

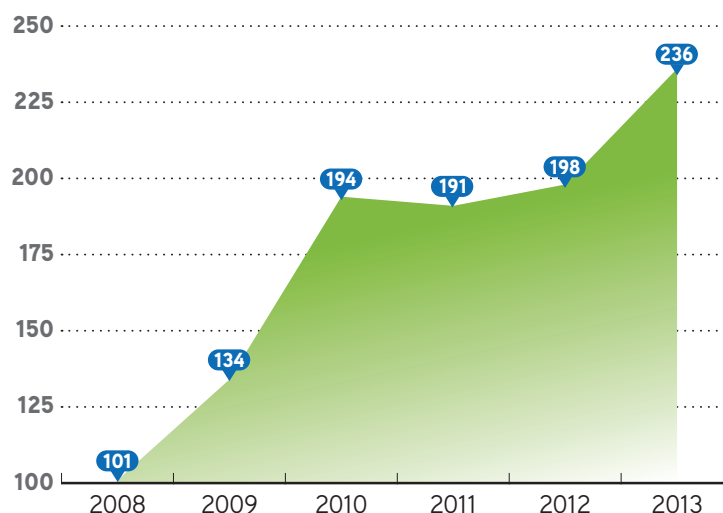
Grant Application Numbers Continue to Climb

The Foundation received a record-setting 236 grant applications in 2013, a 20% increase over last year and a 135% increase over the number received five years prior. What is responsible for this trend? Radiology Research Study Section Chair K. Ty Bae, M.D., Ph.D., has some ideas:

"I believe continued competitiveness and difficulty to get NIH funds are major factors in the increasing demand for R&E Foundation grant dollars. Labs at universities have less research funds available to support junior faculty and trainees, and we all encourage early investigators to submit RSNA grants as a gateway to get larger extramural grants. RSNA grants play an increasingly important role in radiology research by inspiring and encouraging early investigators to pursue a radiology research career."

Increased grant applications means an increase in the number of volunteer experts needed to review and score the applications. Earlier this spring, Dr. Bae joined study section chairs Charles R. Thomas, Jr., M.D., and Kitt Shaffer, M.D., Ph.D., to lead study section volunteers through the NIH-style peer-review process.

Number of RSNA R&E Grant Applications



K. Ty Bae, M.D., Ph.D.
Chair, Radiology Research Study Section



Charles R. Thomas, Jr., M.D.
Chair, Radiation Oncology Research Study Section



Kitt Shaffer, M.D., Ph.D.
Chair, Education Study Section

LOOK INSIDE FOR

- Grant Recipient Helps Develop New Birth Control Approach
- CO Poisoning Diagnosis Prompts Hotel Evacuation
- Grant Recipients in New Leadership Roles

Past Recipients Are Key Contributors in Grant Review Process



The Radiology Research Study Section convened at RSNA headquarters on April 5.

When the Foundation's three study sections met at RSNA Headquarters in March and April, there were more than a few familiar names and faces working to review and score the 2013 applications.

As the demand for funding and the number of grant applications continues to increase, so does the need for committed and qualified grant reviewers. Of the 72 volunteer study section members this year, close to 40% were past R&E grant recipients. One of these individuals was Research Study Section member Srimi Tridandapani, Ph.D., M.D. A 2004 Siemens Healthcare

Research Resident Grant recipient, Dr. Tridnadapani says, "The best way I can think to repay this debt to the RSNA and the community is to serve on the R&E Foundation Study Section to help identify investigators and projects that have the potential to move our field forward. Additionally, service on this committee continues to serve an educational role for me as I learn about what makes proposals outstanding."



Srimi Tridandapani, Ph.D., M.D.

R&E Grant Recipient Named Chief Radiologist at MGH

Earlier this year, James A. Brink, M.D., a past RSNA R&E Research Resident Grant recipient, was named as Massachusetts General Hospital's (MGH) radiologist-in-chief. Dr. Brink returned to MGH—where he completed his residency and fellowship—to assume his new role in February.

