

Research Medical Student Grantee is Improving Tools for Women's Imaging

Vignesh Arasu, M.D., was only a medical student when he decided to tackle a major issue in breast imaging: improving the specificity of breast MR imaging. To test-drive a career path as a clinician/researcher, Dr. Arasu took leave from medical school and immersed himself in radiology through a yearlong program at the University of California San Francisco (UCSF).



Vignesh Arasu, M.D.

"Improving the diagnostic accuracy of breast MR imaging would have a huge impact on high-risk breast cancer screenings," said Dr. Arasu, now a radiology resident at UCSF, who was drawn to women's health both for its multidisciplinary approach and the opportunity to help the field progress.

Under the guidance of mentor **Bonnie M. Joe, M.D., Ph.D.**, chief of women's imaging in the department of radiology, Dr. Arasu investigated the use of a UCSF-developed software tool for MR imaging called Signal

Enhancement Ratio (SER), a high-resolution method that captures information on contrast uptake over time.

Dr. Arasu retrospectively applied the SER tool to 73 MR-identified lesions recommended for biopsy. Of the 73 lesions, 55 were determined to be benign for a false-positive rate of 75 percent. After applying the SER tool to the MR image data, Dr. Arasu found that the number of unnecessary biopsies could

have been reduced from 55 to 22, cutting the false-positive rate by more than half, to 30 percent. The results were published in *Academic Radiology* (Acad Radiol. 2011 Jun;18(6):716-21; <http://www.ncbi.nlm.nih.gov/pubmed/21420333>).

With the help of a 2010 Canon U.S.A./RSNA Research Medical Student Grant, Dr. Arasu was able to expand on his initial publication, measuring the robustness of the tool over a variety of

thresholds. He found the SER tool could replicate his original findings over a broad range of thresholds. The results were accepted for an informal scientific presentation (poster) at RSNA 2011.

"Canon U.S.A. is pleased to support research and education in radiology," said Bao Ho, Director, National Sales & Marketing at Canon U.S.A., Inc. "The RSNA R&E Foundation and Dr. Arasu's dedication to healthcare are the reasons we continue to commit to growing the future of radiology. We are truly excited to be making history together as we see the transformation of technology for better patient care."

"To receive a grant from the biggest organization in radiology was just thrilling," said Dr. Arasu. "In my case, small seeds really do grow into bigger things, as I was able to get great feedback from senior investigators, develop a manuscript, and now begin looking at the next set of questions with the ultimate goal of impacting patient care with a better imaging tool."

Canon

LOOK INSIDE FOR

- Grant Recipients featured at RSNA 2012
- International Outreach

R&E Grant Recipients Prominent at RSNA 2012



Marilyn Goske, M.D.

Close to 300 current and past R&E grant recipients will be featured at the 98th Scientific Assembly and Annual Meeting in Chicago this November. From session authors, presenters, and moderators to formal and informal scientific presentations, the impact of R&E grant recipients will be evident



Richard Gunderman, M.D., Ph.D.

throughout McCormick Place and beyond. Programming featuring grant recipients is noted with the R&E Foundation logo in the online *Meeting Program* and printed *Program in Brief*.

One of the outstanding individuals showcased at the meeting is **Marilyn Goske, M.D.**

On Sunday, November 25, Dr. Goske will receive the 2012 Outstanding Educator Award for her work on pediatric dose reduction. Dr. Goske's work in this area was advanced by her 2009 RSNA Education Scholar Grant, "Developing a 'Best Practice' National Registry for CT Scans in Children." Dr. Goske will participate in the popular Image Interpretation Session, on Sunday, and will moderate two additional presentations on pediatric dose reduction.

Another R&E recipient proudly represented at this year's Annual Meeting is **Richard Gunderman, M.D., Ph.D.**

On Tuesday, November 27, Dr. Gunderman will deliver the prestigious Annual Oration on Diagnostic Radiology: The Story Behind the Image.

