awarded to Wei Bian, PhD

Wei Bian, PhD, received a first place award for his research on "Simultaneous Imaging of Radiation-induced Cerebral Microbleeds, Arteries, and Veins, using a Multiple Gradient Echo Sequence" (Wei Bian, PhD, Suchandrima Banerjee, PhD, Douglas Kelley, Christopher Hess, MD, PhD, Peder Larson, PhD, Susan Chang, PhD, Sarah Nelson, PhD, Janine Lupo, PhD).

Bian received his PhD from the UC Berkeley–UC San Francisco joint graduate program in Bioengineering in 2014. He performed his PhD research in the Surbeck Laboratory under the mentorship of Drs. Sarah Nelson and Janine Lupo. In early 2015, Bian left UCSF to become a postdoctoral fellow in the Richard M. Lucas Center for Imaging at Stanford University.

"The solid training and advanced research facilities at UCSF provided me with knowledge and expertise in high field MR imaging with susceptibility-weighted imaging and its clinical applications," Bian said, adding that his "experience at UCSF has became an essential part of my postdoctoral research in the Department of Radiology at Stanford." At Stanford he said he is "extending the exploration of MR susceptibility contrast imaging from brain tumors to neurodegenerative diseases such as Alzheimer's and Parkinson's diseases and Chronic Fatigue Syndrome."

Second and Third Prizes Presented to Jiang and Pedoia

Wenwen Jiang is a PhD student in the UC Berkeley–UC San Francisco joint program of Bioengineering. Her research focuses on advanced MRI image reconstruction (Non-Cartesian MRI and parallel imaging) and rapid imaging acquisition techniques. Jiang received her masters degree in electrical engineering and computer science at UC Berkeley and her BS in biomedical engineering from Southern Medical University. She has received funding from UCSF's Graduate Education in Medical Sciences (GEMS) Training Program.

(l–r) INDNJC board members Nancy Gowen and Hal Lane with Surbeck Young Investigators Wenwen Jiang, Wei Bian, PhD, and Valentina Pedoia, PhD, Surbeck Laboratory Director Sarah Nelson, PhD, and INDNJC Board President Dick Gowen, PhD.

She earned a second-place Surbeck Young Investigator Award for her work on "Concentric Rings K-space Trajectory for Hyperpolarized 13C MR Spectroscopic Imaging" (Wenwen Jiang, MS, Michael Lustig, PhD, Peder E. Z. Larson, PhD).

Valentina Pedoia, PhD was presented with the third-place Surbeck Young Investigator Award for exploration of "Three-Dimensional MRI-Based Statistical Shape Model and Application to a Cohort of Knees with Acute ACL Injury" (Valentina Pedoia, PhD, Drew A. Lansdown, MD, Musa Zaid, BS, Charles E. McCulloch, PhD, Richard Souza, PhD, PT, Benjamin Ma, MD, Xiaojuan Li, PhD).

Pedoia received her MS in telecommunication engineering from Politecnico di Milano and her doctorate in Medical Computer Science from the Insubria University, Italy. She joined the MQIR lab as a postdoctoral fellow in June 2013. The primary focus of her research is developing advanced imaging analysis algorithms and methodologies to improve diagnosis and follow-up treatment of musculoskeletal diseases such as arthritis and joint injury.

The Margaret Hart Surbeck Laboratory of Advanced Imaging is dedicated to advancing imaging techniques for biological and medical applications. It was established after the death of Margaret Hart Surbeck in 2000 to fund health-related research. The Surbeck Young Investigator Awards are funded through the INDNJC Foundation.

Jang and Baltodano Honored with Awards For Excellence

Annually, the department honors two staff members for their caring and excellence in service. In 2014, John Jang, RT, received the Lanna Lee Award and Rudolfo Baltodano received the Richard A. Sollitto, MD Award.

"John has a strong dedication to providing high-quality patient care. His diligence, integrity and all-around excellence have contributed greatly to the department's clinical efforts," noted Kathy Knoerl, Operations director. "He has distinguished himself as a superb CT and MR technologist, and has been instrumental to the success of our UCSF Precision Spine Center."

Jang began his career at UCSF in 2005, after graduating from the Radiology program at City College of San Francisco. His first assignment in UCSF Radiology's CT division was at China Basin, followed by a move to Parnassus. When the Precision Spine Center at China Basin opened in 2008, Jang returned as the Center's primary technologist.

The Lanna Lee Award honors Lanna Lee, a senior radiologic technologist who died on her way home from work in 1989 during the Loma Prieta earthquake. Lee was a role model for others, always working with a smile and delivering excellent care to her patients.

Rudolfo Baltodano is a caring member of the support staff at Mt. Zion. He started his career as a patient escort in 2004 and then worked in the Moffitt Film Library. He was promoted to scheduling in 2007, advancing to the lead scheduler position. "Rudy was promoted to lead scheduler because of his knowledge, his professionalism, and his excellent communication skills with our patients and our practices," said Knoerl. "We expect good things from Rudy as he advances in his career at UCSF."

The Richard A. Sollitto, MD Award honors Dr. Sollitto, a radiologist who cared deeply for all of the department's staff and patients. It honors his memory and his dedication to patient care. Since his death in 2011, the award is presented annually to an outstanding administrative and support staff member.

BRAD NAKANO

(l–r) Rudolfo Baltodano and John Jang, RT at the 2014 Holiday Party where they received their awards.

School of Medicine Selects Bren Ahearn for Great People Award

"One of our very own, Bren Ahearn, has won a Great People Award from the School of Medicine, a well-deserved and prestigious award," said David Naeger, MD, co-director of the Goldberg Center for Advanced Imaging Education in announcing the award bestowed on Medical Student Education Coordinator Bren Ahearn. Naeger and Goldberg Center Co-Director Emma Webb, MD, nominated Ahearn for the award, which was given in 2015.

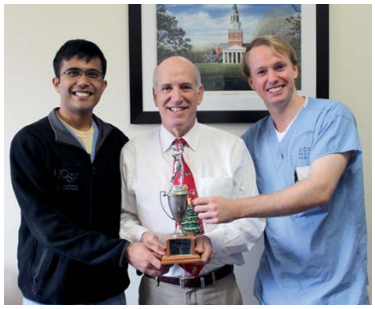
Ahearn took on the medical student education coordinator position at the Goldberg Center in 2013, when he arrived at UCSF from UC Davis, where he worked in student services. "Bren immediately began making his mark, helping us revamp our educational programs spanning all four years of the UCSF curriculum," said Naeger. "Students regularly report to us that Bren is the kindest, most effective educational coordinator they have ever encountered, and that is quite the comment coming from seasoned fourth-year students." Also noted in the nomination were the many faculty comments regarding Ahearn's "calm demeanor and thoroughness" and his "great ideas and tireless dedication."

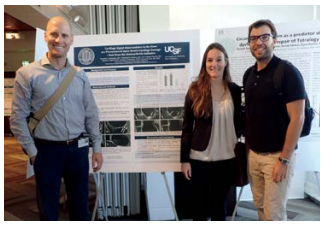
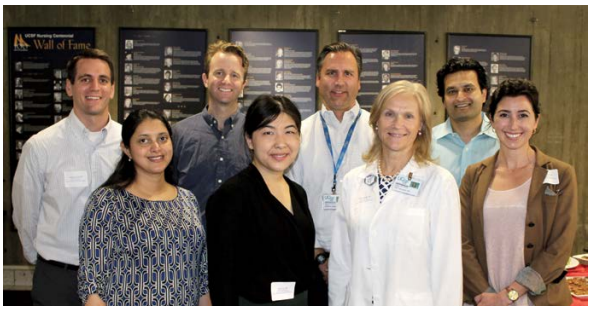
The School of Medicine's Great People Award recognizes employees whose daily contributions highlight the diversity of work within the School of Medicine and honors employees whose commitment and values make their jobs a positive experience and the School of Medicine a great place to work by serving as a role model for teamwork and customer service, adding value to activities and programs within the School of Medicine, and inspiring others to excel.