In addition to his 1989 grant, Dr. Brink has a distinguished record of service in organized radiology and within the RSNA. Dr. Brink has served in numerous RSNA capacities, including Associate Editor of the *Radiology* Editorial Board and manuscript reviewer for *RadioGraphics*. Dr. Brink chaired the Refresher Course Committee and has presented several times at the RSNA Annual Meeting and Scientific Assembly. He currently co-chairs the ACR-RSNA Joint Task Force on Adult Radiation Protection.

Prior to accepting his position at MGH, Dr. Brink served as chair of the radiology department at Yale University School of Medicine. Dr. Brink's areas of focus include the utilization and management of imaging resources, as well as monitoring and control of radiation exposure.



James A. Brink, M.D.



(L-R) ABC TV news cameraman Chris Jewett and reporter Vic Lee with Gregory M. Lim, M.D., a past Research Fellow Grant recipient, and Karin Molander, M.D., who made the CO poisoning diagnosis that led to the hotel evacuation.

CO Poisoning Diagnosis Prevents Potential Disaster for Hotel Guests

In the early evening on November 7, 2012, paramedics transported a guest suffering from an unknown illness to Mills-Peninsula Hospital in Burlingame, CA. Radiologist **Gregory M. Lim, M.D.**, was called in on the case. The patient was not conscious and had a high fever; other than that, no history was provided except that he was a guest in a hotel. After ruling out several other factors, a CT scan was performed on the man's brain. The results puzzled Dr. Lim. "Something did not look right about it; the harder I looked, the more I scratched my head," Dr. Lim said.

Dr. Lim thought the man might have had a stroke but the results of the scan were different. Dr. Lim finally decided it might be carbon monoxide poisoning, but was still not positive. "I've only seen it once or twice during my training," Dr. Lim said. "And I said, 'Oh my gosh, am I going to make this kind of call?'"

Dr. Lim told emergency room physician Karin Molander, M.D. She also couldn't believe it. "My first thought was, 'We're in California,'" she said. "We haven't seen carbon monoxide poisoning since I was a medical student in Chicago."

A blood test showed the carbon monoxide in the patient's system was abnormally high, but just about the amount of a heavy smoker. Then the patient's wife said her husband didn't smoke. The doctors had their answer.

Ironically, Dr. Molander believes the lower carbon monoxide readings were a result of the good work by the paramedics. "The fire department supplying oxygen to the patient so quickly and at such a high flow, I think that's why the level was lower," Dr. Molander said.

After consulting with the paramedics, firefighters decided to go back to the hotel and test the grounds for carbon monoxide. They isolated the leak and some 500 hotel guests were evacuated. A potentially bigger disaster was prevented.

"We're kind of like detectives; this is kind of like a real life episode of 'House' or something," Dr. Lim said. But neither doctor says they think of themselves as heroes. "I'm just a small piece in a big puzzle but I'm glad that the diagnosis I made led to the safety of many other people who could have potentially been injured," Dr. Lim said. "We radiologists make critical diagnoses that affect the management of patients every day," Dr. Lim concluded.

Watch the video at abclocal.go.com/kgo/story?section=news/local/peninsula&id=8880844

A New Approach to Birth Control Started with an R&E Grant

With her 1988 R&E Research Fellow Grant, **Amy S. Thurmond, M.D.**, aimed to improve the hysterosalpingographic (HSG) diagnosis of infertility and develop an interventional radiological treatment of infertility. What ultimately resulted from this pioneering and inspiring young investigator was a new procedure for diagnosing and treating fallopian tube blockage—a minimally invasive transcervical tubal access catheter system—which is now performed worldwide.

Additionally, Dr. Thurmond's research can be credited with laying the groundwork for the development of the only FDA approved device on the market for transcervical occlusion of the fallopian tubes.

