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UNIVERSITY OF WISCONSIN SCHOOL OF MEDICINE AND PUBLIC HEALTH • DEPARTMENT OF RADIOLOGY

The INSIDE VIEW

FROM THE CHAIR



During the past months, we have been forced to deal with the onslaught of the Coronavirus pandemic. As a result of your compassion, dedication, and hard work, signs are showing that we have the potential to emerge stronger than ever as a Department. In this edition of the *Inside View*, you will have the opportunity to learn about some of the people who have made a difference in – and beyond – our department. Our commitment to and celebration of innovation reassures me that the Wisconsin Idea is hard at work in Radiology. We share the knowledge and ideas brought about by our research well beyond the boundaries of classroom and laboratory — many of these advancements make a worldwide impact. Our department's strategic relationship with GE Healthcare's imaging technologies groups is fueled by sharing these departmental discoveries, which GE is able to leverage to improve patient care around the world. Likewise, ideas originating from our scientists and clinicians are becoming game-changers in the medical world beyond imaging. Dr. Fred Lee and collaborators came up with a medical device to help surgeons better pinpoint and remove breast cancer tumors. Dr. Humberto Rosas and his anesthesiologist wife Dr. Guelay Bilen-Rosas are developing a device that will better monitor a patient's breathing while under anesthesia. Read about these exciting advancements and more as we continue to lead the way forward!

- Thomas M. Grist, MD, FACR
Chair, UWSMPH Department
of Radiology

UW RADIOLOGY PUTS WORDS INTO ACTION TO IMPROVE CLIMATE OF DIVERSITY & INCLUSION

The Department of Radiology is committed to fostering and cultivating a diverse and inclusive environment, to provide universally remarkable care to each of our patients, and to ensure accessible radiologic services to everyone in our state. Recent statements from campus and medical field leaders have emphasized that rhetoric alone will not change things. We need and to take action, including the direction of our financial support, to begin making substantive progress in our fight against racism. In concert with this philosophy, I want to announce three specific actions the Department of Radiology will be taking to address racial discrimination and bias:

1) Promote Diversity and Inclusion Within Our Department

Effective immediately, I am pleased to announce the creation of a new position for Director of Diversity and Inclusion, which will be held by Dr. Daniela Martin. Dr. Martin has a long history of involvement and fostering positive action to promote opportunities for women and multicultural audiences. She has been an organizer of a campus Latino Health Fair, was an invited faculty to a monthly dinner series organized by the UW Office of Multicultural Affairs, and has served as a BEAM (Building Equitable Access to Mentorship) mentor at UWSMPH. Dr. Martin is an excellent candidate for this inaugural appointment for our department and brings a positive and diverse perspective to some of the issues and opportunities we face.



Dr. Martin

2) Expand Our Philanthropic Efforts to Address Current Community Needs

I have asked our UWSMPH Radiology finance committee to consider our philanthropic options and make a recommendation for concrete steps we can take that are in line with our goals

as a department to address racial discrimination and bias. As always, we will be following the guidelines for giving for the funds we have already set aside to support important community initiatives that our faculty and staff are involved in. If you have a recommendation for a community organization that is focused on reducing inequities and the impact of racial disparities in our community, reach out to Dr. Jonathan Swanson with any questions.

3) Increase Departmental Focus on Inclusion and Diversity

We hope to lead by example by expressing our deep commitment to diversity and inclusion, and our intolerance of racist behaviors. This academic year, we have established the theme "Fostering an Inclusive and Diverse Environment" for our departmental professional development curriculum. In addition, we have created an ad-hoc Diversity and Inclusion Committee to focus on residency recruitment and retention strategies. We are planning a series of activities to gain a greater understanding of ourselves and how our actions and inactions affect others. We will use researched strategies offered by our institution to help us through this process. The first event we will have is to partake in "bystander training" offered by Shiva Bidar-Sielaff, UW Health Chief Diversity Officer. This interactive workshop will provide actionable tools to both recognize our own and other's unconscious biases and to intervene as allies when we witness biased or racist behaviors. This year, we develop strategies that empower us with knowledge and skills to mitigate our biases and create an environment that is supportive and inclusive for all individuals. Since meaningful progress comes from continued learning, it is our intention to create short and long-term strategic plans beyond this coming academic year in which all of us are involved in making change.

OUR GRATITUDE TO THE MANY COVID -19 HEROES!