BRAD NAKANO

Bren Ahearn

The Year in Pictures





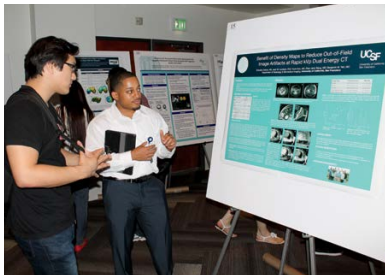









AIDS WALK
UCSF




Miles Conrad, MD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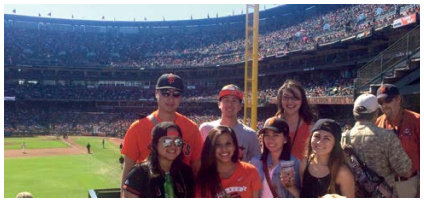
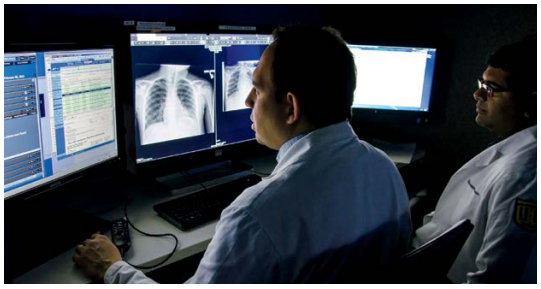
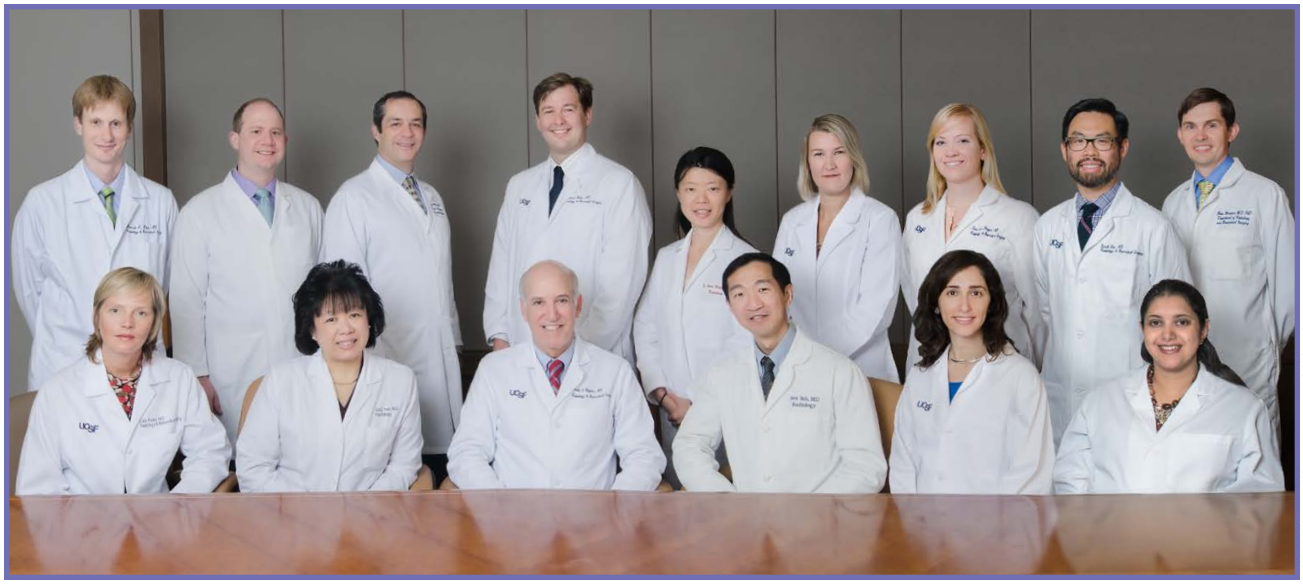




Research Directions 2016



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ABDOMINAL IMAGING

Ronald Zagoria, MD, Chief

Research Directions:

- The promotion of evidence-based abdominal imaging, including systematic validation of commonly held opinions and assumptions
- Developing MRI and CT techniques to optimize assessment of hepatobiliary, GI tract, and GU diseases
- Optimizing multiparametric MRI scanning for detection and staging of prostate cancer
- High-intensity focused ultrasound of uterine fibroids and prostate cancer
- Advanced hepatic imaging, including multi-detector CT, CT cholangiography, new hepatobiliary MR contrast agents, and MR cholangiopancreatography
- Radiological evaluation of diffuse liver disease, including cirrhosis, pseudocirrhosis and nonalcoholic steatohepatitis
- Dynamic contrast-enhanced MRI and CT for assessment of solid organs and tumors in the abdomen and pelvis
- 3D rendering of CT and MR images, including projectional and volumetric applications and CT colonography
- Expanding image-guided percutaneous thermal ablation applications in the abdomen

ADVANCED IMAGING TECHNOLOGIES SPECIALIZED RESOURCE GROUP

Daniel B. Vigneron, PhD, Director

Research Directions:

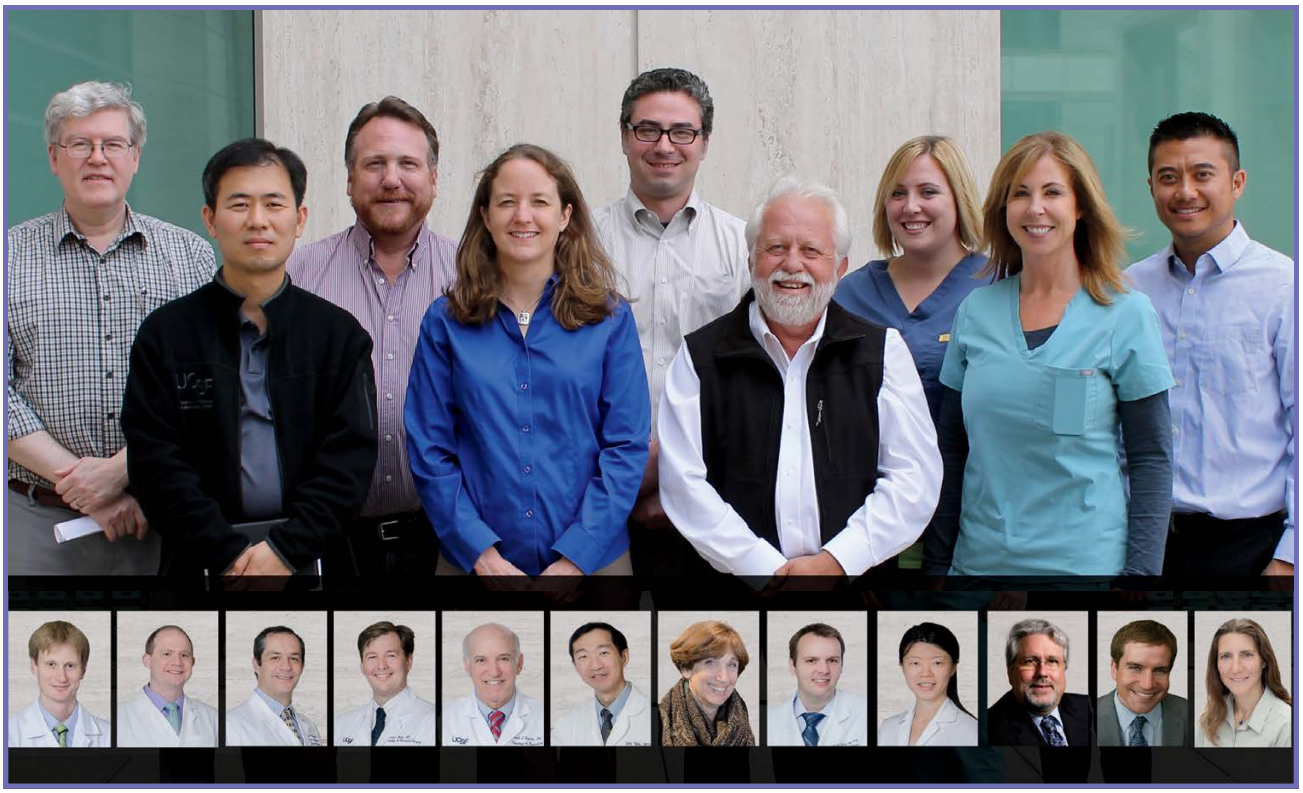
The Advanced Imaging technologies SRG works to advance imaging science to benefit human disease studies. This includes everything from development of new techniques, to the translation of existing techniques, to the improvement of quality, speed, information-content, and applicability of existing methods.

