



Foundation FOCUS

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

Record High Funding for 2011 Grants

The Foundation will fund 74 grants in 2011 totaling \$2.7 million, the highest annual funding to date.

The Board of Trustees is pleased to announce it has selected 61 new grant recipients to join the ranks of researchers who are moving the field forward and improving patient care—the mission of the Foundation. With continuing grant commitments, the Foundation will fund 74 grants in 2011 totaling \$2.7 million, the highest annual funding level to date.

Research funded by the RSNA R&E Foundation represents a broad spectrum of anatomical areas, modalities, techniques and topics, as well as various research types. See RSNA.org/Foundation for a complete listing of the projects your donations are funding.

“The RSNA R&E Foundation extends its deep appreciation to all our contributors. Your support ensures the careers of talented young investigators, promotes the future of our specialty and, ultimately, makes a difference in patients’ lives.”

Theresa C. McLoud, M.D., Chair, Research & Education Foundation Board of Trustees



Ryan Baker, B.S.



Supriya Gupta, M.B.B.S., M.D.



An Tang, M.D.



Ron C. Gaba, B.S.



Xiang Li Ph.D., with Ehsan Samei, Ph.D.

Gold Legacy Donor Creates “Career-changing Opportunities” for Young Researchers

For Ronald G. Evens, M.D., a Legacy donation to the R&E Foundation is a way to give a young investigator the same opportunities he was given early in his career.

“After medical school and radiology training, I went for two years as a research fellow to the National Institutes of Health,” said Dr. Evens. “I had decided on an academic career, and while there I had learned a lot about research, particularly with nuclear medicine and isotopes.”

Afterward, Dr. Evens returned to St. Louis to study at Washington University’s Mallinckrodt Institute of Radiology. “Just starting at that time was the Picker Foundation,” he said.



Dr. Ronald and Hanna Evens have planned a \$15,000 gift to help emerging investigators and educators launch promising careers.

was appointed chair of radiology at the Mallinckrodt Institute at the age of 31. In that capacity, much of Dr. Evens’s research focused on researching cost and pricing of new technologies.

“It was a major influence on my life, and I feel that now that the Picker Foundation is gone, the RSNA R&E Foundation can offer the same kinds of experiences,” Dr. Evens said.

Dr. Evens and his wife, Hanna, are Gold Legacy donors, endowing the Foundation \$15,000 in their will.

“My reason for giving was essentially wanting others to have life-changing and career-changing opportunities through our Foundation,” said Dr. Evens.

Leaving a planned gift to the RSNA

“My reason for giving was essentially wanting others to have life-changing and career-changing opportunities through our Foundation.” *Ronald G. Evens, M.D.*

Founded by the late Harvey Picker, M.B.A., a renowned physicist, inventor, educator, businessman and philanthropist, the Picker Foundation arose from the Picker Institute, which works to sponsor education and research in the field of patient-centered care. Harvey Picker himself was a donor and friend of RSNA, serving on the R&E Foundation Board of Trustees. He was named an RSNA honorary member in 1997.

“The Picker Foundation had quite a few programs similar to those of the

R&E Foundation,” continued Dr. Evens. “A Picker Fellowship gave you salary support while you learned a new expertise. I applied and was accepted, and I went back to business school.”

“In those days—this was like 1968 or 1969—it was really not popular or thought of that you would, as a physician, go into business,” said Dr. Evens. “But the Picker Foundation people thought it was a great idea, and I did it and it completely changed my life.”

With his extensive training, Dr. Evens

Research & Education Foundation lets donors and their families reap financial benefits and lay the groundwork for new discoveries, innovations and learning for years to come. “Think about what were the important aspects of your career—whether it was a residency program, medical school or later experiences—that need to be available to the younger generation,” said Dr. Evens. “I consider this an opportunity to support them.”

\$1.5 Million Legacy Donation Received

The Ralph Schlaeger Charitable Foundation has made a \$1.5 million donation to the R&E Foundation to endow research grant awards. Dr. Schlaeger specialized in gastrointestinal radiology. He was a dedicated member of the RSNA for 50 years, contributing to *Radiology* and presenting at the RSNA annual scientific meeting. Learn more about Dr. Schlaeger’s legacy in the next issue of the *Foundation Focus*.

IRA Legislation Extended until December 31, 2011

Donors aged 70½ or older can transfer up to \$100,000 this year from their IRA directly to an eligible charity without having to pay income taxes on the gift. Charitable IRA distributions can be used to satisfy the required minimum distribution.

