



Foundation FOCUS

A QUARTERLY PUBLICATION OF THE RADIOLOGICAL SOCIETY OF NORTH AMERICA RESEARCH & EDUCATION FOUNDATION

INSPIRE | INNOVATE | INVEST *The Campaign
for Funding Radiology's Future®*

Grant Funding Tops \$4 million with 101 Awards

With a 30 percent funding rate, the R&E Foundation will support a record-breaking 101 research and education grant awards this year!

At its spring meeting, the R&E Foundation Board of Trustees committed to this level of funding to support research efforts by investigators during the early stages of their careers. The decision underscores the importance of early funding which lays the groundwork and provides data necessary to secure subsequent funding from significant sources such as the NIH.

"We were extremely fortunate to receive so many strong grant applications this year. It is with great pride that the R&E Foundation will provide \$4 million in support for the first time, funding 30 percent of submissions to

foster academic careers for young investigators," **Burton P. Drayer, MD**, R&E Foundation Board of Trustees chairman, said.

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its investment in radiology's future.

The 2016 recipients represent 54 institutions, including international Education Scholar Grant recipients from India and Nigeria. Visit RSNA.org/Grants-and-Awards for a full list of the record-setting 2016 grant recipients and their projects.

As the Inspire-Innovate-Invest Campaign moves steadily toward its goal of \$17.5 million, the Foundation is grateful for the commitment of individuals, private practice groups and corporate donors. This generous support enables the Foundation to fund at these record levels and to further



THE COMMITMENT CONTINUES.

View full list of Centennial Pathfinders at RSNA.org/Campaign

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30%
Funding Rate



101
Grants Funded in 2016



\$4 Million
In Funding



Grant Recipients Develop RSNA's First Comparative Effectiveness Online Courses

With his 2012 Philips Healthcare/RSNA Education Scholar Grant, **Brian W. Bresnahan, PhD**, supported by his mentor, **Jeffrey G. Jarvik, MD, MPH**, a 1994 R&E Research Seed Grant recipient, developed RSNA's first-ever Comparative Effectiveness online courses: "Basic Overview of Health Services Research," "Basic Overview of Comparative Effectiveness Research (CER) in the United States," and "Health Economic Evaluation: General Methods and Applications for Radiology."



"Studying, quantifying and explaining the positives and negatives of decisions and behavior in healthcare — given our resource constraints — is not easy, but required for a sustainable health system. It is further complicated by the involvement of multiple stakeholders with differing objectives and goals. In our education modules, we present information on Health Services Research (HSR), CER and health economics, both in general and specific to radiology. We point out several challenges of conducting such health research in imaging and provide useful suggestions for the field of radiology to compare imaging approaches, develop high-quality evidence, demonstrate value and engage stakeholders," Dr. Bresnahan said.

These initial online courses

provide 2.75 AMA PRA Category 1 Credits™ (HSR module), 2.25 AMA PRA Category 1 Credits™ (CER module), and 3.75 AMA PRA Category 1 Credits™ (Economic Evaluation) and address learning objectives related to standard terminology, definitions, health policy trends, basic options in research study designs, as well as issues and examples pertaining to radiology. Other health economic and health policy education modules are scheduled for release later in 2016.

"Patients, physicians, healthcare systems and payers all want to believe

"Patients, physicians, healthcare systems and payers all want to believe that they're receiving, providing or paying for effective care."

Jeffrey G. Jarvik, MD



Brian W. Bresnahan, PhD



Jeffrey G. Jarvik, MD, MPH

that they're receiving, providing or paying for effective care. Comparative effectiveness research has become a fundamental tool to determine if what we're doing as radiologists is indeed effective. These new RSNA courses on comparative effectiveness will provide useful information for those seeking to learn more about this important topic," Dr. Jarvik said.

The courses (CER0116, CER0216 and CER0316) are available for free to RSNA members at RSNA.org/eLearn.

R&E Treasurer Receives Texas Gold Medal

Congratulations to RSNA R&E Foundation Board of Trustees Treasurer **Gregory C. Karnaze, MD**, who was awarded the Texas Radiological Society's (TRS) highest honor earlier this year at the society's annual meeting in San Antonio, Texas.

Dr. Karnaze is president of Austin Radiological Association. He has served on the R&E Foundation Board of Trustees (BOT) since 2010 and as the BOT treasurer since 2013.

Dr. Karnaze also shared his leadership and financial expertise as treasurer

and president of TRS. During his tenure, he was responsible for many of the society's positive fiscal improvements. The TRS Gold Medal recognizes outstanding contributions to radiology and radiologists in Texas by one of its members—a truly fitting award for Dr. Karnaze.