Dr. Gunderman is a highly successful radiology educator and author. He is the recipient of a 2000 RSNA Education Scholar Grant that focused on leadership development in education, a past recipient of the RSNA Outstanding Educator Award and current chair of the R&E Foundation's Education Study Section.

Join your colleagues and friends at the Donor Lounge!



During RSNA 2012, donors of \$250 or more will have access to the Donor Lounge in the Lakeside Center Ballroom, with comfortable seating, refreshments, and Internet access.

Haven't made your gift this year? You can easily make a donation at RSNA.org/donate or call Foundation staff at 1-630-368-3744.

Hundreds of R&E grantees will be featured throughout the week

Sunday, November 25

LL-NRS-SU8B

Brain Connectivity in Subjects with Mild Cognitive Impairment: Can Graph Theory Methods Predict Future Conversion to Alzheimer's Disease?

-Jeffrey R. Petrella, M.D.

Monday, November 26

LL-PDS-MO2A

Pediatric Chest Radiography: Dependence of Organ Dose and Effective Dose on Body Size

-Xiang Li, Ph.D.

Tuesday, November 27

SSG10-04

Magnetic Resonance Colonography with Intestine-Absorbable Nanoparticle Contrast Agents in Evaluation of Colorectal Inflammation

-Xiaoming Yang, M.D., Ph.D.

Wednesday, November 28

LL-MIS-WE2C

Assessment of Tumor Biology by Using Multiple Time Point FDG-PET/CT Imaging of Lung Cancer through a Novel Quantitative Approach

-Drew A. Torigian, M.D., M.A.

Thursday, November 29

SSQ19-09

Prior Image Constrained Compressed Sensing (PICCS) on a Flat-Panel Cone-beam CT: A New Method for Low Dose, 4D Human Angiography

-Rajiv Gupta, Ph.D., M.D.



We have a limited number of **complimentary private appointments available** with an estate planning expert from TIAA-CREF during RSNA 2012. The speaker for

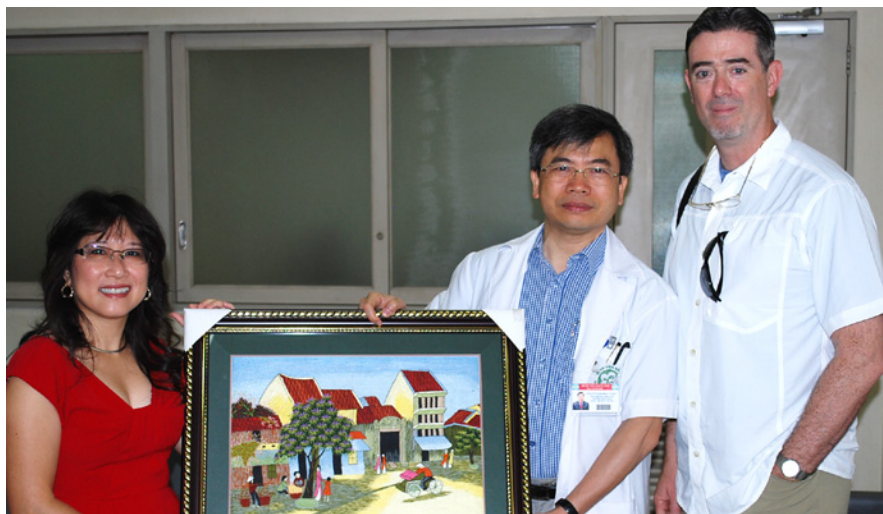
Make an Appointment to Plan Your Financial Future at RSNA 2012

the sold-out session, "Estate Planning for the Changing Tax Environment," also will be available in the R&E Foundation Donor Lounge on Monday and Tuesday, November 26 and 27 for private appointments. Take advantage of this chance to

ask questions or review your own plans one-on-one with an expert. All inquiries will remain confidential and there are no obligations.