For more information, please contact Karena Galvin, Director, R&E Foundation at 630-590-7742 or kgalvin@rsna.org.

Visionaries in Practice Spotlight

Colorado Practice Bolsters Research Support with \$25,000

As a leader in the field of diagnostic imaging, Radiology Imaging Associates (RIA), based in Englewood, Colorado, is constantly looking for ways to improve outcomes and advance care. One way RIA achieves these goals is through participation in the R&E Foundation's Visionaries in Practice (VIP) Program.

Last year RIA joined like-minded private practices and academic institutions from around the nation who understand the value of investing in their specialty by making a group donation to the Foundation through the VIP Program. In 2011 RIA continued its commitment and then some—increasing their support to the VIP Silver level with a \$25,000 contribution, which will be used to fund grants that advance radiologic research and improved patient care.

“With imaging under siege on what seems to be all fronts, our specialty’s survival depends on the ability of radiology collectively and radiologists individually to demonstrate our relevance,” said Peter Ricci, M.D., president of the group. “RIA increased its donation of the R&E Foundation to the VIP Silver level to support the research that demonstrates our collective value.”

Radiology Imaging Associates comprises 64 subspecialized radiologists and has been serving the Denver metro

area for over 40 years. Leveraging a long history of innovation and program development, RIA prides itself on cutting edge advancements in areas including teleradiology, breast imaging and MR, advanced MR imaging and CT, and cardiac CT angiography.

RIA is committed to providing patients, medical professionals, and the communities they

serve with the most advanced radiology services available. The R&E Foundation would like to thank Radiology Imaging Associates and all of the VIP practices for their strong support.



Radiology Imaging Associates

For information or to become a VIP Practice today, contact Robert Leigh, Manager Fund Development at 630-590-7760 or rleigh@rsna.org.

Roentgen Resident/Fellow Research Award

Once again the RSNA Roentgen Resident/Fellow Research Award became a part of trainee graduation celebrations throughout North America as program directors in more than 160 departments of radiology, radiation oncology and nuclear medicine announced their selections for the 2011 recipients.

The Roentgen Resident/Fellow Research Award recognizes residents and fellows who have made significant contributions to research during the past academic year. The full listing of 2011 award recipients can be found at RSNA.org/Foundation.



Jagan Dewan Gupta, M.D., (left) with program director Cynthia Hanemann, M.D., Tulane University



Laura M. Allen, M.D. (left) with program director Arash Anavim, M.D., University of California, Irvine



Amar Rewari, M.D., MBA (middle) with department chairman Bruce G. Haffty, M.D. (left) and program director Sung Kim, M.D., Cancer Institute of New Jersey/UMDNJ



Xavier Garcia-Rojas, M.D., (left) with program director Rajeev Suri, M.D., The University of Texas Health Science Center at San Antonio

Exhibitors Circle Profile

ProScan Imaging Donates \$5,000 in Support of the R&E Foundation

ProScan Imaging, long recognized as one of the world's premiere training centers for healthcare specialists in MRI and advanced imaging, continues to lead in the areas of education and community commitment.

Ask Stephen Pomeranz, M.D., CEO and Medical Director, about his passion and the answer comes quickly: "Everything we do revolves around education and raising the bar of care. We train physicians so they can succeed and reach their professional dreams and aspirations.

We are constantly furthering our own education with ongoing peer review to ensure the highest quality standards internally." In fact, ProScan Imaging's Education Foundation is "Accredited with Commendation," one of a few achieving the top status established by the Accreditation Council for Continuing Medical Education (ACCME).

The team at ProScan consistently receives high marks for the quality of their MRI education. Over 20,000

radiologists credit ProScan's worldwide CME courses for an enriched knowledge base. While hosting thousands of visiting and academic fellows from more than 30 nations, ProScan has raised the bar for quality across the globe. An extensive line of frequently updated ACCME-

accredited DVDs, as well as reference books on advanced imaging topics, exemplify the commitment to education.

Dr. Pomeranz shares, "For me, I get the most satisfaction from teaching residents and fellows. When you sit next to a doctor fresh

out of training and they have a diagnostic revelation, that's very rewarding. They gain confidence, they mature, they learn a world class service model, and that makes them better caregivers."