Basic development => Translation => Optimization => Validation

Our expertise and research focus on various areas including: basic physics, basic engineering, bioengineering, initial patient testing, clinical single and multi-site trials of new techniques and training.

Our goal is to excel in imaging science in each of the three UCSF mission areas:

- Scholarship: publications, grants, patents, conference presentations
- Training: formal UCSF courses, informal training, CME courses, international Society educational courses
- Services: clinical patient studies support, UCSF committee service, and grant reviews for NIH and other funding agencies



The key missions of the Advanced Imaging Technologies SRG are to:

(a) be world leaders in cutting-edge imaging techniques for studying human disease
(b) collaborate with RIGs to get these and other basic techniques into application studies for testing and optimization
(c) work with clinical to translate the new techniques and to improve state-of-art methods
(d) train and educate personnel in advanced imaging techniques.

BODY IMAGING RESEARCH INTEREST GROUP

John Kurhanewicz, PhD, Director

Research Directions:

- Developing optimized and clinically feasible multiparametric MR protocols for prostate cancer and for diseases of the kidney and liver and for metabolic studies of dietary interventions
- Rigorous histopathological correlative studies for validation of MR biomarkers
- Developing ways to analyze multiparametric imaging data
- Developing clinical predictive nomograms that incorporate imaging variables
- Image-guided biopsy and therapy (HIFU, radiation)
- Identifying, validating and implementing robust, quantitative, noninvasive magnetic-resonance-based metabolomic biomarkers of human disease and therapeutic response using *ex vivo* tissues, biofluids, and preclinical cell and murine models of human disease
- Developing targeted contrast agents for prostate cancer and other urogenital diseases
- Developing and implementing hyperpolarized 13C magnetic resonance imaging in patients

BRAIN RESEARCH INTEREST GROUP

Sarah Nelson, PhD, Director
Srikantan Nagarajan, PhD, Co-Director

Research Directions:

Our specific mission is to map and analyze brain structure, activity, metabolism, connectivity and function in health and disease, and to identify biochemical, physiological and anatomical correlates of behavior in health and in disease. The scope of research conducted by the Brain RIG encompasses all aspects of brain-related inquiry, including the development of state-of-the-art brain imaging techniques.

The evaluation of patients with brain tumors is a major focus for applying these technologies. Key strategies that are being used to understand the underlying mechanisms of

response to therapy and malignant transformation include analyzing the relationship between of *ex vivo* histological, genomic and metabolic properties of image-guided tissue samples and investigation of specific hypotheses using *in vivo* studies of cell and pre-clinical model systems.

Other critical focus areas that form the basis for collaborative research are to understand the relationship between brain and behavior in a wide range of neurological and psychiatric diseases, to integrate information from molecules to mind, and to translate advances in neuroimaging methodology to the clinic.

BREAST IMAGING

Bonnie N. Joe, MD, PhD, Chief

Research Directions:

- MRI, optical imaging and X-ray mammography for breast cancer screening and surveillance, diagnosis and tissue characterization for risk assessment, cancer staging and treatment response assessment
- New techniques in MRI-guided biopsy and imaging protocols
- Quantitative assessment of breast density and breast cancer risk models
- Digital breast tomosynthesis
- MRI/MRS for assessing tumor response to neo-adjuvant chemotherapy for patients with locally advanced breast cancer
- Biomarker development using advanced breast MR techniques

BREAST CANCER RESEARCH INTEREST GROUP

Nola Hylton, PhD, Co-Director
Bonnie N. Joe, MD, Co-Director

Research Directions:

The Breast RIG's research aims are to advance imaging-based approaches for breast cancer diagnosis, leading

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to earlier detection, reduction of disease recurrence and improved survival.

Our major research areas include:

- MRI and spectroscopy to assess breast tumor response to neoadjuvant chemotherapy. UCSF is the lead institution for the national ACRIN 6657/I-SPY breast cancer clinical trial testing MRI and molecular biomarkers for the prediction of treatment response and survival for women receiving neoadjuvant chemotherapy for locally advanced breast cancer
- Computer-aided tools for real-time measurement of MRI biomarkers for breast cancer
- MRI of ductal carcinoma *in situ* (DCIS) for staging and assessing response to hormonal treatment
- Quantitative mammographic breast density measurement for breast cancer risk assessment
- MRI-directed tissue biopsy for radiologic-pathologic correlation of imaging and molecular biomarkers
- MRI measurement of breast density and tissue composition

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CARDIAC AND PULMONARY IMAGING

Brett M. Elicker, MD, Chief
Karen Ordovás, MD, MAS, Director of Cardiac Imaging

Research Directions:

- Cardiac CT
  - Use of cardiac CTA for emergency room evaluation of atypical chest pain
  - Evaluation of coronary atherosclerosis in patients with HIV infection
  - Evaluation of pulmonary venous anatomy in atrial fibrillation
  - Characterization of myocardial ischemic injury by contrast enhanced MRI and CT
- Chest CT/High-resolution CT
  - High-resolution CT of interstitial lung disease
  - Predictors of poor outcome in patients with acute PE diagnosed by helical CT
- Cardiac MRI
  - Use of novel cardiac MRI techniques and computational modeling for the quantitative assessment of ventricular performance in congenital heart disease
  - Use of multidimensional flow techniques for quantitative assessment of flow dynamics in congenital heart disease
  - MRI to assess cardiac function after repair of tetralogy of Fallot; correlation with clinical outcomes
  - T1 mapping techniques for assessment of pulmonary hypertension cardiomyopathy

CARDIOVASCULAR RESEARCH INTEREST GROUP

Karen Ordovás, MD, Co-Director
David Saloner, PhD, Co-Director

Research Directions:

The Cardiovascular RIG aims to provide leadership to the Radiology community in developing and implementing state-of-the-art methods for providing early diagnosis and improved outcomes for patients suffering from cardiovascular diseases.

The CVRIG works closely with physician/scientists from other disciplines to develop and evaluate methods that include numerical modeling, physical *in vitro* models, and animal and human models of cardiovascular disease.

The combination of these elements, together with a program for educating and training practitioners and scientists, will provide measurable benefits to patients. In summary, our mission is to:

- Use state-of-the-art imaging for understanding the etiology of multiple cardiovascular diseases
- Investigate the scientific basis for new imaging modalities and their applications
- Apply cardiovascular imaging modalities to evaluate the physiologic, pharmacologic and molecular basis of disease
- Develop tools for early detection of cardiovascular diseases
- Assess the role of cardiac imaging to predict cardiovascular outcomes to reduce overall and cardiac-related mortality

IMAGE GUIDED SURGERY SPECIALIZED RESOURCE GROUP

Alastair Martin, PhD, Co-Director
Steven Hetts, MD, PhD, Co-Director
Mark Wilson, MD, Co-Director

Research Directions:

The mission of the Image Guided Surgery specialized resource group is serve as a world leader in developing new and improved guidance for a wide array of clinical applications. We aim to:

- Improve guidance and evaluation of therapy
- Perform interventions and deliver therapy in a more minimally invasive fashion
- Develop applications in evolving medical therapies for which there presently does not exist an acceptable delivery mechanism
- Perform pre-clinical device development in collaboration with industrial partners
- Conduct clinical trials that provide guidance to the medical community as to best practices in the therapeutic management of patients.

