Sharing Good Opportunities

Legacy Donors Jack Calvin & Nora Janjan, M.D., M.P.S.A., M.B.A.
Endow a Research Seed Grant

NORA JANJAN, M.D., M.P.S.A., M.B.A., AND husband Jack Calvin have committed to a $600,000 bequest, which will endow an annual named research seed grant for a period of twenty years. The Jack Calvin & Nora Janjan, M.D., M.P.S.A, M.B.A., Research Seed Grant will enable faculty investigators to gain experience in defining objectives and testing hypotheses in preparation for major grant applications to corporations, foundations, and government agencies. The data from these projects will indicate feasibility and appropriateness of the research prior to applying for funds from other agencies. “We felt strongly we should be good stewards of the opportunities given to us, and that’s why we included the RSNA R&E Foundation in our trust,” said Mr. Calvin and Dr. Janjan.

In a sea of nonprofit organizations, charities, and foundations, the RSNA R&E Foundation fit Dr. Janjan and Mr. Calvin’s criteria. On the list of important items they looked for when deciding where to leave their gift was whether the gift would accomplish something. With low overhead administrative costs; their R&E donation goes where they want it: to fund grants. “The RSNA has been an integral part of my career, and the Foundation is highly effective. The R&E Foundation grant recipients get a 30:1 return on investment, and that’s better than any investment you’ll find today,” said Dr. Janjan.

CONTINUED ON PAGE 2
SHARING GOOD OPPORTUNITIES—CONTINUED FROM PAGE 1

Dr. Janjan, who also holds a Masters in Public Service Administration and a Masters in Business Administration, is pursuing a career in health policy after recently retiring from her position as a tenured professor in the Department of Radiation Oncology at The University of Texas M.D. Anderson Cancer Center in Houston.

“We felt strongly we should be good stewards of opportunities given to us and that’s why we included the RSNA R&E Foundation in our trust.”

Nora Janjan, M.D., M.P.S.A., M.B.A. and Jack Calvin

“Sooner or later, each one of us will face a medical problem,” said Dr. Janjan. “Through research, advances in medicine can be made that save lives.”

The Jack Calvin & Nora Janjan, M.D., M.P.S.A., M.B.A. Research Seed Grant will enable research to strengthen the specialty and the greatness of medicine for years to come.

25 YEARS OF BUILDING A STRONG FOUNDATION

PART III. Development of the Grant Programs

The first grant to be funded was a Research Fellowship, in 1985. The following year a panel of scientific advisors was created that included experts in a range of fields such as diagnostic radiology, radiation oncology, cell biology, physics, and statistics. Grant applicants were reviewed by the panel members and Board of Trustees to determine which projects would be funded. Before adding additional programs, the Board changed its focus to better describe the projects and their budgets, review the reports of the grantees and advisors, and continue fundraising. Additional funds were raised from individuals and companies, which quickly increased the number of grants able to be awarded each year. By the early nineties several grant programs had developed including the Seed Grant, Scholar Program, the International Visiting Professor program, and the Research Resident Program. In 1992, two programs for medical students were created: the Medical Student/Scholar Assistant Program and the Medical Student award. During the nineties the grant programs continued to evolve to meet the needs and demands of the radiologic community.

Roentgen Resident/Fellow Research Award

Each year the R&E Foundation recognizes outstanding residents and fellows who have played an active role in radiology research. In June, over 150 individuals received a Roentgen Resident/Fellow Research Award. Those receiving the awards were nominated by their program directors based on the following criteria: presentations of scientific papers at regional or national meetings, publication of scientific papers in peer-reviewed journals, receipt of a research grant or contributions to the success of a research program within the department, and other research activities. Award recipients can be found at RSNA.org/Foundation

Leaving a Legacy

The Legacy Donor Program recognizes individuals who donate to the Foundation through a planned gift. This program allows you to integrate your generosity with your overall financial, tax and estate planning goals to maximize benefits for both you and the R&E Foundation. When you make a planned gift, you really are Funding Radiology’s Future. If you are interested in learning more contact Karena Rybarczyk, Director, R&E Foundation at 630-590-7742 or krybarczyk@rsna.org