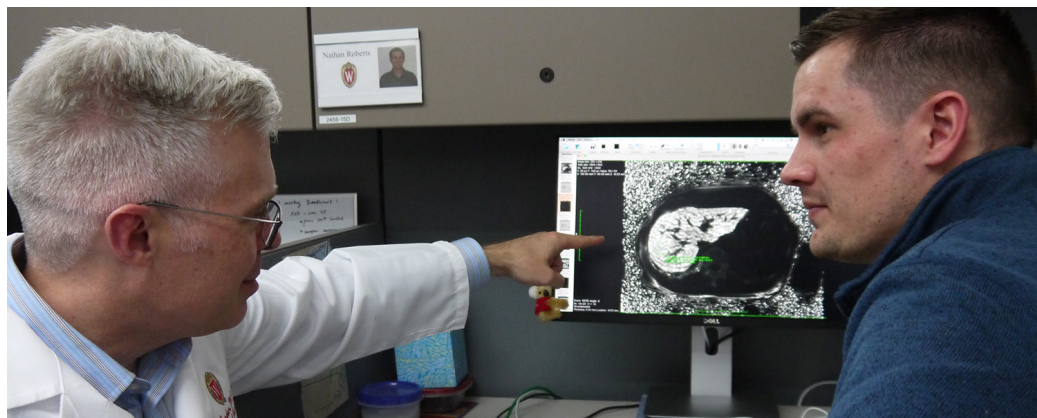


Team Radiology has played a major role on the front lines of the fight against COVID-19. We want to recognize the teams and individuals who have worked so hard, made sacrifices, and risen to this daunting challenge.

Technologists who are performing imaging and procedures on patients with urgent needs. They have put themselves on the front lines, especially the diagnostic radiology technologists who are called on to do portable Chest x-rays of COVID-19 patients. All are following stringent precautions when providing imaging services.

Radiology Department nurses and Interventional Radiology technologists who care for COVID-19 patients. Our receptionists have implemented safeguards and ask screening questions about fever and cough to all outpatients presenting for imaging. In areas that have reduced volume due to COVID-19, Radiology employees have been redeployed to other areas of need within the organization.

Our radiologists, who have been very proactive in using best practices learned from other radiology departments that survived previous SARS and MERS epidemics. Faculty sections have divided into cohorts and are working alone in separate reading rooms. Fellows are also working



Scott Reeder, MD, PhD, and Nate Roberts, College of Engineering PhD Candidate and member of Dr. Reeder's lab are two of the scientists who routinely collaborate with the scientists and engineers at GE Healthcare to share emerging technologies from their research that GE can translate into product innovation.

UW RADIOLOGY SHARES EXPERTISE TO PRODUCE NEW INNOVATIONS THROUGH SPECIAL RELATIONSHIP WITH GE HEALTHCARE

The Department of Radiology has a unique relationship with GE Healthcare, a leading global provider of medical imaging technology and equipment. This partnership has proven time and again to be a great asset to both entities, and a huge benefit to patients worldwide.

Separated only by a 60-mile stretch of Interstate 94, the two organizations have been collaborating on cutting-edge radiological research as far back as the mid-1980s. The relationship was formalized into a Comprehensive Research Agreement (CRA) over two decades ago.

"This CRA established the principles for this long-standing collaboration that brings together Radiology and Medical Physics, and leverages this translational and innovative environment that we have built here," said Scott Reeder, MD, PhD, the H.I. Romnes Faculty Fellow and the Vice Chair of Research for the Department of Radiology at UW-Madison.

The Department of Radiology works closely with GE Healthcare directly to develop new innovations in medical imaging, having cleared the hurdles of setting intellectual property terms and the process for establishing fair market exchange of value to ensure compliance with federal law.

It is an excellent relationship that has enabled the incorporation of new technologies from discovery to actual product, helping to improve the delivery of clinical medicine.

"We're able to visit the world headquarters of GE Healthcare to interact more closely with the scientists, engineers, and applications specialists there," Dr. Reeder said. "Similarly, they can visit UW very easily — we even have two GE personnel who are embedded in our department to directly facilitate this collaboration," Dr. Reeder said.

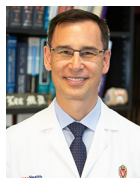
"Innovations that are developed by UW investigators can be directly translated into clinical care via commercial products from GE, and similarly, GE can develop innovative new technologies that we're able to validate clinically to help them in ways they couldn't do on their own — so it's a really great partnership in that way," Dr. Reeder continued.

Last year, when GE Healthcare wanted to tackle the issue of how to obtain a quantitative measure for the amount of iron in the liver, they reached out to Dr. Reeder. High levels of iron in the liver, often called iron overload, may result from a hereditary condition called hemochromatosis, which is the excessive absorption of iron into the body from food. It can also result from hemosiderosis, which can be a result of repeated blood transfusions. For both conditions, excess iron can result in life-threatening conditions and other serious health issues.