Dr. Karnaze and his wife **Pamela K. Powers** also generously support the R&E Foundation as Silver Centennial Pathfinders and Platinum Visionary Donors.

Congratulations, Dr. Karnaze, on this well-deserved honor!



Gregory C. Karnaze, MD



Giving Back to R&E as Presidents Circle Donor

Past R&E grant recipient **Chadwick Wright, MD, PhD**, is familiar with the challenges facing burgeoning investigators on their path to a research career. "In today's academic medical center environment, protected research time is absolutely critical for establishing an interdisciplinary team of collaborators, generating pilot data, and developing the necessary leadership skills to establish an NIH-funded research program," he said. As assistant professor of radiology within the Division of Nuclear Medicine & Molecular Imaging at The Ohio State University Wexner Medical Center, Dr. Wright meets these challenges head on by pursuing research interests focused on the development and assessment of next generation PET technologies, PET imaging for theranostics, and clinical trials using nuclear medicine methodologies.

Dr. Wright's RSNA journey began in 2013 as a participant in the RSNA Clinical Trials Methodology Workshop. He credits this experience for its significant impact on his early career development, leading to his 2013 Philips Healthcare/RSNA Research Seed Grant, PET/CT-Derived Hepatopulmonary Shunt Fraction Following Yttrium-90 Radioembolization. This grant facilitated necessary research infrastructure for Yttrium-90 (90Y) imaging at his institution.

Dr. Wright participated in the 2013–2014 RSNA Advanced Course in Grant Writing and was selected as a grant reviewer for the R&E Radiology Research Trainee Study Section the following year, bringing full circle his RSNA grant experience.



"The future of radiology depends upon investing in new, innovative concepts by visionary individuals in order to facilitate new Precision Medicine and Personalized Medicine practices for our referring physicians."

Chadwick Wright, MD, PhD

With a strong dedication to investing in future investigators, Dr. Wright last year began supporting the Foundation as a Presidents Circle Donor. "RSNA generously invested in my future career. I recognize the important role that physician-scientists continue to play in the future of academic radiology and nuclear medicine. The future of radiology depends upon investing in new, innovative concepts by visionary individuals in order to facilitate new Precision Medicine and Personalized Medicine practices for our referring physicians," he said. "The current generation of radiologists is now embarking down the path leading to new practice paradigms for Precision Imaging and Big Data. In light of these future opportunities for radiology, I am dedicated to assuring that similar opportunities and resources are available to meet the needs of our next generation."

Dr. Wright received subsequent funding for his Yttrium-90 PET imaging projects from the American Cancer Society and received the NCI Clinical Research Loan Repayment Program (CR-LRP) Award for his proposal, Novel Theranostic SPECT/CT and PET/CT Methodologies to Improve Cancer Treatment.

"I hope that my career continues to evolve into one in which I can be a visionary leader within academic radiology and nuclear medicine, a translational scientist driving advancements in molecular imaging and theranostics, and a physician-scientist specializing in clinical trials with innovative nuclear medicine methodologies," Dr. Wright said.



Chadwick Wright, MD, PhD

Donate Now to be Recognized at RSNA 2016

The RSNA Research & Education Foundation annually recognizes donors at the RSNA Scientific Assembly and Annual Meeting. To be listed on the Donor Wall and receive special recognition and benefits at RSNA 2016, please make your gift by September 30, 2016. Visit RSNA.org/Donate to support the Foundation.

Annual Gift Amount

\$300 and above

\$5,000, \$2,500 and \$1,500

Recognition/Benefit

Name on Donor Wall, Access to Donor Suite

Recognition as Presidents Circle Donor, Photo on Donor Wall, Invitation to Distinguished Donor Reception, Express boarding pass for taxis and shuttles

Donor Recognition year:
October 1, 2015–
September 30, 2016



RSNA Presidents Circle Research Resident Grant Recipient Turns Challenges into Strengths and New Discoveries

It is estimated that biofilm—microorganisms encased within a polysaccharide matrix that are resistant to antibiotics and the immune system—cause the vast majority



Alexander M. Vezeridis, MD, PhD

of medical device-related infections. 2014 RSNA Presidents Circle Research Resident Grant recipient **Alexander M. Vezeridis, MD, PhD**, received funding to investigate diagnosis and therapy of biofilm and infection on implanted biomaterials using radiologic techniques such as ultrasound.