ProScan Imaging, has operated 25 offices in the continental U.S. and in Hong Kong and Israel. A leader in teleradiology, its physicians interpret diagnostic exams from over 500 sites around the world. An unparalleled teaching file is filled from these cases, and is used to

study even the most difficult cases. In addition, its doctors help design, run and read select clinical trials.

The ProScan Foundation actively promotes breast cancer awareness and provides access to early breast cancer detection services at two not-for-profit women's centers that service the indigent and uninsured. In addition, the Foundation also presents unique opportunities for inner city children to enhance their intellectual development through participation in the Foundation's Queen City Classic Chess Tournament, increasing mathematic and reasoning skills, and ultimately giving confidence in their future.

As an exhibitor at RSNA for 23 years, ProScan Imaging is once again at RSNA 2011. The annual meeting offers ProScan the opportunity to meet face-to-face with an enormous number of radiology specialists and identify the unique challenges of their clinical practices.

Says Dr. Pomeranz, "The R&E Foundation, a passion of my father-in-law, Dr. James J. Kereiakes, represents everything that is positive in medicine."



For more information, please contact Karena Galvin, Director, R&E Foundation at 630-590-7742 or kgalvin@rsna.org.

DONATE. VOLUNTEER. GET FUNDED.



RSNA Research & Education Foundation
RSNA.ORG/FOUNDATION

Grant Recipient Feature

Research Scholar Pursues Academic Career to Focus on Lung Cancer Imaging

Using the research time supported by her 2009-2011 Agfa HealthCare RSNA Research Scholar grant, Mizuki Nishino, M.D., is developing a CT volume technique to assess response to targeted therapy in women with lung adenocarcinoma.

Dr. Nishino's study involves a population of women treated with epidermal growth factor receptor (EGFR) tyrosine kinase inhibitor, erlotinib. She's working in collaboration with Bruce E. Johnson, M.D., director of the Lowe Center for Thoracic Oncology, and other thoracic oncologists at Dana-Farber Cancer Institute.

Data from this project have also provided Dr. Nishino the preliminary data to generate a hypothesis for future funding. "The RSNA Research Scholar grant has given me a great opportunity to further pursue my academic career in radiology and conduct research that will have an impact on clinical decision making. The grant further strengthened my commitment to research," she said.

"The RSNA grant also gave me an opportunity to work with wonderful mentors, advisors and collaborators," said Dr. Nishino. "I have been extremely fortunate to have mentoring and guidance from Dr. Theresa McLoud at Massachusetts General Hospital, my scientific advisor for the RSNA grant, through bi-annual mentoring meetings. I would also like to thank my mentors at my institution, Dr. Bruce E. Johnson, Dr. Annick Van den Abbeele, Dr.

Steven Seltzer, Dr. Clare Tempny and Dr. Ferenc Jolesz for their support and mentorship."

The results of her RSNA grant project were presented at the Scientific Advisory Session during RSNA 2010. She also presented four posters at RSNA 2010, one of which was selected for CME Category 1 presentation, and another was awarded the Certificate of Merit.

Dr. Nishino has presented every year for the past ten years. "I always enjoy the meeting. RSNA has been the major meeting where I present my research results, share them with my radiology peers and learn new discoveries in imaging research," said Nishino. "I would like to thank the RSNA R&E Foundation for the support and encouragement. I will continue to be active and present at RSNA, and I would like to contribute to RSNA."

Dr. Nishino's current focus is on establishing an imaging-based response assessment method in lung cancer patients with EGFR mutation treated with the EGFR inhibitor, erlotinib. By analyzing the chronological tumor volume change during erlotinib therapy in conjunction with clinical trials at the Dana-Farber



Mizuki Nishino, M.D.

Cancer Institute, she aims to develop an imaging-based strategy for early detection of acquired resistance to erlotinib. This will contribute to decision making in lung cancer treatment and potentially prolong patient survival.

"Pursuing research can be challenging sometimes; however, I believe it gives us a tremendous pleasure and

opportunity to work with wonderful mentors and collaborators, and achieve novel scientific discoveries, which makes our life exciting," said Dr. Nishino.

2010 was an exciting year for Dr. Nishino in more ways than one. In July she and her husband welcomed the arrival of twin daughters. Spending time with her family, traveling, reading, and practicing tea ceremony are a few of Dr. Nishino's interests aside from her research.