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In line with our mission statement, the IGT SRG has projects that explore several key areas of therapy delivery, including (1) active catheter guidance and tissue ablation within an MR scanner (2) evaluation of innovative endovascular neurointerventional procedures (3) MR guidance of minimally invasive neurosurgical procedures and (4) the application of high-intensity focused ultrasound to treat uterine fibroids, bone metastasis and prostate cancer.

INTERVENTIONAL RADIOLOGY

Robert K. Kerlan, Jr., MD, Chief

Research Directions:

- Joint project with Transplant Service for implantation of pancreatic islet cells
- Joint project with Transplant Service for downstaging hepatocellular carcinoma in potential transplant candidates
- Joint project with Abdominal Imaging using MR diffusion imaging to differentiate flow abnormalities from hepatocellular carcinoma
- Joint project with Pediatric Surgery to create gastrojejunostomies and percutaneous jejunostomies using magnets
- Assessing the role of interventional radiology in managing complications related to the creation of ileal pouches following proctectomy
- Use of expandable metallic stents in the airways
- Joint project with Urology on RF ablation of small renal masses
- Assessing the safety of transdiaphragmatic drainages

MARGARET HART SURBECK LABORATORY OF ADVANCED IMAGING

Sarah J. Nelson, PhD, Director
Daniel B. Vigneron, PhD, Associate Director

The Margaret Hart Surbeck Laboratory of Advanced Imaging endeavors to stretch the limits, creating new imaging technologies that can be adapted for the broadest range of investigating disease, health and treatment. Our overall objective is to contribute to the understanding of normal physiology and to elucidate the underlying biological mechanisms of health and disease. Critical factors that can be investigated through imaging are disease progression, the biological basis of different diseases and response to treatment by individual patients. Translating these factors into bioengineering problems involves the integration of the underlying principles of MR physics with the design of new algorithms for reconstruction, post-processing and quantitative interpretation of the resulting multi-dimensional and multi-faceted imaging data, as well as the development of innovative RF coils and coil arrays for high-field imaging.

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MUSCULOSKELETAL AND QUANTITATIVE IMAGING RESEARCH GROUP

Sharmila Majumdar, PhD, Director
Thomas M. Link, MD, PhD, Clinical Director

Research Directions:

The Mission of MQIR is to pursue research and teaching in quantitative tissue characterization focused on the musculoskeletal system by building collaborations among basic scientists, clinical scientists and physicians, thus establishing a strong resource for musculoskeletal imaging-based research at UCSF. MQIR strengthens and nurtures partnership not only within the Department of Radiology and Biomedical Imaging, but also with the Departments of Orthopaedic Surgery, Medicine and Bioengineering at UCSF and UC Berkeley.

- Identification of biomarkers for degeneration in bone, cartilage and inter-vertebral disc, and diseases such as osteoporosis, spinal disorders and osteoarthritis.
- Improve musculoskeletal health by using Computed Tomography (CT), High Resolution Peripheral Quantitative CT (HR-pQCT) and Positron Emission Tomography (PET)/CT imaging to study risk factors for age-related fractures, to quantify deterioration of bone structure and strength as result of aging and disease, and to analyze the anatomy and function of skeletal muscle in relation to mobility loss.
  - Effects of reduced weight-bearing on skeletal geometry, micro-structure and strength
  - Effects of exercise on bone quality in HIV positive individuals
  - Mechanisms of increased cortical porosity in the peripheral skeleton
  - Use of advanced image analysis techniques such as finite element modeling and voxel-based morphometry to study age-related bone loss and predict hip fracture
  - Use of CT to study muscle mass and fat infiltration as risk factors for hip fracture
  - Development of acquisition and analysis methods to standardize scanning and analytic methods for multi-center studies in osteoporosis and sarcopenia
  - Development of PET/CT to study protein synthesis in skeletal muscle
- Magnetic Resonance (MR) Imaging and Spectroscopy methods for characterizing muscle and bone in diabetes, HIV disease, and other diseases
  - Bone marrow fat quantification in the proximal femur and spine using high-resolution water-fat imaging, and the relationship of marrow adiposity to bone quantity and quality
  - Fat infiltration in the rotator cuff muscles as a predictor of surgical outcome
- Detection of early joint degeneration using quantitative metrics (T1r and T2) and radiological grading methods in osteoarthritis of the knee and hip and correlating them with biomechanical function, biochemical changes, clinical findings, and function.

- Contact mechanics, neuromuscular control and cartilage composition in knee OA
- Changes in knee contact mechanics and cartilage composition following meniscectomy
- Characterization of cartilage using MR and kinematics in hip osteoarthritis
- Running biomechanics and overuse injuries of the lower extremity
- Development of osteoarthritis in anterior cruciate ligament (ACL)-injured and reconstructed knees
- Investigating the impact of physical activity, obesity, weight loss and gain on longitudinal development of cartilage and meniscal degeneration

- *In vivo* MR Imaging in the presence of metal implants
- MRI temperature measurements of bone during MR guided focused ultrasound
- Multimodality imaging (MRI and HR-pQCT) and hyperpolarized 13C MRI of rheumatoid arthritis
- Radiation dose reduction in CT

MUSCULOSKELETAL RADIOLOGY

Thomas M. Link, MD, PhD, Chief

Research Directions:

Imaging of Osteoarthritis and Cartilage

- New morphological pulse sequences for cartilage imaging
- Biochemical, quantitative imaging of the cartilage matrix
- Analysis of the Osteoarthritis Initiative Cohort
- Osteoarthritis, obesity and physical activity
- Cartilage imaging of marathoners and physically active individuals
- Assessing menisci and cartilage with matrix-sensitive MRI sequences

Bone Marrow Imaging

- Monitoring the progress of the treatment of Gaucher's disease
- MRI of bone marrow changes in osteoarthritis
- Disuse osteopenia-related bone marrow changes

Osteoporosis Imaging

- Evaluating insufficiency fractures of the pelvis, CT vs. MRI
- Contrast-enhanced, multi-slice-spiral CT for assessing bone density and structure
- Diabetic bone disease: cortical porosity and increase in fracture risk
- Imaging of the shoulder
- Optimizing MRI for visualizing metal-on-metal surface replacements
- Evaluating fatty infiltration of muscles of the rotator cuff
- Imaging of the spine
- Imaging at 1.5T and 3T
- Clinical implications of lumbosacral segmentation abnormalities MR Arthrography
- Evaluating the complications of MR arthrography
- High-field MRI for musculoskeletal applications
- *In vitro* and *in vivo* comparison of cartilage imaging at 1.5T, 3T, and 7T
- Comparing 1.5T with 3T MRI for the evaluation of smaller joints
- Optimizing MR protocols for the knee at 3T and 7T

New MRI Techniques

- Use of CUBE and IDEAL sequences at 3T to image the knee
- Application of metal suppression MAVRIC sequences for assessment of total joint replacements
- *In vitro* and *in vivo* assessment of metal suppression sequences at 1.5 and 3T MR neurography

NEURO INTERVENTIONAL RADIOLOGY

Randall Higashida, MD, Chief

Research Directions:

Advances in the field of Neuro Interventional Radiology require the constant development of new skills and techniques, and the Neuro Interventional Radiology researchers within the UCSF Department of Radiology and Biomedical Imaging have been involved in designing, conducting and publishing research regarding current trends and techniques for patient care. In particular, we are focused on developing new and innovative techniques to treat a variety of neurovascular disorders including aneurysms, vascular malformations, tumors and vasospasm in animal models and in active clinical practice within the interventional neurovascular radiology section at UCSF.

We work closely with the Institutional Review Board at UCSF Medical Center to oversee new products and procedures. We are working with several sponsor companies to assess the use and outcome of new intravascular stents. We have been involved in a multi-center study regarding outcomes after placement of carotid artery stents to treat carotid artery atherosclerotic disease. We conduct translational research in remote-controlled catheter guidance, percutaneous ablation, intra-arterial chemotherapy, and endovascular biopsy. We are working closely with other collaborators at UCSF in MRI modeling of unruptured cerebral aneurysm and MRI-assisted embolization of brain tumors. In addition, we conduct long-term clinical research on pediatric neurovascular diseases.