“The Research Resident Grant has enabled us to investigate novel ultrasound contrast agents using innovative methodology. Due to the unforeseen discontinuation of a commercial product used for biofilm growth in pilot data, I created a 3D-printed flow cell system for growth of mature biofilm. This system is very useful for me and

other biofilm researchers, and meritorious of publication on its own. The experience has been eye opening, liberating our creativity in how we solve important questions in ultrasound diagnosis and therapy,” said Dr. Vezeridis.

Dr. Vezeridis plans to translate this work for humans in the near future and pursue a career as an academic radiologist-scientist researching molecular theranostics. The R&E Presidents Circle recognizes donors contributing \$1,500 or more annually to the R&E Foundation.



Please contact Ashley Koman, Manager, Fund Development, at 1-630-590-7773 or akoman@rsna.org for more information.

Roentgen Award Recognizes Next Generation of Physician Scientists

This year, 182 residents and fellows across North America received the prestigious RSNA Roentgen Resident/Fellow Research Award recognizing their contributions to radiologic research. Recipients are nominated by their program directors or department chairs based on a variety of research-related accomplishments including presentation of scientific papers at regional or national meetings, publication of their work in peer-reviewed journals, receipt of grant funding and/or other contributions to their department's research efforts.

Among these individuals is

“I am humbled, honored and grateful to be one of the recipients of the award this year.”

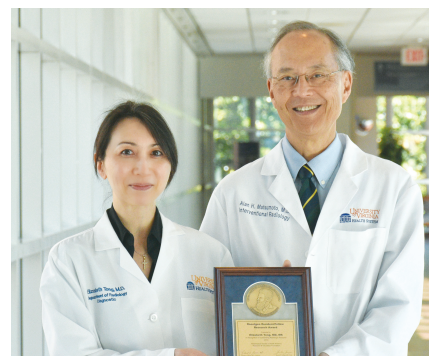
Elizabeth Tong, MD, MS

Elizabeth Tong, MD, MS. In addition to receiving her department's Roentgen award this year, she is also a 2015 RSNA Research Resident Grant recipient.

“I would like to express my sincerest thanks to the Radiological Society of North America for establishing the RSNA Roentgen Resident/Fellow Research Award. I am humbled, honored and grateful to be one of the recipients of the award this year. I am in the process of completing my 2015 RSNA Research Resident Grant project, ‘Design and

Validate a Model that Uses Collaterals as Imaging Biomarkers to Predict Clinical Outcomes in Acute Ischemic Stroke.’ Receiving this prestigious award encour-

ages me to continue pursuing my dream of becoming an academic radiology-scientist with unyielding perseverance. Thank you very much indeed,” she said.



Elizabeth Tong, MD, MS, and Alan H. Matsumoto, MD, professor and chair



Volunteer Profile: Education Study Section Chair Lonie R. Salkowski, MD, MS

The recipient of two R&E Foundation Education Scholar Grants, **Lonie R. Salkowski, MD, MS**, has first-hand knowledge of how an R&E Foundation education grant can transform the way radiologists learn, understand and care for patients. Her grants funded the studies, “A Paradigm Shift in Teaching Anatomy: Development of New Educational Methods for Health Care Professionals to Learn Anatomy through Radiology” and “Correlation and Investigation of a Radiology-based Three-dimensional Simulation to Explore Attributes of Novice and Expert Learners in their Process of Correlating and Sense-making of Medical Images with the Human Body.”

How has receiving these grants affected your career growth and development?

The grants provided me the opportunity to look at radiology education and how radiologists view medical images from a new perspective. They provided the skills to foster a new area of research within radiology that would not have been previously possible. I feel extremely privileged to be a recipient of these grants. As the saying goes, “To whom much is given, much is expected.” I do not take that responsibility lightly and want to make sure that I give back and pay forward what I have received from these awards. The grants provided me with access to resources, and my

mentors and professors in my programs have provided me the guidance to develop my skills to use beyond my program completion.

What advice would you share with applicants pursuing a career in radiology education?

Find a mentor to help you foster your ideas. Look for gaps in the literature in higher education and medical education. Don't feel compelled to stay within radiology to find your ideas or resources. If you have access to a larger campus, explore what the school of education on your campus has as resources and consider opportunities for collaboration. Often those pursuits can build great ideas.

Good education research has many of the same qualities of good scientific research. Both start with formatting a good research question. Try developing a new way of teaching radiology concepts, but study it from a scientific perspective and share those findings with others through conferences and/or publications. Share the good, bad and ugly. We all learn from others' successes and failures in the hopes of reproducing or avoiding those issues in our teaching practices.