"This technology was something our team developed — with help from GE," Dr. Reeder said. "GE had expressed interest in translating it into a commercial product, but

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FRED T. LEE, JR, MD, PART OF TEAM TO DEVELOP GPS DEVICE TO BETTER LOCATE BREAST CANCER TUMORS

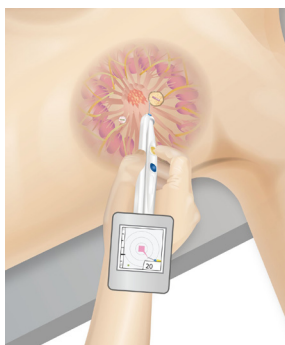


Dr. Lee

Fred Lee, Jr., MD, the Robert Turrel Professor of Imaging Science in the Abdominal Imaging and Intervention Section of the UWSMPH Department of Radiology, was recently noted for his innovative contribution to breast cancer surgery. Dr. Lee, along with Lee Wilke, MD, from the UW Department of Surgery, Dan van der Weide, PhD, Professor of Electrical and Computer Engineering, and business leader Laura King formed a new company, Elucent Medical, Inc., to bring this product to market for clinical use.



Dr. Wilke



The Elucent Medical SmartClip™ will help surgeons more accurately locate and remove breast cancer tissue. Fred Lee, MD, UW Radiology faculty was part of the team that developed this innovative device.

The new company developed Elucent Medical's SmartClip™, a GPS device that can help breast cancer surgeons better target tumors in breast tissue. Previously, the metal clip that would be inserted during biopsy necessitated a second procedure to insert a hook-wire that the surgeon could follow during surgery to remove the tumor.

"The problem we were able to successfully solve with the Elucent technology was not trivial," Dr. Lee said. "Our first clinical application is in the localization of breast tumors, and we have already successfully replaced the hook-wire localization technique in patients at both St. Mary's Hospital (Madison) and the UWHC."

As the leader of the entrepreneurial group, Laura King has made it clear that successful medical device companies must



Laura King

have embedded expertise in business, clinical, and engineering. "We are very grateful to have Dr. Lee Wilke on board as one of our Elucent Founders," Dr. Lee said. "As a world leader in breast surgery, she worked with the design team to ensure that the final product was one that surgeons would want to use to speed procedures, help decrease positive margins, and more accurately localize tumors."

The core of the technology for this innovative device was envisioned by Dr. van der Weide to have the ability to localize a SmartClip embedded in tissue with 1-2 mm resolution. Dr. Lee sees an exciting future for this new technology. "We are looking at several other applications of the technology which we believe has many potential uses in the head/neck, chest, and abdomen," he said.

Drs. Lee, van der Weide, and Ms. King previously collaborated to found another company, NeuWave Medical, which was sold to Ethicon, a medical device subsidiary of Johnson and Johnson in 2016. Drs. Lee and van der Weide previously developed the technology to produce a minimally invasive microwave tumor ablation device. After the buyout, several NeuWave employees migrated to Elucent Medical.

"As I think back on our last two companies, I feel as if the 'secret sauce' has been having great partners from different disciplines who can work together to push the technology into patients," Dr. Lee said. "At the inception of an idea, having a close collaboration between medical and engineering is absolutely critical, and the partnership between the UWSMPH and the UW College of Engineering is and will be a major driver of discovery far into the future," he continued. "As academic radiologists and surgeons, we need to aggressively seek out engineers like Dr. van der Weide and business leaders like Ms. King, without whom our ideas would never translate into the technology that can truly benefit patients."



Dr. van der Weide

COVID-19 HEROES (FROM P. 2)

in separate rooms to maintain social distancing. As a safeguard, fewer residents are working during the day than they typically are, and those working have spread out into separate reading rooms. The Interventional Radiology residents are involved in cases but are practicing the current infection control precautions. Residents are still actively involved in after-hours care, but have moved out of the Emergency Department reading room up to the Neuroradiology area where they can maintain safe distances between the other members of the radiology call team. All our radiologists are encouraging clinicians to call us to discuss cases rather than coming down to our reading rooms.

UWSMPH Department of Radiology faculty, to recognize the challenging work being performed by those on the front lines of the COVID-19 crisis at department imaging sites, who have established the "Feed the Front Lines" fund. This enabled a free Blue Plate Catering meal to department employees serving at the forefront of the coronavirus pandemic. We truly appreciate the generosity of faculty, staff and others who made important contributions to the fund. As a direct result of this fund, nearly \$16,000 has been raised to date, and 1,326 meals have been delivered to the control areas of each respective unit since its inception.