NEURODEGENERATIVE DISEASES RESEARCH INTEREST GROUP

Pratik Mukherjee, MD, PhD, Director
Norbert Schuff, PhD, Co-Director

Research Directions:

Studying the causes and effects of neurodegenerative and psychiatric disorders, using MRI as a surrogate marker

Developing powerful, new brain MR techniques for early detection, improved diagnosis and assessment of therapeutic interventions of neurodegenerative and psychiatric disorders

Developing more powerful multimodal brain image processing and multivariate statistical imaging analysis techniques

Highlights include:

- Ultra-high resolution structural MRI
- Diffusion spectrum imaging
- Dynamic, arterial-spin-labeling imaging
- Susceptibility-weighted imaging
- Spectroscopic imaging and j-modulated spectroscopy
- Bayesian image reconstruction
- Multivariate image analysis methods
- MRI protocols and processing pipelines for multicenter trials
- Standards for imaging neurodegenerative diseases that can be transferred into clinical practice and multi-center clinical trials

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NEURORADIOLGY
Christopher P. Hess, MD, PhD, Chief

Research Directions:

Neuropediatrics
- Cause of cerebellar hypoplasia in some prematurely born neonates and the effects of brain cooling on CNS injury in term neonates suffering hypoxic-ischemic injury
- Embryogenesis of disorders of the midbrain and hindbrain
- Normal and abnormal development of the cerebral cortex
- Fetal MR Neuroimaging: development and application of advanced MRI techniques to study normal and abnormal fetal brain development

Traumatic Brain Injury
- DTI and fiber tractography, fMRI, 3D MRSI and deformation morphometry as imaging biomarkers for mild TBI to predict clinical outcomes in post-concussive syndrome, with correlation to neurocognitive testing and genomic analysis for TBI susceptibility genes such as ApoE
- DTI and fiber tractography processing for a multi-center consortium study of mild TBI

Cardiovascular Disease and Stroke
- Use of 64-slice CT to detect cardiovascular disease and stroke and a functional mapping and scoring system for predicting the outcome of ischemic stroke
- Use of perfusion and CTA imaging to detect ongoing hemorrhages in the brain of patients presenting with acute intracerebral hematoma
- Use of permeability image mapping to detect stroke patients at risk of subsequent hemorrhage
- Automated software for the outcome classification of patients with acute subarachnoid hemorrhage

Brain Tumors
- Use of permeability and perfusion imaging to guide operative biopsy
- Correlation of genetic markers and imaging markers from tissue obtained by image-guided biopsy

Head and Neck
- The utility of PET/CT in follow-up of patients with head and neck cancer
- The use of advanced imaging techniques in the detection of recurrent head and neck cancer

Spine
- CT-guided back pain management
- Use of image guidance to improve the accuracy of injections
- Utility of gadolinium MR myelography to detect CSF leaks
- MR neurography for peripheral nerve diagnosis
- Neurodegenerative Diseases
- New imaging biomarkers for neurodegenerative diseases using 7T MRI
- 7T imaging of patients with intractable epilepsy
- Characterization of multimodal diffusion data using high-angular, resolution-diffusion imaging

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NUCLEAR MEDICINE
Miguel Hernandez Pampaloni, MD, PhD, Chief

Research Directions:

Cardiac and vascular applications of clinical SPECT-CT, PET and PET-CT

- Applications of SPECT-CT for cardiac synchrony
- Dementia imaging with SPECT-CT
- Clinical PET and PET-CT studies of cancer, cardiovascular, and neurological diseases
- Feasibility of PET and MRI to characterize myocardial metabolism and flow
- Use of PET to monitor therapy for breast and ovarian cancers
- Conformal radiation treatment planning with PET-CT
- Imaging structure and function in small animals with CT/SPECT
- Molecular probe development for SPECT and PET

PEDIATRIC/FETAL RESEARCH INTEREST GROUP
A. James Barkovich, MD, Director

Research Directions:

- Developing new imaging techniques to assess normal and abnormal development, including MRSI and DTI
- Developing new technology for imaging fetuses and neonates and adapting state-of-the-art techniques for application in the developing fetus and infant
- Using imaging techniques to diagnose and study malformations of the brain
- Using imaging to assess injury in premature and term neonates
- Using imaging to assess new therapies for injured fetuses and neonates
- Using imaging to assess brain injury in neonates and infants with severe congenital heart disease

PEDIATRIC RADIOLOGY
John Mackenzie, MD, Chief

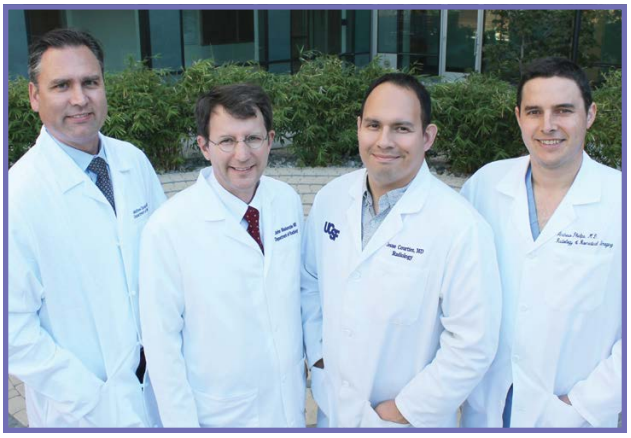
Research Directions:

The mission of the Pediatric Radiology section is to improve the health of children through advanced clinical imaging and research.

The section studies pediatric disease through the lens of imaging and is focused on the development of new imaging technologies.

Several ongoing basic science and clinical studies are underway with collaborations with MRI physics, pediatric oncology, pediatric gastroenterology and pediatric surgery. Examples of research in the Pediatric Radiology section include:

- Study of novel diffusion weighted imaging (DWI) techniques to better identify inflammation and monitor treatment changes in children with inflammatory bowel disease (ulcerative colitis and Crohn disease).
- Testing and improving motion-resistant MRI with pulse sequences such as PROPELLER for use in infants and nonsedated children.
- Examining the strengths and limitations of high-resolution, 3D MRI sequences such as CUBE and SPACE for complex pediatric diseases in the chest, abdomen and pelvis, including diseases of the liver, bile ducts, kidneys and pelvic organs.
- Studying bowel motion (peristalsis) and the changes in motion that occur in disease using MRI pulse sequences such as real-time CINE FIESTA.



RADIOLOGY OUTCOMES RESEARCH LABORATORY

Rebecca Smith-Bindman, Director

Research Directions:

The main objective of Radiology Outcomes Research Laboratory (RORL) is to rigorously evaluate the benefits and the harms of medical imaging that uses ionizing radiation in order to identify ways to improve patient safety.

- Demonstrate, through high-quality clinical and observational research, the impact of medical imaging on patient health, both beneficial and harmful.
- Improve the performance of diagnostic imaging tests by conducting clinical trials that provide the evidence for appropriate and safe use.
- Identify problematic trends in imaging, their potential impacts on patient safety and the health care system, and propose solutions.
- Educate health care professionals on the current evidence-based techniques for maximizing image quality while simultaneously improving patient safety.
- Engage health care providers in purposeful quality initiatives that have an immediate positive impact on the health care system and patient safety.

The RORL is dedicated to providing rigorous evidence on the value of medical imaging that uses ionizing radiation to allow patients and their providers to engage in meaningful shared decision making around medical imaging. Our goal is to understand the impacts of diagnostic medical imaging and lessen the impacts of imaging when the costs outweigh the benefits.