It may seem like we have exhausted all facets of radiology education, however, based on the insights I have gained in education practices and theory, we are just at its beginning. Not everyone needs advanced degrees in education, however attending an education seminar can open dialogue and generate ideas to improve teaching practices and learning opportunities.

What trends do you see in the way radiology is taught and information is delivered?

There is an increased emphasis on developing foundational curriculum that focuses on core concepts that radiology residents must know prior to completing a residency program. That core will need adjustment as new developments arise, but as the demands of the specialty increase, there is a growing need to understand how we process

information contained in medical images and how to make this process more efficient. As a specialty, we need to continue to look for creative methods to teach and learn. To stay ahead of the times, radiology education needs to focus on process improvements.



Lonie R. Salkowski, MD, MS

Dr. Salkowski is on faculty at the University of Wisconsin School of Medicine and Public Health.

Did You Know?



If you are at least 70 years old, you may roll over up to \$100,000 from your IRA while reducing your taxable income. Updated in 2016, the IRA charitable rollover no longer carries an expiration date so you are free to make annual gifts to the R&E Foundation this year and well into the future.

Now is the perfect time to make a gift to the Inspire-Innovate-Invest Campaign to support the future of radiology while taking advantage of this great tax benefit.

To learn more, visit RSNA.org/LegacyGiving or contact Robert Leigh at 1-630-590-7760 or rleigh@rsna.org.



R&E Sapphire Visionary Donors

Support R&E at Home and Abroad

Teresita L. Angtuaco, MD, FACR, has devoted her entire professional life to radiology—and credits RSNA's commitment to the radiology specialty as a contributing factor to who she is today. She and her husband **Edgardo J. Angtuaco, MD, FACR**, reciprocate RSNA's support by contributing to the R&E Foundation as Presidents Circle Donors, Silver Centennial Pathfinders and Sapphire Visionary Donors.

Dr. Angtuaco is professor of radiology, director of the division of body imaging, and chief of ultrasound in the Department of Radiology at the University of Arkansas for Medical Sciences, Little Rock. Her husband is also a professor of radiology and the director of the Division of Neuroradiology in the same institution.

"There couldn't be any better organization to support than RSNA because it supports everything we do as radiologists in research and education. When there is an organization that gives you so much, there is no better way to give back than to support it," Dr. Angtuaco said.

And while she is a significant financial donor, Dr. Angtuaco has also volunteered on several RSNA committees, and participated in four International Visiting Professor (IVP)

trips—most recently to her home country of the Philippines. She previously went on trips to the Philippines, Thailand and China.

In February, Dr. Angtuaco and her husband were joined by **Robert D. Harris, MD, MPH**, and **Sheila Sheth, MD**, for a 14-day trip to give presentations and conduct workshops for

radiology residents, as well as attend conferences and meetings. The visiting team of radiologists, sponsored by R&E Vanguard company Agfa HealthCare, shared the latest advances in diagnostic and therapeutic radiology. The visiting professors experienced firsthand the obstacles faced by medical professionals in the host country.

"I can't tell you how impressed I was with how highly regarded RSNA is in the countries we visited. This is especially important because you are there to represent RSNA," Dr. Angtuaco said.

The trips are also informative, and Dr. Angtuaco has found the technology and knowledge of radiologists in other countries very impressive and enjoys the exchange of information.

"You feel validated that you have expertise that you can share with people in other countries. And you appreciate the generosity of RSNA for allowing you to go—plus all the educational materials they offer these countries for free," she said. "This is just one of the many ways RSNA shows its dedication and support for international radiology education."

Dr. Angtuaco first volunteered with RSNA in 1978 as a member, and later chair of the Audiovisual Committee. She currently chairs the R&E Fund Development Committee and is a past chair of the R&E Public Relations Committee and the RSNA Committee on International Radiology Education (CIRE). Dr. Angtuaco credits enthusiasm from RSNA staff for keeping volunteers engaged. "You feel the energy from other people who feel the same

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Teresita L. Angtuaco, MD, FACR



Pictured at the University of Santo Tomas, the Philippines, from left: Jerome Gaerlan, MD, first vice president, Philippine College of Radiology (PCR); Stephanie Pe, MD; Jolinda V. Almazan, MD; Orestes P. Monzon, MD; Mario T. Milo, MD; Edgardo Angtuaco, MD; Teresita Angtuaco, MD; International Visiting Professor (IVP) team member Robert Harris, MD, MPH; Jesus Valencia, M.D.; IVP team member Sheila Sheth, MD; Joie A. Cañal, MD, president, PCR; Cartrini O. Cruz, MD, and Hernan A. Olonan, MD.