The Radiology IT and Media team who quickly built a special portal on the department Intranet dedicated to COVID-19 information, procedures, helpful links and literature to help us all cope with this "new normal." This robust tool has been a mainstay during the pandemic and helped us all navigate the way forward and stay connected with the most current information available.

NEWS BRIEFS

The UW Small Animal Imaging & Radiotherapy Facility (SAIRF), led by radiology faculty member **Jamey Weichert, PhD**, was successfully awarded an NIH Shared Instrumentation Grant (SIG) S10 for an MILabs U-SPECT/CTUHR (ultra high-resolution) system. This system is scheduled for installation in late summer, 2020, and when installed, will be the only micro-SPECT system in Wisconsin.

Pamela Propeck, MD, was recently appointed as a Trustee of the American Board of Radiology (ABR), representing the Breast Section. Dr. Propeck will serve as the lead Breast Specialist, providing oversight and direction to ABR staff and volunteers relating to the examination process for radiologist board certification.

Guang-Hong Chen, PhD, recently received a COVID-19 Response grant of over \$150,000 over 12 months from the Wisconsin Partnership Program and the Partnership Education and Research Committee. Dr. Chen's team's Artificial Intelligence project "Alternative Means to Diagnose COVID-19 Pneumonia," received recognition to help get the project started as soon as possible.

Thomas Grist, MD, FACR, along with Kristin Eschenfelder, associate director of the School of Computing, Data and Information Sciences; Rob Nowak, professor of electrical and computer engineering, computer sciences, statistics and biomedical engineering; Vallabh Sambamurthy, dean of the Wisconsin School of Business, were selected for funding by the UW's Cluster Hire project. With advances in artificial intelligence, we are poised to revolutionize the way in which medical imaging affects clinical care and scientific discoveries in medicine. The proposal outlines three key faculty positions that will be foundational to an expansion of UW-Madison's leadership in the field of AI.

Leroy Williams, PhD, received a two year NIH-NINDS predoctoral training grant of \$130,000 to predict recovery in stroke patients who receive Brain Computer Interface

4 intervention as part of Dr. Vivek Prabhakaran's R01 stroke study.

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NEW INNOVATIONS WITH GE HEALTHCARE (FROM P. 2)



Dr. Reeder

the most effective way to do that is by engaging the help of the people who know the technology the best," he said.

"But we're not in the business of making commercial products. By allowing one of our students to pursue an internship as a GE employee, we were able to send our expertise directly to the manufacturer to translate this new technology into a potential product," Dr. Reeder said.

Nate Roberts, a PhD candidate who has worked with Dr. Reeder since 2015, was selected for the internship to help GE commercialize this iron quantification technology. Roberts, a UW electrical engineering student from Idaho Falls, ID, spent three months at GE Healthcare's Waukesha, WI facility sharing his brain power and working side-by-side with GE Healthcare scientists and engineers with the task of making it all work. This mission was Nate's third internship with the GE Healthcare team, having worked previously with both Surgery and PET/CT scientists at GE.

With no method yet available to produce a map of the iron concentration in the liver, Roberts was tasked to implement a quantitative MR liver concentration mapping algorithm, developed by Dr. Reeder and Dr. Diego Hernando, that would provide accurate measurements of the concentration of iron throughout the liver. "Dr. Reeder and Dr. Hernando have done a lot of work at the UW over the last decade or more of developing these quantitative algorithms for MRI, especially in the liver," Roberts said.

"Over that time, these algorithms have gotten a lot better and more sophisticated, which improves the accuracy of the measurement of iron in the liver," Roberts continued. "I was able to translate these more cutting-edge algorithms, developed here in our group at UW, into the GE product infrastructure to update the older algorithms and added new functionality that would output a map of liver iron concentration," he said.

During the internship, Roberts received helpful exposure to key people at GE Healthcare. "When I was selected for the internship, I

was lucky to have Kang Wang from GE Healthcare assigned as my mentor. Kang used to work with UW Radiology, and I had worked with him before," Roberts said. "His role at GE is to blend investigational science and engineering. The team I was on takes new ideas and translates them into engineering solutions," he continued. "I learned so much being part of that environment."



Nate Roberts

Roberts also worked closely with Ersin Bayram, Manager, Body and Oncology MR Applications, "Both Kang and Ersin were really great mentors, and helped me to get a good feel for how to be a good engineer, scientist, and a member of an industry team."