Please contact Liten DeNaut at 1-630-368-3744 or ldenaut@rsna.org to reserve your appointment time.

“Global Vision” is Impetus for Donor’s Commitment to Foundation



(L-R) **Huong Le-Petross, M.D.** with **Pham Minh Thong, M.D.**, Vice President and General Secretary, Vietnamese Society of Radiology and Nuclear Medicine, and **Eric J. Stern, M.D.** in Vietnam for the International Visiting Professor Program

The IVP Program is made possible in part by the generous support of Agfa HealthCare



“I think it’s very valuable to expose the world to RSNA”

The fact that the RSNA has a global perspective is just one of the reasons **Huong Le-Petross, M.D.**, became a Presidents Circle donor to the R&E Foundation.

“We need a global vision in today’s society and I like the leadership of RSNA and the direction they are taking the organization,” said Dr. Le-Petross, associate professor of radiology at The University of Texas MD Anderson Cancer Center in Houston.

As a member of the Presidents Circle, Dr. Le-Petross is one of the hundreds of generous supporters who donate \$1,500 or more annually to fund radiologic education and research.

“I’m an advocate of good, quality research,” said Dr. Le-Petross, a specialist in breast imaging who has authored nearly 50 peer-reviewed articles, abstracts and book chapters.

Last summer, Dr. Le-Petross furthered the global reach of RSNA by participating in the International Visiting Professor (IVP) Program. She and **Eric J. Stern, M.D.**, of the University of Washington Medical Center in Seattle, traveled to Vietnam’s Hanoi and Ho Chi Minh City to lecture and provide one-on-one assistance to radiologists and staff.

“The IVP is a wonderful program for the countries we visit and for us,” said Dr. Le-Petross.

She presented twelve lectures over ten days on mammography, ultrasound for cancer staging, breast MR imaging and the role of multi-modality imaging in metastatic breast cancer.

Despite the availability of state-of-the-art imaging equipment, Dr. Le-Petross said the Vietnamese were just beginning to embrace breast imaging and interventional techniques.



Huong Le-Petross, M.D.

“In the North, they did not have biopsy devices and were not performing image-guided preoperative needle localization,” she said. “The educators told us that without being trained themselves, they aren’t able to teach the next generation.”

As many as 165 Vietnamese radiologists, residents, technologists and hospital administrators attended each of the lectures, and hospital administrators expressed strong interest in continued visits from North American physicians.

“I think it’s very valuable to expose the world to RSNA,” said Dr. Le-Petross, whose visit marked the first opportunity for many in the audience to connect with radiologists from top North American medical institutions. “During the question and answer sessions, everyone wanted to know how to become a member.”

A Radiologist's Perspective on International Teaching

"I see my international travels as a tool to establish a bridge for communications between radiologists worldwide. International speaking offers an opportunity to convey knowledge in the form of lectures, workshops and interactive teaching sessions that I consider valuable additions to education in other countries.

My recent travels included visits to Australia, Thailand, Colombia and Brazil. The visits followed a format similar to that of the RSNA International Visiting Professor (IVP) program. The trips are a combination of speaking at a national meeting, followed by an individual hospital visit, which allows me to present material to radiologists in practice and to those in training. In my most recent visits to Bogota, Colombia and Porto Alegre, Brazil, I met one-on-one with several fellows in radiology and critiqued their proposals for grants offered by their universities or national organizations.



Marilyn J. Siegel, M.D., second from left, in Bogota, Colombia with meeting organizers. Dr. Siegel is Professor of Radiology and Pediatrics at Mallinckrodt Institute of Radiology Washington University School of Medicine

Teaching internationally is mutually beneficial. I teach the radiologists and they in turn teach local doctors and hospitals about the latest advances in diagnostic radiology. Through this educational exchange, I learn about diseases, practice standards, and the

obstacles encountered by medical professionals in the host countries. International teaching is a personally enriching experience that I will always value."

—Marilyn J. Siegel, M.D.