Born and raised in Japan, Dr. Nishino came to the United States after completing medical school and residency in Kyoto. "When I was a medical student, I was fascinated by how much imaging can tell us about dynamic changes of clinical conditions of patients during treatments. I was also impressed by how much radiologists can contribute to patient care by their knowledge and the rational methods for interpreting imaging findings," said Dr. Nishino. "I decided to go into the field of radiology to make an impact on patient care."

To learn more about RSNA R&E Foundation grant programs, contact Scott Walter, Assistant Director, Grant Administration at 630-571-7816 or swalter@rsna.org.

Volunteer Leadership Spotlight

Getting to Know Gayle E. Woloschak, Ph.D. Chair, Radiation Oncology Research Study Section

The R&E Foundation's Radiation Oncology Research Study Section is responsible for evaluating, scoring and providing written critiques for the Foundation's radiation oncology research grant applications. Under the guidance of Study Section Chair Gayle E. Woloschak, Ph.D., the group meets at RSNA Headquarters to participate in the annual review process that is modeled after the NIH grant review process.

R&E: What would be the one piece of advice you would share with applicants?

GW: The most important advice is to be persistent and to try multiple different types of funding for their projects. It is rare to see a grant funded on the first try, and often a person is funded from one agency and not by two others receiving the same grant [application]. When submitting for the first time, I tell junior investigators to try to have others review their grants several months in advance to give them the opportunity to receive comments and feedback before it goes to a grant review panel.

R&E: What advice would you give applicants who don't receive funding and would like to reapply?

GW: When re-submitting an unfunded application, it is important to be precise and concise when responding to reviewers' comments. Each comment by the reviewer should be addressed in the



Gayle E. Woloschak, Ph.D.

application with a change in the grant itself or with a discussion on why the comment cannot be addressed.

R&E: What do you feel is the most impactful project you have reviewed?

GW: I've seen a number of great applications that combine molecular biology, imaging and radiation oncology approaches all in one. I think these are likely to have broad impact on multiple fields. Interdisciplinary projects are the wave of the future, and for people in radiation disciplines this is part of our natural existence since we fold in physics, biology, and medicine.

R&E: What is the greatest reward associated with your role as a reviewer?

GW: It is great to see young applicants scoring well, knowing that they are being started off in their careers doing fascinating and important research. This joy at seeing an investigator take seed in the field and then seeing the entire field grow as a result of it is the greatest reward!

R&E: We have heard about the Wololab wine tastings—would you care to share a bit about this activity?

GW: I have my whole lab over for a wine party every few months. We taste from 15-20 wines and rate them according to the "old" NIH system (1 is good, 5 is awful) and then post the scores on our lab website (janus.northwestern.edu/wololab) under "fun".

Gayle E. Woloschak, Ph.D., is Professor of Radiation Oncology, Radiology, and Cell and Molecular Biology, Co-Director of the Radiation Oncology Research Program, and Associate Director of the Centers of Cancer Nanotechnology Excellence at the Northwestern University Feinberg School of Medicine.

Interested in volunteering for a Foundation committee, study section, or review panel?

Contact Sena Leach, Assistant Director, Board and Committee Affairs at sleach@rsna.org or 630-571-7810.

Grant Report Highlights

A look at just one of the projects made possible by your support.



T. Jason Druzgal, M.D., Ph.D.

“Our resting state fMRI data certainly describes differences related to autism at the population level; however the more clinically relevant question is to determine the population (autism vs. control) from which a single data set has been drawn.”

Future Studies:

Dr. Druzgal will continue his research with a new two-year, \$150,000 RSNA Research Scholar Grant, *Machine Learning Classification of Resting State Functional MRI Data in Autism Spectrum Disorders*.

T. Jason Druzgal, M.D., Ph.D.

Assistant Professor of Radiology
University of Virginia School of Medicine
Charlottesville, VA

SIEMENS

Grant Received: 2008 Siemens Medical Solutions/RSNA Research Fellow Grant

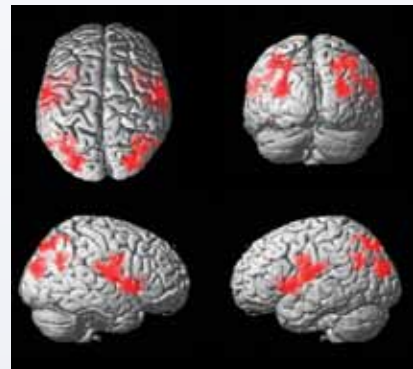
Project Title: Functional MRI of Theory of Mind: A New Way of Imaging Autism

Abstract

Autism is a neurodevelopmental disorder that exhibits a broad phenotypic expression characterized by core deficiencies in social interaction and communication. Affecting 0.3%–0.7% of the U.S. population, the cause of autism remains unknown, although most hypotheses point towards a multifactorial genetic etiology. There is no cure for autism, but early intervention and well-structured behavioral treatments can have beneficial effects, with high levels of compensatory learning.