Silver Anniversary Campaign at 98% of Goal

The final months of the Silver Anniversary Campaign have arrived. The Research and Education Foundation was established 25 years ago to support grant programs that launch young investigators in the field of radiology. Just over $14.7 million has been raised of the $15 million Campaign goal. We need everyone’s help to reach the goal and strengthen the future of radiology. Make your donation today at RSNA.org/donate.
Jiang Du, Ph.D.
2008–2010 Agfa HealthCare/RSNA Research Scholar Grant

Title: “Direct Imaging and Quantification of Cortical Bone on a Clinical 3T MR Scanner”

Highlights from the 1-Year Progress Report

Imaging of bone has been of fundamental importance to the practice of radiology. Plain radiography and CT provide images of high spatial resolution, and bone density is readily measurable with DEXA and CT. But these images and measurements very largely reflect the mineral content of bone, which is less than half the volume of bone and does not include the organic matrix and bone water.

Specific aims:

We have developed methods to image and quantify bone directly using UTE pulse sequences on a clinical 3T MR scanner, and have applied these techniques to bone samples, volunteers and patients. The work has been divided into three parts:

Specific Aim 1: Implementation and optimization of UTE sequences at 3T on bovine samples and healthy volunteers.

Progress: Significant technical improvements have been made in enhancing the performance of UTE imaging of cortical bone, including optimizing radiofrequency (RF) pulse sequences, correcting gradient distortion, minimizing the impact of off-resonance effects and spatial blurring due to fast signal decay, suppressing long-T2 signals from muscle and fat to improve bone contrast, minimizing long-T2 signal contamination in bone quantification. New contrast mechanisms, such as UTE with rescaled digital subtraction (UTE-RDS) and UTE with off-resonance saturation contrast (UTE-OSC) have also been utilized for bone imaging. We have developed a 2D UTESI sequence, and applied it to cortical bone and other short-T2 tissues. Bone images with excellent fat/water separation and reliable quantitative information (T2*, bone water and bulk magnetic susceptibility mapping) have been produced.

Figure 1. 2D UTE imaging and clinical gradient echo imaging of tibia of a healthy volunteer. UTE with adiabatic IR preparation provides excellent contrast for cortical bone in vivo.

Specific Aim 2: To develop quantitative techniques for characterization of bone in samples and healthy volunteers.

Progress: T1 and T2* measurement techniques have been developed and applied to 20 healthy volunteers and 12 bone samples. We have implemented two novel sequences: UTE T1rho and UTE T2 sequences. The UTE T1rho sequence employs a spin locking pulse cluster (a hard 90° pulse followed by a spin locking pulse and another hard -90° pulse) followed by 2D UTE imaging to measure T1rho of cortical bone. The UTE T2 sequence employs a T2-preparation pulse cluster (a hard 90° pulse followed by a hard 180° pulse and another hard -90° pulse) followed by 2D UTE imaging to measure T2 of cortical bone. Bone water content can be quantified by comparing signal from bone and a water phantom. Bone bulk magnetic susceptibility can be quantified using UTESI or multi-echo UTE acquisitions.

Specific Aim 3: To apply UTE and UTESI imaging and quantification techniques to the following populations: healthy volunteers (n=40), patients with osteoporosis (n=10) and osteopenia (n=10).

Progress: We have scanned 20 healthy volunteers and performed qualitative and quantitative UTE MR imaging. We are expecting to scan another 20 healthy volunteers in the coming months to finish this aim. We are working to recruit patients with osteoporosis and osteopenia and correlating the quantitative UTE MR findings with DEXA.