"The support of the RSNA at that critical time allowed me to develop expertise, write papers, present at meetings, train fellows and work with other radiologists so that now, 25 years later, radiologists who focus on the health issues which plague women are valued subspecialists."

In the late 1980s during the RSNA Scientific Assembly and Annual Meeting, Dr. Thurmond's research caught the attention of Julian Nikolchev. As the founder and at that time the sole employee of Conceptus, Inc., Mr. Nikolchev had a specific interest in tubal occlusion as a non-surgical alternative for women considering tubal ligation. Mr. Nikolchev's interest and Dr. Thurmond's research was the beginning of their collaboration.

Dr. Thurmond and her team embarked on extensive research using large-sized rabbits as animal models.



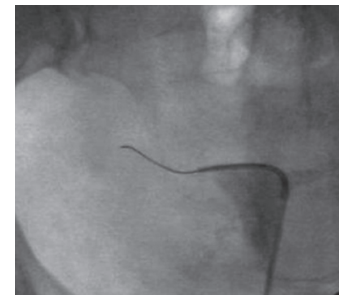
Amy S. Thurmond, M.D.

When the rabbit testing proved a success, Dr. Thurmond shared her data with the FDA and the device was approved for clinical trials. The device that eventually gained FDA approval, Essure, offers effective and permanent birth control without surgery or hormones. Essure uses a micro-coil designed to be deployed permanently into each fallopian tube using the minimally invasive transcervical tubal access catheter system developed by Dr. Thurmond during her RSNA-sponsored fellowship.

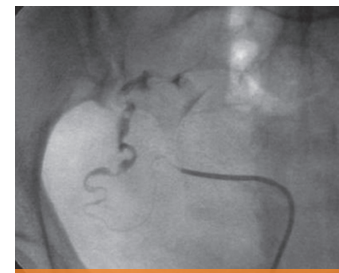
Dr. Thurmond is grateful for the early support she received from the Foundation. "At that time there was no subspecialty in Radiology for OB/Gyn Imaging, or Women's Imaging, and obstetrician-gynecologists were not used to working with radiologists as experts

or collaborators. The support of the RSNA at that critical time allowed me to develop expertise, write papers, present at meetings, train fellows and work with other radiologists so that now, 25 years later, radiologists who focus on the health issues which plague women are valued subspecialists."

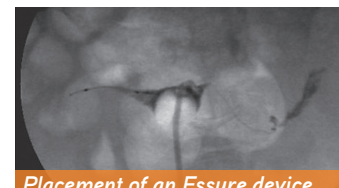
Dr. Thurmond is an internationally recognized expert in woman's imaging and interventional radiology. She has her own practice in Portland, Oregon, Women's Imaging and Intervention, where she continues to focus on women's health issues.



Fallopian tube catheterization



Selective salpingography



Placement of an Essure device

Honoring Robert G. Parker, M.D.

Diana Parker on including RSNA in her estate plans

"Bob was such an ardent promoter of resident training in radiation oncology as well as the introduction of medical students to the specialty. His emphasis was always on both the educational component along with the critically important role of their doctor-patient relationship. Therefore, I wish to honor him by continuing to promote these values through an R&E Foundation Grant.

For anyone interested in ensuring the future of radiology and its contribution to patient care, the R&E Foundation, with its programs in research and education, is an ideal choice. Also, for those practicing in the field of radiology or related disciplines, it offers a meaningful and satisfying way of giving back."

Mrs. Parker's future bequest will support the Robert G. Parker, M.D. Education Grant in Radiation Oncology.



Diana and Robert G. Parker, M.D.

1992 RSNA President Robert G. Parker, M.D. served RSNA throughout his lifetime and was a great supporter of the Foundation. In 1996, Dr. Parker was selected as an RSNA Gold Medalist, and in 1995 he served as Chair of the R&E Foundation Board of Trustees. Since Dr. Parker's death in 2005, Mrs. Parker has continued to support the Foundation as a Presidents Circle donor.