"Nate was the ideal candidate to help develop the solution to quantify iron in the liver," said Ersin Bayram, Manager, Body & Oncology MR Applications and Nate's manager during his internship. "He was so effective because of his technical expertise on iron quantification and all the close relationships he had formed during his previous internships. "The solution that Dr. Reeder had developed (for iron overload) was translated to a prototype with product ready implementation by Nate's great work. After just twelve weeks he really took this project over the finish line, and got an amazing amount of work done. We will soon share this prototype with other academic sites around the globe to gather clinical feedback and test its robustness under different clinical conditions." he said.

The benefits of interorganizational collaboration do not stop at the development of innovative new products. "These PhD students need a job when they finish their studies," Dr. Reeder said. "Most are interested in either industry or academic careers – but many aren't sure. This is a fabulous way to immerse them — for an extended period — in an industry environment to allow them the opportunity to figure out whether or not this is something they'd like to do," Reeder said. "It's a job tryout and we achieve a goal that is of mutual interest — to translate these technologies into commercial products, which ultimately means better clinical care."

CLINICIAN-INVENTORS DEVELOPING BETTER WAY TO MONITOR BREATHING UNDER SEDATION

Wife-and-husband researchers are developing a new breathing monitoring technology at the University of Wisconsin–Madison. After a year and a half scouring the health-care market for a device that could provide real-time monitoring of patients undergoing sedation, UW School of Medicine and Public Health (UW-SMPH) pediatric anesthesiologist Dr. Guelay Bilen-Rosas was frustrated not only because she could not find an existing device, but neither one that might be in development.

Dr. Bilen-Rosas' husband, Humberto "Tito" Rosas, a UWSMPH associate professor in the Department of Radiology, was very sympathetic to her plight. A radiologist in the musculoskeletal section, Dr. Rosas routinely performs interventional techniques on sedated patients and knows the challenges first-hand of properly monitoring patients' breathing parameters to avoid them going into respiratory compromise.

"When we perform vertebroplasties, or other more invasive procedures, we've had a couple of patients go into respiratory depression, and the pulse oximeter and blood pressure cuff were the only monitoring devices we had available," Dr. Rosas said. "By the time we realized the patient was having respiratory difficulties, they were a further along than we would have liked as these monitors detect secondary downstream effects from decreased oxygenation. The end result is that we had to act quickly to perform measures to reverse the effects of the sedatives and treat the patient," Rosas said.

"I thought, wouldn't it be great if I would have had advanced notice and a few additional minutes to address this medical emergency – especially in this particular circumstance, where we have large gauge needles in a patient's back which need to be removed in order to roll them over and initiate what can be life saving measures – time is of the essence," Rosas continued. "I started looking into the problem because this was a recurring topic and an issue my wife was passionate about and wanted to discuss. It turns out this is a global issue, and that there are a large number of cases of brain damage, cardiovascular events, and even death secondary to



sedation related respiratory compromise, all of which could have been avoided if detected early," Rosas said.

Working in a teaching atmosphere, both doctors admitted the difficulty of training people to recognize the nuances of symptoms when patients are beginning to go into respiratory distress.

So, one Saturday morning at home while making pancakes, Dr. Bilen-Rosas brought it up again. "I was thinking, at this point, there's not really much we can do," Dr. Rosas said. "And then I said, why don't we just look at possible options at addressing the problem? And without hesitation his wife said, 'yes, that is exactly what I want to do.'"

The Rosas began to compile a list of modalities, and ways to potentially fix the problem. They considered numerous technologies that might be able to provide accurate, real-time data about a patient's respiratory status, such as optical imaging, ultrasound, or laser. "There are all sorts of technologies out there, but none had been used for this purpose. We started working to see which technology would pan out to be the solution," he said. "We're both clinicians, we're both end-users, I thought we both had a good opportunity to figure something out."

Dr. Rosas had a theory about ultrasound, but it required thinking outside the box. "The claim is that you can't see air with ultrasound...it's not very good," he said. "I had an idea of what I thought we were going to see, but I wasn't sure, Rosas continued. "My wife had several ideas and theories as well – it has really been a joint partnership the whole time, even in regards to which modalities and technologies we should look at."

The airway in the neck is the first place a clinician would start to see trouble, if it develops. Testing their improvised ultrasound device on each other, the Rosas began to see some results. Thanks to friends and UW Veterinary School connections, the doctors were able to test the device's reliability on animal subjects, viewing the airway in numerous different states, and ultimately confirming that an ultrasound device could perceive subtle

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NEWS BRIEFS (FROM P.4)

Greg Avey, MD, was a finalist in a crowded field of nominees to receive the annual The White Coat Investor Financial Educator of the Year award. Dr. Avey took on the role to teach the new UWSMPH curriculum in addition to his other duties in order to help fourth-year medical students learn more about personal finance to navigate the "critical juncture between accumulating debt and earning an income.