*Harold O. Horsfall, M.B.B.S.,
F.R.C.R. United Kingdom*

"I support the R&E Foundation as a gesture of thanks to the many Foundation researchers and educators of the past. It is also my investment for radiology's future. The impact of the Foundation's focused efforts, supporting radiology research and education, reverberates positively worldwide. It is a privilege to feel a part of that, however small. Thank you RSNA for helping make this possible! "

Strategic Radiology Practices Collaborate to Benefit Their Communities

Formed in 2009, Strategic Radiology was established when thirteen like-minded radiology groups realized they shared many of the same visions, values, and goals. Now sixteen groups and more than 1,000 physicians strong, Strategic Radiology has developed a formalized collaborative model for sharing talent, information, and processes that benefit their groups and the patients they serve.

The progressive thinking of these groups spreads beyond their alliance with Strategic Radiology. Thirteen of these practices make annual group contributions of \$10,000 or more through the **R&E Foundation's Visionaries in Practice (VIP) Giving Program**. Since 2005, participating VIP Practices from Strategic Radiology have donated

\$1,000,000 to fund R&E grants. The generosity of these groups has a direct impact on the communities they serve by aiding in the advancement of tools and techniques used by their physicians.

"Our vision is for Strategic Radiology to deliver efficient world class patient care through clinical and non-clinical collaboration," said Board Chairman and CEO **Arl Van Moore Jr., M.D.** (also the past president of Charlotte Radiology). "All endeavors, in order to grow and prosper, need to invest in their future. By supporting the R&E Foundation through the VIP Program, Strategic Radiology views our contributions as a way to not only promote our profession, but also as an avenue for our profession to keep

pace with the rapid advances imaging is making in the day to day practice of medicine."

Scott R. Lancaster, M.D., President of the Advanced Radiology Services Foundation continued, "Our contribution to RSNA R&E Foundation is an excellent investment in the future of radiology because donations attract other funding for radiology research and education projects, allowing every RSNA R&E donor to make a bigger impact."

By contributing to the R&E Foundation, these groups are expanding the limits for grant recipients and educators who will advance radiologic research, education and practice.

Thank You!

VIP Practices of Strategic Radiology



\$75,000 Platinum level

Advanced Radiology Services Foundation, *Grand Rapids, MI*
Austin Radiological Association, *Austin, TX*

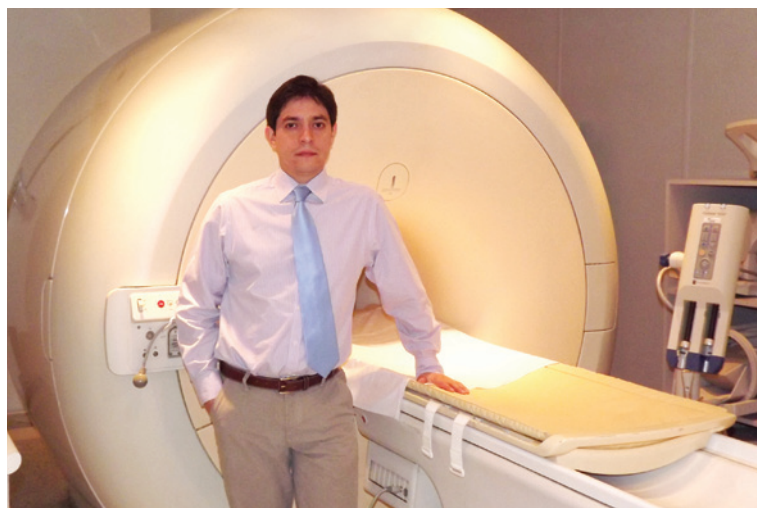
\$10,000 Bronze level

Advanced Diagnostic Imaging, *Nashville, TN*
Charlotte Radiology, *Charlotte, NC*
Diversified Radiology of Colorado, *Denver, CO*
Jefferson Radiology, *Hartford, CT*
Mountain Medical Physician Specialists, *Salt Lake City, UT*
Northwest Radiology Network, *Indianapolis, IN*
Quantum Radiology, PC, *Atlanta, GA*
Radiological Associates of Sacramento, *Sacramento, CA*
Radiology Ltd, *Tucson, AZ*
Riverside Radiology and Interventional Associates, *Columbus, OH*
Southwest Diagnostic Imaging, *Phoenix, AZ*