Philippine College of Radiology President Joie A. Cañal, MD, presented Teresita L. Angtuaco, MD, with the keynote speaker recognition plaque during the Philippine College of Radiology Annual Convention earlier this year.

way you do about RSNA and you feel validated. You want to belong. It is very empowering,” she said.

Dr. Angtuaco first attended an RSNA annual meeting during her third year of residency in 1978. “I waited until my last year of residency because you were only allowed to go to one meeting during your residency. I wish every resident could attend RSNA during their first year. I realized then that I didn’t know all of the things being talked about. If I had gone the first year, I would have studied more,” she laughed. “I would have been more in tune with how big radiology was and how much I had to learn. I would have been a better resident. I tell that to my own residents now.”

Dr. Angtuaco has attended every RSNA annual meeting since 1978, missing only one shortly after the birth of her

and Edgardo’s second child.

At each annual meeting, Dr. Angtuaco attends courses outside her specialty. “I always attend lectures not directly related to my primary specialty just so I can remind myself of everything radiology is about. I always learn something new and enjoy listening to them.”

Although she has never received a grant herself, Dr. Angtuaco and her husband understand the importance of supporting the future of radiology and the spark that can be created with initial funding by the R&E Foundation.

“When we started donating to the Foundation, we liked the fact that for every dollar there is a significant return on invest-



Teresita L. Angtuaco, MD, visited with radiology residents at the Philippine General Hospital.

ment—currently 40:1. RSNA plants a seed that has been very successful in ensuring the future of radiology. There are grants for all different areas—education, research, even international grants. The Foundation supports young trainees and other researchers in radiology,” she said.

Dr. Angtuaco acknowledges that there are many worthy organizations to support, but hopes other radiology professionals will make a commitment to the R&E Foundation, as well. “We value RSNA most for what it does for education, not just research. Supporting the Foundation is an investment in the future of radiology that gives the specialty the most in return,” she said.

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Teresita L. Angtuaco, MD, FACP

INVEST

Vanguard Donors Invest in Radiology’s Future

The R&E Foundation advances innovation by supporting investigators and educators who will lead the specialty forward. The Foundation could not fulfill this role without the support of its Vanguard donors.

The Foundation’s Vanguard Program started in 1989 to allow corporations to support grants. To date, over \$20 million in contributions have been made by our corporate friends.

Thank you to the 15 Vanguard donors whose partnership helps the Foundation promote research in the field—from clinical trials to product development to reaching millions of patients around the world.

To see a full list of Vanguard donors or for more information on the Vanguard program, visit RSNA.org/Corporate-Giving.

INVEST



Sheridan Radiology Services joins VIP Ranks with \$25,000 Contribution

Sheridan Radiology Services of Sunrise, Florida, is demonstrating its commitment to the future of the specialty with a \$25,000 Silver Level contribution to the Visionaries in Practice (VIP) Program.

“As a leading provider of hospital-based radiology private practice, Sheridan desired to support radiology innovators in the areas of clinical practice, research and business,” said Senior Vice President **Maria Rodriguez, MD**. “RSNA has always been a visionary organization in the field of radiology, so it was an easy decision to contribute to the Visionaries in Practice (VIP) Program.”

Like many individual, corporate, and practice group donors, Sheridan Radiology Services understands the importance of maintaining radiology’s unique role in medicine now and into the future. “Radiology is at a crossroads as a specialty,” explained National Medical Director **Frank Seidelmann, DO**. “We must continue to be the specialty that provides imaging interpretation, minimally invasive imaging-guided procedures and radiation oncology. We must not allow our skills to be assumed by clinical subspecialists. RSNA is the leading organization capable

of supporting the field of radiology and the practices of all radiologists. Investing in RSNA through

the VIP Program is an investment in the future of radiology.”

Since 2006, Sheridan Healthcare has provided quality solutions and radiology department management for hospitals and facilities across much of the nation. Physician led and physician driven, the radiology group specializes in a full complement of on-site and remote radiologic procedures providing clients 24/7/365 coverage and 100% final reads. With over 4 million interpretations annually, Sheridan Radiology Services is committed to providing high-performance, standards-based imaging innovations in response to healthcare’s transition to value-based care models.

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Contact Robert Leigh at rleigh@rsna.org or 1-630-590-7760 for more information on how to join the growing number of practice group supporters making group donations through the VIP Program.

Three Easy Ways to Give



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