SAN FRANCISCO GENERAL HOSPITAL

Mark W. Wilson, MD, Chief

In addition to being the city's main public hospital and Level 1 Trauma center, San Francisco General Hospital is an active teaching hospital, closely allied with UCSF. Faculty and residents from the Department of Radiology & Biomedical Imaging pursue a broad range of clinical and basic science research, including: outcomes of blunt and penetrating injuries treated by embolization; outcomes analysis of tomosynthesis-guided breast biopsy; evaluating the incidence of breast cancer in transgender patients; application of quantitative atlas-based MR imaging techniques in assessing spinal cord injury; virtual classroom for global radiology education; multimodality imaging of traumatic brain injury; molecular MR imaging of liver injury; molecular imaging of infection; evaluation of endothelial abnormalities in brain and

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pulmonary aneurysms and AVMs; improving the efficiency of stroke diagnosis and triage to therapy; and MR-guided focused ultrasound treatment of musculoskeletal tumors and facet joints.

ULTRASOUND
Ruth B. Goldstein, MD, Chief

Research Directions:

- Prenatal diagnosis of CNS anomalies with ultrasound and MRI
- Further investigation of clinical manifestations and treatment of twin transfusion syndrome
- Prospective, randomized trial of repair of fetal myelomeningocele
- Prospective, randomized trial for selective ablation of connecting vessels in twin transfusion syndrome

VETERANS AFFAIRS MEDICAL CENTER: DIAGNOSTIC RADIOLOGY
Judy Yee, MD, Chief

Research Directions:

- Dose reduction for screening and diagnostic CT colonography
- Clinical applications for Stereoscopic 3D imaging
- Spectral imaging, dual energy, and low kVp CT imaging
- CT and MR contrast timing and delivery in the abdomen and pelvis
- Eovist MR for the detection of hepatocellular carcinoma
- High-field MR imaging of the prostate
- Stroke prediction using intimal thickness on carotid ultrasound

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VETERANS AFFAIRS MEDICAL CENTER: CENTER FOR IMAGING OF NEURODEGENERATIVE DISEASES

Pratik Mukherjee, MD, Director

Research Directions:

The Center for Imaging of Neurodegenerative Diseases (CIND) is a research center dedicated to studying the causes and effects of neurodegenerative and psychiatric disorders, using imaging such as MRI and PET. We currently have eight full-time faculty performing studies in various fields, including imaging of Alzheimer's disease, Parkinson's disease, depression, Post-Traumatic Stress-Disorder, Gulf War Illness, and substance abuse. We also work on the development of novel powerful methods for brain MR, including spiral imaging and new approaches for processing and multivariate statistical analysis of brain imaging. CIND is located at the San Francisco VA Medical Center and has a Bruker 4T MRI scanner, a Siemens 3T Skyra that was recently placed into operation and a 7T scanner.

Aside from studies at the CIND, faculty are also involved in large international imaging trials, such as the Alzheimer's Disease Neuroimaging Initiative (ADNI) and the Parkinson's Progression Marker Initiative (PPMI). CIND has been involved in the development of new strategies for the prevention of neurodegenerative diseases. We have started an initiative, directed by Dr. Michael Weiner, The Brain Health Registry. The purpose of the BHR is to promote healthy brain function through the prevention of brain diseases, disorders and injuries that affect brain function in adults. This is the first neuroscience project to leverage online possibilities in this way and on this large scale.

In the area of MRI and image processing, we work with different techniques including:

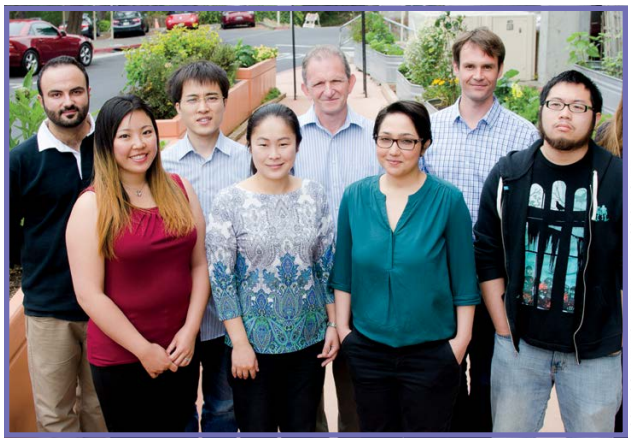
- Ultra-high resolution structural MRI
- Diffusion spectrum imaging
- Dynamic, arterial-spin-labeling imaging
- Resting-state functional MRI
- Susceptibility-weighted imaging
- Spectroscopic imaging and j-modulated spectroscopy
- Bayesian image reconstruction
- Multivariate image analysis methods

VETERANS AFFAIRS MEDICAL CENTER: VASCULAR IMAGING RESEARCH CENTER

David Saloner, PhD, Director

Research Directions:

- Development of methods for visualization of complex flow in intracranial aneurysms
- Assessment of novel contrast agents in MR angiography
- Development of patient-specific models for review of endovascular therapies
- Analysis of plaque vulnerability using patient-specific image based computational methods
- Development of 4-D MR velocimetry methods for determination in analyzing the impact of hemodynamics on vascular disease progression



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Grants and Fellowships

Grants

Myriam M. Chaumeil, PhD

- Cal-BRAIN; MR metabolic imaging of Neuro Inflammatory processes in Vivo for improved diagnosis and monitoring of treatment response: pilot applications to Traumatic Brain Injury and Multiple Sclerosis, 02/01/15–01/31/16, $120,000.00
- National Multiple Sclerosis Society; Non-invasive assessment of Macrophages Polarization status in MS using Hyperpolarized 13C Magnetic Resonance Spectroscopic Imaging, 04/01/15–03/31/16, $43,978.00

Jesse L. Courtier, MD

- Society for Pediatric Radiology Res & Ed Fdn; Diffusion Tensor Imaging in Pediatric Renal Transplants: A Potential Non-Invasive Alternative to Biopsy, 07/01/14–06/30/15, $10,000.00

Daniel L. Cooke, MD

- Siemens Medical Solutions USA, Inc.; Computed Flow Dynamics (CFD) Software Evaluation, 07/01/14–06/30/16, $71,100.00
- Siemens Medical Solutions USA, Inc.; 4D-DSA Prototype Software Project, 06/11/15–06/10/17, $92,419.00
- SNIS Foundation; Endovascular Biopsy: Evaluation of technical feasibility of Coil-based Endothelial Cell Harvesting and Differential Endothelial Cell Gene Expression between Ruptured and Non-ruptured Aneurysms within a Human Population, 05/20/15–12/31/15, $25,000.00

Michael J. Evans, PhD

- Prostate Cancer Foundation; Exploiting the Genetics of Advanced Prostate Cancer for Tumor Detection and Therapy with Transferrin-Based Radionuclides 05/20/13–05/19/16, $225,000.00
- Memorial Sloan-Kettering Cancer Center; Annotating Onncogene Status in Prostate Cancer with Zr-89-transferrin PET, 04/01/14–03/31/18, $424,101.00

Robert R. Flavell, MD, PhD

- Society of Nuclear Medicine; Study of Acidic Interstitial pH in Aggressive Prostate Cancer Using Novel PET and Hyperpolarized 13C Imaging Probes 07/01/15–06/30/16, $25,000.00

Nicholas Fidelman, MD

- Biocompatibles UK Ltd; Phase II Study of Chemoembolization with Doxorubicin-Eluting Microspheres for Liver Transplantation Candidates with Hepatocellular Carcinoma and Marginal Hepatic Reserve, 08/20/14–08/20/17, $165,437.00

Christopher P. Hess, MD, PhD

- Quest Diagnostics Inc.; Dementia Pathway Neuroimaging Core Phase 1A, 01/05/15–12/05/15, $230,598.00