Derek Harwood-Nash Education Scholar Grant recipient named

“With this project, *Latin American MR e-learning Platform*, we aim to improve the understanding of the underlying physics behind MR images as well as some clinical applications in the Latin community. For this, we hope to develop several self-learning MRI modules. We envisage these modules will be of great utility for MR techs, radiology residents and young radiologists in our region who would like to complement their education with this fabulous imaging technique. We are very enthusiastic about this opportunity, since we believe this is just the start of a long road, and we hope to create more specific self-learning modules on different clinical topics in the future.

We are very grateful to all those around the world who have donated to the RSNA R&E Foundation. Without their kind support, a project like mine would not have been possible.”



*Sergio Uribe, Ph.D., M.S.
Pontificia Universidad Catolica De Chile (Chile)*



*Klaus L. Irion, M.D., Ph.D.
United Kingdom*

“*Radiology, RadioGraphics* and the Annual Meeting have been key information resources that I have used to be a radiologist; very important during my training; even more important throughout my continuous education as a senior radiologist. Being a member of RSNA is a privilege, and contributing with the educational and developmental initiatives of our society is the minimum I could do to help RSNA in the provision of support to our members who are promoting the future of our speciality.”

Grant recipient and R&E Foundation donor takes leadership role

“As a new Radiology Chair, an important role for me is to encourage trainees and young faculty to pursue careers in research. When doing so, I always point to the critical role that the RSNA R&E Foundation had in my own career—as a recipient of Research Resident and Research Scholar Grants—and then later for some of my own trainees.”



Reed Omary, M.D., named chair of department of radiology and radiological sciences at Vanderbilt University Medical Center

Grants in Action

Sherwin Chan, M.D., Ph.D.,
2012 Toshiba America Medical
Systems/RSNA Research Resident
Grant recipient for his project:
“Evaluation of a Novel Quantitative
Method to Detect Arterial Stenosis
Using Spectral Doppler Ultrasound”

“My project is to validate
my novel technique of spectral
Doppler waveform analysis for
the calculation of a new ‘stenosis
index’ which should improve the
accuracy of Doppler ultrasound for
the detection and quantification of
arterial stenosis. This new technique
has potential applications in fields
ranging from transplant surgery



to pediatric nephrology and could
influence the approach to the diagnosis
and management of multiple common,
potentially life-threatening conditions.”

“Toshiba is a long-time supporter
of the RSNA R&E Foundation
because we understand the
importance of research in helping
advance the quality and accuracy
of imaging”, said Doug Ryan, Vice
President, Marketing and Strategic
Development, Toshiba America
Medical Systems. “The research
conducted by grant awardees is an
important first step to establishing
the comparative effectiveness of new
technologies and applications in
enhancing the quality of patient care
while reducing overall costs.”

TOSHIBA
Leading Innovation >>>

**The R&E Foundation is pleased to announce a new financial commitment
from Mallinckrodt, a Vanguard donor since 1989.**

Thank You!
Mallinckrodt

*“Mallinckrodt, the Pharmaceuticals
business of Covidien, is pleased to
support the future of radiology
through the RSNA Research &
Education Foundation grants
provided to young investigators.
Partnering industry with academia*

*and research helps to foster an
environment of discovery and
development of new imaging agents
and technologies, used to reveal
disease, ultimately impacting the
lives of patients around the world.”*

—Chris Wagner
Vice President, Sales & Marketing
US CMDS, Delivery and Urology Systems