To date, neuroimaging has had little role in diagnosing patients with autism or understanding the causes of autism. This work explores the use of functional MRI (fMRI) to test two prevailing neuropsychological theories of autism:

1. A central deficiency in the “theory of mind (TOM)” mechanism—the ability of one person to predict another person’s behavior or beliefs by attributing them to independent mental states (pilot data from my laboratory indicates that a simple manipulation of the two-player game Rock, Paper, Scissors, can be used as a reliable assay for brain activation of TOM regions).
2. Underconnectivity theory—hypothesizes that autism is marked by underfunctioning high-level neural connections and synchronization between brain regions that are associated with subcomponents of TOM processes.



rs-fMRI showing regions of greater interhemispheric correlation in control compared to autistic. Cereb. Cortex (2011) 21(5): 1134-1146

Image reprinted by permission of Oxford University Press

Outcome

The preliminary results of the TOM experiment suggest extensively reduced activation of the TOM network in autism. These findings begin to define a neural mechanism for some of the social abnormalities associated with the autism spectrum. Scientifically, this work gives some biological basis to one of the prevailing neuropsychology theories of autism.

To radiologists, the more exciting results come from one of the secondary aims—defining characteristic changes in the resting state (rs-fMRI) data that might be related to autism. Several metrics used to assess temporal synchrony in rs-fMRI data are found to be decreased in autism patients; the distribution of reduced “interhemispheric connectivity” in autism is shown in the accompanying figure.

The rs-fMRI findings make the promise of a radiology test for autism very realistic, as rs-fMRI data are acquired in a nearly identical fashion to most clinical brain MRIs—patients just lie still in the scanner without performing any task.

Our research group has now collected an rs-fMRI database from a large group of autistic patients and typically developing controls. The next step toward clinical utility will be leveraging that database into the development of a classifier that differentiates autistic from control patients.

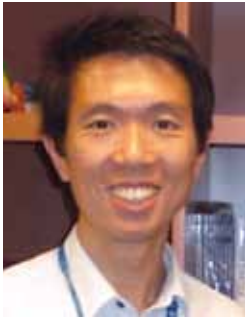
Did you receive a grant early in your career or know someone who has?

Where would you be today without support of the radiology community?

Just as NIH funding is critical for clinical studies, R&E funding is critical for keeping bright minds in academic radiology.

R&E Researchers Get NIH Funding Thanks to Advanced Course in Grant Writing

The RSNA Advanced Course in Grant Writing assists participants in developing high-quality grant applications that can be submitted to government or private funding entities. These R&E grant recipients turned \$180,000 of R&E grant dollars into nearly \$1.5 million from the National Institutes of Health (NIH).



Gregory Chang, M.D.

Assistant Professor
Center for Biomedical Imaging
NYU Langone Medical Center

“Now that I have received NIH funding, I am very interested in serving on the R&E research study section—this would be a way for me to give back to the Foundation and also help jumpstart the careers of other young researchers.”

Grant Received: K23 Mentored Patient Oriented Research Career Development Award
NIH Institute: NIAMS, National Institute of Arthritis and Musculoskeletal and Skin Diseases
Amount: \$662,715 over five years
Title: Osteoarthritis: Identification of Novel Imaging Biomarkers via ²³Na/¹H MRI at 7 T



Alexander S. R. Guimaraes, M.D., Ph.D.

Assistant Professor of Radiology
Director-Abdominal Imaging
Martinos Center for Biomedical Imaging
Massachusetts General Hospital

“The RSNA R&E Foundation grant allowed me to generate ideas and experience with MR imaging of microvasculature with nanoparticles in human pancreas, which was the foundation for this funded award.”

Grant Received: K08 Mentored Clinical Scientist Research Career Development Award
NIH Institute: NIBIB, National Institute of Biomedical Imaging and Bioengineering
Amount: \$824,097 over five years
Title: Validation of MRI Microvascular Biomarkers in Pancreatic Cancer with Magnetic Nanoparticles