Legacy Giving

The Legacy Donor Program provides you with multiple ways to support the R&E Foundation, including bequests, charitable remainder trusts, gifts of life insurance and retirement assets. Whatever the amount of your gift, your bequest will greatly impact the work of the Foundation and ensure a promising future for radiology.

Advantages of a Bequest

It's easy to do. Making a bequest is as simple as inserting a few sentences into your will or living trust.

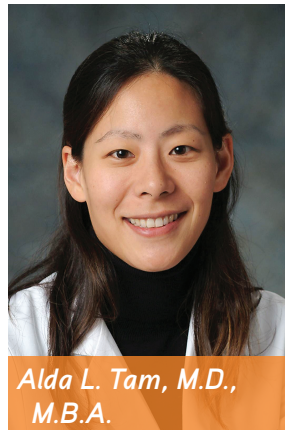
You can change your mind. Your estate plan can be changed at any time. With a bequest, you are not actually making a gift until your death. Until then, you are free to alter your plans, eliminating the worry about making a momentous commitment.

It may reduce the taxes on your estate. If you choose to make a bequest to us, you'll receive valuable tax benefits in addition to feeling good about helping others. Your estate is entitled to an unlimited estate tax deduction for bequests to qualified charitable organizations.

To learn more about the benefits of becoming a Legacy Donor, or supporting the RSNA R&E Foundation through a gift in your will (including our official bequest language), please visit RSNA.org/PlannedGiving or call Liten DeNaut, Manager, Fund Development at 630-368-3744.

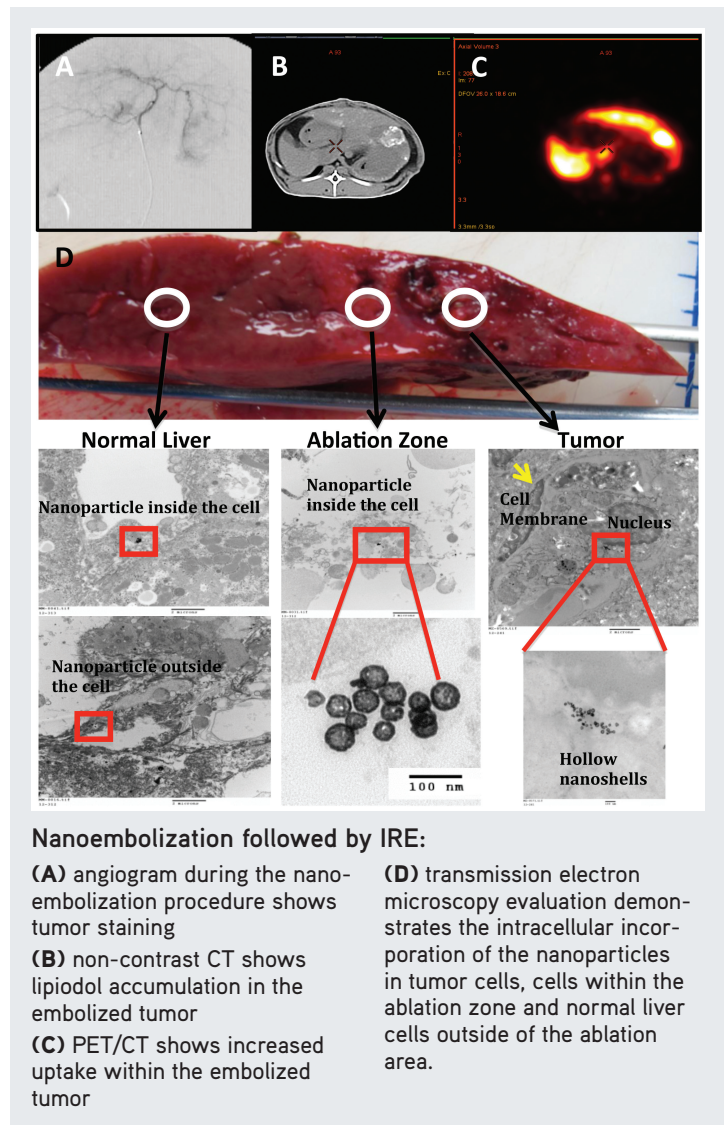
Combining Macroscopic and Molecular Techniques: A Unified Strategy for Targeted Tumor Therapy