Howard Rowley, MD, was honored as 2020 recipient of the Gold Medal Award at the recent virtual ASNR Annual Meeting. Dr. Rowley is recognized for his many contributions to stroke trials, dementia research and advanced imaging techniques.

Ece Meram, MD, who is finishing up her first year in the department's residency program, was named a recipient of a \$30,000 RSNA Resident/Fellowship Grant for 2020. Dr. Meram's proposal is titled "A Quantitative Angiographic Technique for Characterizing Flow Through Normal and Stenotic Iliofemoral Arteries."

Thomas Reher, MD, a fourth-year diagnostic radiology in the Department of Radiology and Imaging Science at Indiana University, will be joining the department as a neuroradiology fellow in July. Dr. Reher was named a recipient of a \$50,000 RSNA Resident/Fellowship Grant for 2020. His proposal is titled, Multi-compartment Diffusion Weighted Imaging Across the Lifespan in Healthy Aging and Alzheimer's Disease, and will be performed in the laboratory of JP Yu, MD, PhD.

David Bluemke, MD, PhD, and **Vivek Prabhakaran, MD, PhD**, were recently named to the 2020 Council of Distinguished Investigators by the Academy for Radiology & Biomedical Imaging Research, as recognition for their outstanding contributions to the field of medical imaging. Drs. Bluemke and Prabhakaran are two of only 39 people across the country selected to receive this award.

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NEWS BRIEFS (FROM P. 5)

Tabby Kennedy, MD, was accepted as a faculty inductee into the Alpha Omega Alpha medical honor society for 2019. This honor is bestowed on eligible candidates who demonstrate high educational achievement, gifted teaching abilities, encouraging the development of leaders in academia and in the community as well as supporting the ideas of humanism and promoting service to others.

Dr. Kennedy is also this year's recipient of the Women in Neuroradiology Leadership Award by the American Society of Neuroradiology (ASNR). This prestigious award was established in 2012 by the Foundation of the American Society of Neuroradiology, American College of Radiology (ACR), and American Association for Women Radiologists (AAWR) to provide leadership opportunities for women in neuroradiology and/or radiology overall.

Jason Stephenson, MD, and **Tabby Kennedy, MD** were selected by the graduating M4 class of the UWSMPH to participate in the graduation ceremony for the Class of 2020. **Dr. Stephenson** is the faculty speaker for this milestone event, and **Dr. Kennedy** was invited to perform the "virtual" hooding during the 2020 Graduation Recognition Ceremony. Both doctors were also a part of the platform party.

Karla Wetley, MD, a first-year radiology resident, submitted a project at the Society of Abdominal Radiology (SAR) meeting in Maui, Hawaii earlier this month that won the 2020 Trainee Research Award. Her project, "Microwave Ablation of RCC: Evolution on Surveillance CT and MRI," lauded for enhancing the SAR scientific program, represented the great work of the ablation group, including **Drs. Louis Hinshaw, Fred Lee, Tim Ziemlewicz, Meghan Lubner, and Shane Wells**.



BIG SKY RADIOLOGY CONFERENCE A BIG SUCCESS

National and international radiologists gathered in January at the University of Wisconsin–Madison's 44th Annual Big Sky Radiology Conference in Big Sky Montana. Dr. Pamela Propeck is the Conference Director of this annual event offering Continuing Medical Education (CME) and American Board of Radiology's Self-Assessment Module (SAM) credits.

An excellent variety of diagnostic radiology lectures were presented from UW-Madison faculty members Robert Bour, MD, Clinical Assistant Professor, Allison Grayev, MD, Associate Professor, Neuroradiology, Jessica Robbins, MD, Associate Professor, Abdominal Imaging and Intervention and Andrew

Ross, MD, Assistant Professor, Musculoskeletal Imaging and Intervention. Guest lecturers included Steven Primack, MD, Professor of Diagnostic Radiology, Division of Nuclear Medicine, Oregon Health & Science University and Habib Rahbar, MD, Associate Professor, Clinical Director of Breast Imaging, University of Washington.

Radiologists from as far away as Australia, New Zealand, Florida, California, North Carolina and Pennsylvania were in attendance. In addition to the outstanding medical education offerings, attendees were treated to some of the finest skiing in the American northwest. Tentative dates for 2021 are January 17 - 20.