Steven W. Hetts, MD

- Stryker Corporation; Surpass Intra-Cranial Aneurysm Embolization System Pivotal Trial to treat large or giant Wide Neck Aneurysms (SCENT Trial) 10/10/14–10/10/20, $7,371.00
- Stryker Neurovascular; Safety and Effectiveness of the Treatment of Wide Neck, Intra-Cranial, Saccular Aneurysms with the Neuro form Atlas Stent System (ATLAS Trial), 10/10/14–10/09/17, $169,716.00
- Stryker Neurovascular; Clinical Services for the Prospective, observational, multi-center, single-arm, consecutive enrollment, post-marketing, international registry of the Surpass Flow Diverter in Intracranial Arteries (SURMOUNT Registry), 03/11/15–03/11/20, $303,768.00
- NIH Natl Cancer Institute; Endovascular Chemo-filtration: Optimizing Removal of Chemotherapeutics and Nanoparticles from the Blood to Reduce Toxicity 06/01/15–05/31/20, $2,595,272.00
- Johnson and Johnson; Online Neuropsychological Test Validation Project with Imaging Pilot, 07/01/14–06/30/19, $911,805.00
- Chemofilter; A Novel Catheter Device to Enable High Dose Chemotherapy Delivery, 08/01/14–07/31/15, $114,100.00

Michael D. Hope, MD

- NIH Natl Heart, Lung & Blood Institute; Hemodynamic and Inflammatory Imaging in Evaluation of Abdominal Aortic Aneurysms, 01/01/15–12/31/18, $1,562,586.00

Thomas A. Hope, MD

- Radiological Society of North America; Interim response to Y-90 therapy of Neurondocrine Tumor using DOTA-TOC PET/MRI, 07/01/15–06/30/16, $40,000.00

Nola M. Hylton, PhD

- NIH Natl Cancer Institute; Real-time In Vivo MRI Biomarkers for Breast Cancer Pre-Operative Treatment Trials, 07/13/15–06/30/20, $2,466,331.00
- ECOG-ACRIN Medical Research Fdn Inc.; ACRIN 6698: Diffusion Weighted MR Imaging Biomarkers for Assessment of Breast Cancer Response, 08/01/14–07/31/15, $85,488.00
- ECOG-ACRIN Medical Research Fdn Inc.; ECOG-ACRIN Operations Center, 04/29/14–02/28/15, $46,000.00
- American College of Radiology; ACRIN 6691: Monitoring and Predicting Breast Cancer Neoadjuvant Chemotherapy Response Using Diffuse Optical, 07/01/13–02/28/14, $5,000.00

Maureen P. Kohi, MD

- Insightec Ltd.; A Clinical Study to Evaluate Safety of the ExAblate Model 2100 Type 1.1 System (ExAblate 2100/2000 UF V2 System) in the Treatment of Symptomatic Uterine Fibroids, 07/08/14–07/08/16, $256,335.00
- InSightec Ltd.; Patient Long-Term Follow-Up To Collect Data Following MR-Guided Focused Ultrasound Treatment of Uterine Fibroids With ExAblate Model 2100 Type 1.1 System, 10/10/14–10/10/19, $51,516.98
- Focused Ultrasound Surgery Foundation; Accelerated Ultrasound Ablation of Uterine Fibroids with MR-Guided Vascular Targeting - A pilot study, 06/01/14–05/31/15, $50,000.00

Rahi J. Kumar, MD

- Radiological Society of North America; In Vitro and In Vivo Differentiation and Quantification of Novel Contrast Materials at Dual-Energy CT, 07/01/15–06/30/16, $30,000.00

John Kurhanewicz, PhD

- DyNuPol, Inc.; DNP Polarization Agents for Real-Time Metabolic Imaging and Clinical Diagnosis, 12/11/14–12/11/16, $64,501.00

Thomas F. Lang, PhD

- Icelandic Heart Association; Develop and Implement Image Analysis Chain to Segment Computed Tomography (CT) Scans of the Hip, Construct Atlas for Voxel Based Morphometry (VBM) and Tensor Based Morphometry (TBM) Analyses, and Execute Finite Element Models (FEM) to Compute Bone Strength, 10/01/14–09/30/15, $77,976.00

Peder E. Larson, PhD

- GE Healthcare; Ultra high field MR for Precision Medicine and Personalized Patient Care, 08/17/15–08/31/17, $500,000.00
- NIH Natl Inst of Biomedical Imaging & Bioengineering Hyperpolarized C-13 Diffusion MRI Measures of Cellular Transport and Metabolism, 09/17/14–05/31/15, $1,990,000.00
- National Multiple Sclerosis Society; Ultra-short Echo Time Magnetic Resonance Imaging of Myelin and Meninges in Multiple Sclerosis, 12/01/14–11/30/15, $44,000.00

Thomas M. Link, MD, PhD

- Insightec Ltd.; A Post Approval Registry: ExAblate Treatment of Metastatic Bone Tumors for the Palliation of Pain, 06/05/14–06/05/20, $78,248.0
- Insightec Ltd.; A Phase IV Post Approval Clinical Study of ExAblate Treatment of Metastatic Bone Tumors for the Palliation of Pain, 12/04/14–12/31/16, $175,608.00
- NIH Natl Inst Arthr, Musculoskel & Skin; Impact of Weight loss on Knee Joint Biochemical and Structural Degeneration, 08/01/14–07/31/19, $1,586,327.00
- NIH Natl Inst of Biomedical & Bioengineering Imaging for Clinician Scientists, 07/01/15–06/30/20, $1,402,406.00
- O.N. Diagnostics, LLC; Robust BCT for Clinical Use - Phase II, 05/06/14–04/30/17, $146,150.00

Janine M. Lupo Palladino, PhD

- NIH Natl Inst. Child Health & Human Development; Microbleeds as a marker of Radiation-Induced Brain Injury in Pediatric Patients, 04/01/15–01/31/16, $2,470,114.00

Hugh C. McGregor, MD

- Endocare, Inc.; Gallbladder Cryoablation: An Alternative Therapy for Gallbladder Disease in High-Risk Patients, 07/15/15–12/31/15, $5,000.00

Dieter Meyerhoff, PhD

- Dept. of Defense; Brain MR Spectroscopy Biomarkers in a Clinical Trial of PTS Patients with Comorbid AUD, 05/01/15–04/30/18, $804,884.00
- NIH/National Institute of Mental Health; Cell Aging in Major Depression (Sub), 04/01/15–03/31/20, $218,786.00

Pratik Mukherjee, MD, PhD

- GE Healthcare; Advanced MRI Applications for Mild Traumatic Brain Injury, 07/01/14–07/01/1, $548,333.00
- NIH/National Institute Of Neurological Disorders And Stroke (NINDS); MRI Corticography (MRCoG): Microscale Human Cortical Imaging, 09/01/14–08/31/17, $268,275.00

Carina Mari Aparici, MD

- UC Cancer Research Coordinating Comm.; Feasibility of Pre-therapy Dosimetry for Peptide Receptor Radionuclide Therapy of Neuroblastoma, 07/01/15–06/30/16, $55,000.00

Susanne Mueller, MD

- Epilepsy Foundation; Brainstem atrophy: A SUDEP biomarker, 07/01/14–06/30/15, $50,000.00
- NIH/ National Institute of Neurological Disorders and Stroke; SUDEP: Research Alliance: Clinical Network Core; Application 2 of 7 (Sub), 09/01/14–07/31/16, $38,325.00

Srikantan S. Nagarajan, PhD

- NIH Natl Inst Deafness & Communication Disorder; Imaging Sensorimotor Adaptation and Compensation in Speech, 07/01/14–06/30/19, $1,679,633.00

Michael A. Ohliger, MD, PhD

- RSNA Research & Education Foundation; Non-invasive Monitoring of Liver Inflammation and Fibrosis Using Hyperpolarized Carbon-13 MRI, 07/01/14–06/30/16, $150,000.00

Kimberly M. Ray, MD

- Mt. Zion Health Fund; Digital Breast Tomosynthesis Patient Education Resource, 04/01/15–06/30/16, $11,000.00

Bhavya Rehani, MD

- RSNA Research & Education Foundation; Developing Web-based Virtual Classroom Teaching RISE (Radiology International Student Virtual Education) Platform: A Pilot International Outreach Educational Program, 07/01/15–06/30/16, $75,000.00