Alda L. Tam, M.D., M.B.A., of The University of Texas MD Anderson Cancer Center, was awarded a 2012 RSNA Research Seed Grant to develop her project, “Optimizing Techniques and Imaging Evaluation of Combination Locoregional Therapy in Rabbit VX2 Hepatic Tumors using Radiolabeled Nanoparticles.” This study is designed to investigate the tumoral uptake of hollow gold nanoparticles loaded with doxorubicin when combined with either irreversible electroporation (IRE) or radiofrequency ablation (RFA).



Alda L. Tam, M.D., M.B.A.

“This RSNA Seed Grant has made it possible to study whether the unique properties of IRE and nanoparticle technology can be integrated to create a better treatment platform for liver tumors, providing the critical information needed to translate this research concept into human clinical trials.”



Nanoembolization followed by IRE:

- (A) angiogram during the nanoembolization procedure shows tumor staining
- (B) non-contrast CT shows lipiodol accumulation in the embolized tumor
- (C) PET/CT shows increased uptake within the embolized tumor

(D) transmission electron microscopy evaluation demonstrates the intracellular incorporation of the nanoparticles in tumor cells, cells within the ablation zone and normal liver cells outside of the ablation area.

R&E Grant Recipient Named 2013-2014 President of ACNM

Hossein Jadvar, M.D., Ph.D., M.P.H., M.B.A., FACNM, has assumed the 2013-2014 Presidency of the American College of Nuclear Medicine (ACNM). Dr. Jadvar received a 2001 Hitachi Medical Systems/RSNA Research Seed Grant for his project, “Role of Oxidative Metabolism in Cancer: Validation Study with C-14 Acetate Autoradiography in Rats.”

Dr. Jadvar continues to professionally advance radiologic science by leading this prestigious organization. Through its continuing professional development programs, ACNM fosters the highest standards in nuclear medicine consultation and service to referring physicians, hospitals, and the public. The ACNM aims to advance the science of nuclear medicine through study, education, and improvement of the socioeconomic aspects of the practice of nuclear medicine. Congratulations, Dr. Jadvar.



Grant Recipient Remains Committed to Foundation through VIP Practice Group Support

A successful neuroradiologist with a leadership role at the largest private practice group in Indiana, former R&E grant recipient Vincent P. Mathews, M.D., knows firsthand that R&E grants play a critical role in jumpstarting careers. The recipient of a 1990 Mallinckrodt/RSNA Research Fellow Grant, Dr. Mathews focused on a variety of advanced imaging techniques including MR spectroscopy, perfusion imaging, and fMRI. His R&E grant paved the way for subsequent funding from the NIH and served as a stepping stone for his next career milestone.

"Receiving an R&E grant allowed me to spend considerable time doing research during my fellowship at Johns Hopkins University," said Dr. Mathews. "Upon the completion of my fellowship, I went to Wake Forest University, I was then recruited by the Indiana University School of Medicine to be neuroradiology section chief and begin a functional brain imaging program. My seven years at IU gave me leadership and administrative experience that I use in my current position as the President and CEO of Northwest Radiology Network in

Indianapolis."

With the future of the specialty in mind, Dr. Mathews and his colleagues at Northwest Radiology Network have been participants in the Visionaries in Practice (VIP) giving program for five consecutive years. Through practice group contributions on an annual basis, Northwest Radiology Network and a growing number of practice groups all over the nation are demonstrating their collective commitment to advancing the field of radiology.