FACULTY SPOTLIGHT: DAVID BLUEMKE, MD, PhD

What attracted you to UW-Madison?

I attended college at UW Madison, class of 1982! And I grew up 50 miles away in Brookfield. So I was aware of the high caliber of the university and the midwest friendliness. Most recently, my wife and I spent about 30 years on the east coast in Maryland where her family is located. We looked at opportunities at different universities all over the United States, but no other place had the combination of outstanding faculty, collegiality, leadership and high quality as UW Radiology.

What was your favorite research project?

My favorite projects have been those where I am able to work with groups people smarter than me, often in different disciplines. I've had the wonderful fortune to work with talented groups of physicians and researchers in fields ranging from cancer, to orthopedics and cardiovascular medicine. Typical of these is one project where our team developed the use of MRI for rare forms of genetic heart disease that cause sudden death at young ages of 20s and 30s. I'm also lucky that my favorite projects tend to be those I'm working on at the moment. As Editor of the journal *Radiology*, I'm able to work with authors, reviewers and

scientist from all over the world while still learning new things such as doing podcasts and social media.



Of which accomplishments are you most proud?

I've had about 50 or more post docs and fellows from all over the world with whom I've worked closely especially in the research lab. It's been gratifying to work with such talented people over the years, maintaining long term friendships.

Do you have any advice you would like to share that you've learned in school or throughout the course of your career?

In medicine, we have all made a commitment that patients come first. At least for me, once I got that figured out, many other things fell into line.

What is a little-known fact about you?

My wife Bonnie, an attorney, and I spend a lot of time at work, but in the busiest parts of our early careers we manage to learn to sail larger boats on the Chesapeake Bay. After growing up spending entire summers on the Wisconsin lakes and sailing various parts of the world since then, I think I'll always have the water somewhere in my sights.

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BREATH-MONITORING DEVICE (FROM P. 5)

tissue changes around the trachea at different states of airway obstruction.

The doctor team tweaked their parameters, coding and modifications to the ultrasound device, and reached out to the Wisconsin Alumni Research Foundation (WARF) to tap their expertise to take the next steps. WARF took the Rosas' project on, and with their dedicated help, the new technology ended up winning the 2016 Innovation Award, and received funding for a pilot study to test the device further. Again, the results of their work were confirmed, and the process of refining the finished product and bringing it to market began, along with continued testing and validating.

"I don't know where we'd be without the support of WARF, Dr. Rosas said. "We are now testing it in operating rooms with patients undergoing sedation. We are working with Dr. Irene Ong in the Obstetrics and Gynecology Department, who has been a godsend for our team, with her background in AI," Rosas continued. "We are looking to AI to not only identify airway compromise, but to predict it in advance. That could be three to five

minutes before a pulse oximeter would even detect it," he said.

The Rosas now have three patents resulting from their work on their airway monitoring device. "There are a couple of other offshoot projects with other departments. The applications and technology have potential uses in the airline industry and possibly even with the Department of Defense," Rosas said. "WARF has been instrumental in helping us obtain patents for the ideas coming from this."

Dr. Rosas remarked how this process has really opened both doctors' eyes to a larger scope of issues that affect colleagues in the medical community, issues that they are excited for which to have found a potential solution. "We met a lot of wonderful people along the way who freely gave their time and advice. We did not expect them to take time out of their busy schedules to help, but they did," he continued. "Whether this project turns out to be a success or not, I'm hoping my wife and I can give back to the next group of people who are coming up with a research or entrepreneurial project."

DEPARTMENTAL PROMOTIONS ANNOUNCED

The Department of Radiology is pleased to announce the following promotions, effective July 1, 2020. Full story and background information available on www.radiology.wisc.edu.



Gregory Avey, MD, to Associate Professor (CHS)

Dr. Avey



Michael Brunner, MD, to Clinical Professor

Dr. Brunner



Meghan Lubner, MD, to Professor (CHS)

Dr. Lubner



Venkata (Vinny) Meduri, MD, to Associate Clinical Professor

Dr. Meduri



Susan Rebsamen, MD, to Clinical Professor

Dr. Rebsamen



Jonathan Swanson, MD, to Professor (CHS)

Dr. Swanson



Jamey Weichert, PhD, to Professor

Dr. Weichert



Shane Wells, MD, to Associate Professor (CHS)

Dr. Wells

NEWS BRIEFS (FROM P. 6)

David Kim, MD was named the Igor Laufer Professor for the 2020-21 year for the Society of Abdominal Radiology (SAR). As visiting professor, Dr. Kim will lecture at institutions across the country.