David Saloner, PhD
- NIH/National Heart, Lung, and Blood Institute; MRI of Structure and Function in Assessing Hemodynamic Impact on AAA Evolution, 04/08/14–03/31/18, $1,779,567.00

Youngho Seo, PhD
- UC Berkeley; Targeted Imaging Agents Based on Synthetically Modified MS2 Viral Capsids, 09/30/14–06/30/16, $75,372.00

John A. Shepherd, PhD
- Amgen, Inc.; Appearance modeling of hip bone density and soft tissue composition for fracture discrimination, 09/29/14–09/29/16, $95,000

Norbert Schuff, PhD
- Michael J. Fox Fdn for Parkinson's Research; Variations in Brain Functional Complexity Across Neuro Degeneration, 01/22/15–01/21/17, $150,000.40

Rebecca Smith-Bindman, MD
- NIH Natl Cancer Institute; CT DOSE Collaboratory, 09/12/14–08/31/19, $6,215,485.00
- NIH Natl Cancer Institute; Risk of Pediatric and Adolescent Cancer Associated with Medical Imaging, 03/01/15–02/29/20, $10,027,399.00
- PCORI (Patient Centered Outcomes Research Institute), 09/02/2013-08/31/2016 $1,881,241.00
- PCORI Co-PI 4/01/2015- 03/30/2020, $14,458,936, Pragmatic Trial of More versus Less Intensive Strategies for Surveillance of Patients with Small Pulmonary Nodules

Duygu Tosun-Turgut, PhD
- NIH/ National Institute of Mental Health; Multimodal MRI Characteristics of Psychotherapy Response in Late Life Depression, 06/01/15–02/29/20, $3,613,411.00
- AVID Radiopharmaceuticals, Inc.; A High Resolution Autopsy Study Evaluating the Relationship of 18F-AV-1451 PET Imaging and Tau Pathology, 01/01/15–06/30/16, $713,942.00

Henry F. VanBrocklin, PhD
- Nektar Therapeutics; Radiolabelling and Small Animal Testing of NEKTAR192 04/29/14–04/29/15, $53,909.00
- GE Healthcare; Imaging TBI Neuro Inflammation, 12/08/14–12/08/15, $66,920.00
- DOD US Army Med. Res. Acq. Activity; Development of a PET prostate specific membrane antigen imaging agent: Preclinical translation for future clinical application, 07/01/14–06/30/16, $1,421,999.00
- University of Iowa; Aptamer Inflammation Reporters, 07/15/14–06/30/16, $115,035.00

Michael W. Weiner, MD
- CogState Ltd.; Cogstate - Amd 1 to license agreement for online content for The Brain Initiative, 02/10/15–02/10/16, $60,000.00
- Dept. of Defense; Effects of Traumatic Brain Injury and Post-Traumatic Stress Disorder and Alzheimer's Disease on Brain Tau in Vietnam Veterans using ADNI", 09/22/14–09/21/17, $5,281,404.00
- Dept. of Defense; TBI Endpoints Development (Sub), 09/01/14–09/30/19, $1,011,614.00

Dorota J. Wisner, MD, PhD
- UC Davis; Integrating near infrared Spectroscopy and Ultrasound to reduce benign Biopsies of the Breast, 07/01/14–06/30/15, $55,000.00

Benjamin Yeh, MD
- GE Healthcare; Uniformity of Oral Contrast Material in the Bowel (OMPQ-15-01) 08/10/15–08/10/20, $95,861.00
- Nextrast, Inc.; Phase I STTR: Efficacy of Silicon-based Dual Energy CT Contrast Material, 09/16/14–08/31/15, $122,353.00

Esther L. Yuh, MD, PhD
- General Electric Company; Topological Algorithms and Diffusion Imaging to Diagnose and Predict the Severity of Head Impacts on White Brain Matter, 10/20/14–10/20/15, $300,000.00

Fellowships

Jacob D. Brown, MD, PhD
- RSNA Research & Education Foundation; Image-guided selective analgesia produced by Intraganglionic Injection of Resiniferatoxin, 07/01/14–06/30/15, $30,000.00

Nicholas S. Burris, MD
- RSNA Research & Education Foundation; Combined Evaluation of Hemodynamic and Inflammatory Markers in Chronic Type B Aortic Dissection Using PET/MRI, 07/01/15–06/30/16, $50,000.00

Robert R. Flavell, MD, PhD
- RSNA Research & Education Foundation; Application of novel PET and Hyperpolarized 13C Probes to the Characterization of Acidic Interstitial pH in Prostate cancer, a Potential Biomarker for Aggressive Disease, 07/01/15–06/30/16, $50,000.00

Donna E. Murray, PhD
- NIH Natl Inst Alcohol Abuse & Alcoholism; Self-Regulation and Neural Networks in Alcohol Use Disorders, 09/03/15–09/02/17, $115,636.00

Alireza Radmanesh, MD
- Soc for Pediatric Radiology Res & Ed Fdn; Structural and Functional Connectivity of the Attention Network: Identifying Imaging Biomarkers of the Attention Impairment in Pediatric Concussions and Neuroplasticity after Cognitive Training, 07/01/15–06/30/16, $30,000.00

John-Paul J. Yu, MD
- RSNA Research & Education Foundation; Combined Biochemical, Genetic, and Metabolomic Efforts Towards Neuroimaging Schizophrenia and Psychiatric Disease, 07/01/14–06/30/15, $50,000.00

The Department of Radiology and Biomedical Imaging is grateful to the many alumni who give back with a gift to the department.

"The Margulis Society funds several educational opportunities that help make UCSF Radiology the exceptional training program that it is. I loved my experience as a UCSF resident and fellow as I not only learned radiology, but also made lifelong friendships. I enjoy being able to contribute to the residency through a Margulis Society donation."

—Nazia Jafri, MD
Residency '12, Fellowship, '13
California Pacific Medical Center, San Francisco, Calif.

"It is a great honor to be a graduate of the UCSF Radiology residency and fellowship. The financial support the Margulis Society provides to residents made a huge difference to me. I am delighted to be able to donate to a program that gave me so much, both personally and professionally. The UCSF Residency results in lifelong friends and colleagues. Pay it forward!"

—Tracey Dellaripa, MD
Palo Alto Medical Clinic and Breast Care Center, Palo Alto, Calif.
Residency '02, Fellowship, '03

"I'm sure that close to 100% of the radiologists who graduated from the UCSF Radiology residency feel a sense of gratitude, as do I, for the excellence of the radiologic training we received and the friendships we formed with our fellow residents and those who taught us with such skill and dedication. For this reason, many of us choose to give annually to the Margulis Society. But for me it's so much more than that and it's intensely personal. As I neared the end of my residency I met with Chairman Alex Margulis and asked if he might consider me for a teaching position at SFGH. It was no secret that I was not driven to publish and had zero aptitude for research. Alex was well aware of these academic deficiencies that clearly did not bode well for a career in academic radiology. I've never forgotten his immediate response: 'You know, there's more than one way to skin a cat.' And he offered me a job at SFGH, which I have held for almost 50 years (15 years beyond my retirement, thanks to the kindness of Alex's successor, Ron Arenson). Not only did Alex give me a start, but, over the years, he shepherded my steady climb through the ranks. I give to the Margulis Society not only to express my gratitude for the training I received and the friendships I formed here, but also to honor the man who made my career possible. But wait, there's more! Ron Arenson initiated the drive for the establishment of a Hideyo Minagi Chair. The fundraising for the Chair was successfully undertaken by the Margulis Society. This is the highest honor I have ever, or ever will, receive, and it means more to me than anything in my life, except for my Kathy. Hey, I told you that my support for the Margulis Society is intensely personal! Please join me in giving."

—Hideyo Minagi, MD
Residency '66
Clinical Professor Emeritus, UCSF

University of California
San Francisco