"The practice of radiology has benefitted greatly from the advances in imaging over the past few decades. It is important that radiologists in private practice support academic radiologists and radiology



Vincent P. Mathews, M.D.

departments to further advance the field and develop the future tools that will keep radiology relevant to medical practice," said Dr. Mathews. "If radiology does not lead the development of imaging, other fields will continue to incorporate these technologies into their practices."

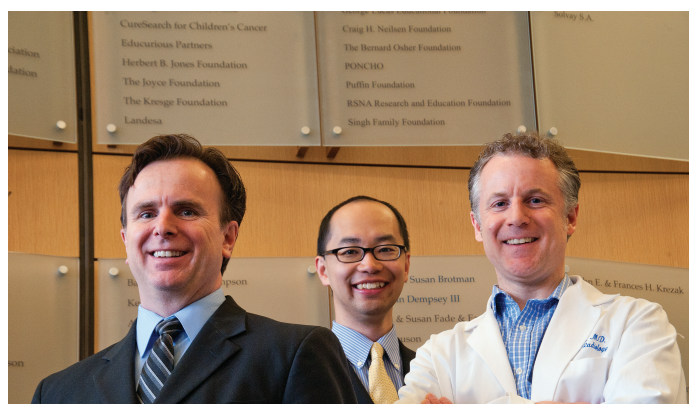


For more information about how your practice group can make a contribution through the Visionaries in Practice (VIP) Giving Program, contact Robert Leigh, Manager, Fund Development, at 630-590-7760 or rleigh@rsna.org

R&E Foundation Recognized on University of Washington Donor Wall

Since 1984, the RSNA R&E Foundation has been funding grants and awards to individuals and institutions that will advance radiologic research, education and practice. Over the years, 24 researchers and educators from the University of Washington have received RSNA grants. In appreciation for the generosity of the RSNA R&E Foundation, the University of Washington has prominently recognized the Foundation on their Laureate donor wall in Suzzallo Library.

Thank you to all of the R&E donors who made these grants possible.



(L-R) Department of Radiology Professor and Chair Norman J. Beauchamp, Jr., M.D., with RSNA 2012 grant recipients Sherwin Chan, M.D., Ph.D., and Christopher Potter, M.D. in front of the UW donor wall recognizing the RSNA Research & Education Foundation.

Grantee Remains Active as RSNA Volunteer

THEN... 2003 Varian Medical Systems/RSNA Research Resident Grant Recipient

NOW... Associate Professor, Director of Pediatric and Genitourinary Radiation Oncology and Associate Chair for Medical Education, The Department of Radiation Oncology, The University of Michigan

Since receiving his grant a decade ago, Dr. Hamstra has published more than 40 papers as first or senior author, received more than \$500,000 in extramural funding as principal investigator, and is the principal investigator or primary radiation oncologist on three prospective multi-institutional trials.

Current research focus...

Dr. Hamstra studies radiation therapy for prostate cancer spanning the gap from preclinical studies to clinical trials. Molecular pathways of interest include the PI3K/Akt/mTOR pathway as well as the p53-MDM2 axis. The work on PI3K/Akt/mTOR was funded by an RSNA Research Scholar Grant leading to an open multi-institutional Phase I trial. The p53-MDM2 studies are a continuation of work started during the RSNA Research Resident Grant looking at the role of p53 in tumor and normal-tissue in response to radiation.

"The RSNA Research Resident Grant was a key piece of my resident training, allowing me time and energy to focus on a developing laboratory research project. It also served as an excellent entry into the RSNA, where I have continued to be active through grants, the annual meeting, and committee membership. In that sense this one small grant continues to have a positive influence on my career development and I hope through my involvement continues to positively influence the RSNA as well."



Daniel A. Hamstra, M.D., Ph.D.

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