Manoj Kumar, a graduate student working with **Amy Fowler, MD, PhD**, was recently awarded the Alavi-Mandell award as the first author on a paper published in the Journal of Nuclear Medicine. Manoj will be defending his PhD thesis next month. The article, titled "18F-Fluorodeoxyglucose Positron Emission Tomography Imaging of Activating Estrogen Receptor Alpha Mutations in Breast Cancer," was also co-authored by Dr. Fowler.

Drs. Chris François, Jeff Kanne and Mark Kliever were inducted as Fellows of the American College of Radiology will be recognized in the ACR 2020 virtual Convocation Ceremony on May 17, 2020.

Kandace Nowakowski, MSc, has accepted the position of Director, Radiology Services with oversight of UH, AFCH and TAC. Kandace will report to Gina Greenwood, and her primary work location will be at UH.

Laura Eisenmenger, MD, is one of three University of Wisconsin-Madison early-career faculty members who will join the ICTR KL2 Scholars Career Development Program beginning this summer. For this highly competitive application process, Dr. Eisenmenger was nominated by our department as part of a system designed to select candidates having both individual excellence and potential to lead multidisciplinary research projects with high translational promise.

Vivek Prabhakaran, MD, PhD, Veena Nair, PhD, and Department of Neurology Professor Bruce Hermann, PhD, are co-Is on a multidisciplinary 5-year project that recently received \$3 million NIH-NINDS R01 funding. The project, led by UW Department of Neurology's Assistant Professor Aaron Struck, MD, will map the connectome in Juvenile Myoclonic Epilepsy (JME).



Department of Radiology

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MEMORABLE IMAGES



David Kim, MD, UWSMPH Department of Radiology Residency Program Director, offers a toast to the residency graduating class of 2020 at the conclusion of the virtual graduation ceremony on June 6. Awards given at the ceremony by the Class of 2020 include Steven Daniels, MD – Resident Award for Outstanding Teaching (Fellow); Kirk Davis, MD – Resident Award for Outstanding Teaching (Faculty); Rosalie Hovey-Andersen – Resident Award for Outstanding Technologist; Edward Lawrence, MD, PhD – John H. Juhl Award for Clinical Excellence in Chest Imaging; Cris Meyer, MD – Donald Yandow Medical Student Award for Outstanding Teaching (Faculty); and Martin McKinney, MD – Medical Student Award for Outstanding Teaching (Resident).

COMINGS & GOINGS

WE WISH THE BEST TO DEPARTING FACULTY MEMBERS!



Dr. François

Christopher J. François, MD, FACR, Professor of Radiology, joined the department faculty in 2007 as an assistant professor. Dr. François is the Chief

of the Cardiovascular Imaging Section. He has been actively involved in many projects with colleagues in medical physics, biomedical engineering, vascular surgery, pediatric cardiology, adult cardiology and cardiac surgery on developing new MRI and CT techniques for non-invasive cardiac and vascular imaging. Dr. François will be taking a new position with the Mayo Clinic in Rochester, MN.



Dr. Kijowski

Richard Kijowski, MD, Professor of Radiology, joined the department faculty in 2003 as an assistant professor. A member of the Musculoskeletal Section,

Dr. Kijowski worked with the Medical Physics Department at UW to develop and validate rapid three-dimensional MR techniques for joint imaging. His research interests are the use of morphologic and quantitative MR methods to investigate osteoarthritis and acute cartilage injury, the use of post-contrast CT to evaluate articular cartilage, and using advanced MR to measure bone quality. He is taking a position with New York University in New York, NY.



Dr. Sharafinski

Mark E. Sharafinski, Jr., MD, Assistant Professor of Radiology, joined the department faculty in 2017. Dr. Sharafinski was a member of the Pediatric

Radiology Section. His main area of interest is in pediatric imaging, with specialized interests in sports medicine, musculoskeletal oncology and rheumatology. Dr. Sharafinski will be taking a new position with Aurora Health Care in Milwaukee, WI.



Dr. Thornton

Frank J. Thornton, MD, Professor of Radiology, joined the department faculty in 2003 as an associate professor. Dr. Thornton is the former Chief of the Community

Radiology Section. He has been active in the development of approaches to leverage the unique contributions of the Community and Academic Divisions within the department. Dr. Thornton is widely published in surgical and radiological literature. His main areas of interest include MR Angiography, Abdominal CT and MRI and Pelvic MRI. Dr. Thornton has accepted a new position in private practice at Iowa Radiology in Des Moines, IA.

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For news and information about the UWSMPH Department of Radiology, please visit www.radiology.wisc.edu