Overall Progress:

After the first year of a two year project, I look forward to new techniques to image and quantify bone from a completely different perspective - protons rather than mineral in bone (short term) and a breakthrough in predicting bone quality (long term). The R&E grant provided me much needed support in conducting volunteers/patients study. It is extremely valuable especially considering the global economic downturn and the difficulty in getting NIH funding. The grant has resulted in 13 abstracts and 3 papers, with another two papers on 2D quantitative UTE imaging and 3D UTE imaging in preparation. Two patents have been filed.
A New Commitment to the Future: Varian Medical Systems Strives to Save Lives

Varian Medical Systems has made a new commitment that will support an RSNA education grant. The donation of $300,000 will support a $30,000 grant annually for ten years. Varian has been a long-time supporter of the RSNA R&E Foundation through the Vanguard program. “We are honored to partner with other industry leaders in this important RSNA program. Through this program, we hope to see meaningful advances in the quality and effectiveness of x-ray imaging and cancer care,” said Tim Guertin, President & CEO, Varian Medical Systems.

Varian Medical Systems manufactures medical devices and software for treating cancer and other medical conditions with radiotherapy, radiosurgery, proton therapy, and brachytherapy. The company supplies informatics software for managing comprehensive cancer clinics, radiotherapy centers and medical oncology practices. Varian is also a major supplier of tubes and digital detectors for X-ray imaging in medical, scientific, and industrial applications and also supplies X-ray imaging products for cargo screening and industrial inspection.

In 2007, Varian established the Varian Medical Systems Foundation to support non-profit organizations that align with its mission. “The mission of Varian Medical Systems is to focus energy on saving more lives. Our commitment to supporting research and education in the radiological sciences and radiation oncology is central to this mission,” said Mr. Guertin. The Varian Medical Systems Foundation supports patient resources, cancer research and education initiatives, international organizations that provide radiation oncology education, and other efforts in treating cancer. This year, Varian’s donation will fund the Varian Medical Systems/RSNA Education Seed Grant for Ariel Hirsch, M.D., from Boston University Medical Center, and her project, Integration of Radiation Oncology into the Undergraduate Medical Curriculum. The RSNA Research & Education Foundation thanks all of its corporate partners for their support.

RSNA Membership Now Required for Grant Applicants
Starting with the 2010 grant cycle, grant applicants must be members of RSNA at the time of application; if an applicant’s membership category is Member-in-Training, or any non-paying category, then the scientific advisor or a co-investigator must be a dues-paying member. This applies to both North American and International applicants.

Seed Grant Program Grows
In order to expand research capabilities, the dollar amount of support for the Research Seed Grant award will be increased from $30,000 to $40,000, effective in 2010. Seed Grant applications and review forms will be updated this summer to a similar format used by the NIH, to make them more useful and efficient for applicants and reviewers.

Grant Eligibility Criteria Change: Education Scholar Grant
The Education Scholar Grant will fund individuals with an interest in radiologic education. Projects may now include, but are not limited to, advanced training in the discipline of education, possibly resulting in an advanced degree/certificate; development and dissemination of educational materials; education in emerging nations; and medical student or resident education. The overall goal of this program is to develop and share knowledge and expertise with the radiology community. International members are welcome to apply. The grant amount is up to $75,000 per year for one or two years ($150,000 maximum).

Contact Scott Walter, Assistant Director, Grant Administration, at 630-571-7816 or swalter@rsna.org for more information.
Behind the Scenes of the

RSNA R&E Foundation

YOUR DONATIONS FUND THE HIGHEST SCORING, most promising research and education grants. Have you ever wondered how the grants are selected? The Grant Program Committee and its subcommittees and review panels oversee the different aspects of the grants. The committees and review panels are run by appointed members who have volunteered their expertise.

The RSNA R&E Foundation is governed by a twelve-member Board of Trustees. Assisting the Board of Trustees are committees, subcommittees, and review panels, each of which provides oversight and develops recommendations for specific Foundation programs. The committees include the Evaluation Committee, Finance Committee, Fund Development Committee, Grant Program Committee, Nominating Committee and Public Relations Committee.

Over the next few issues of Focus we will take a closer look at the role of the specific committees. In this issue, we will highlight the Grant Program Committee.

- The Grant Program Committee develops grant-funding recommendations based on average study section scores, programmatic balance, and other special considerations. The Board of Trustees makes final grant-funding decisions based on recommendations from the Grant Program Committee and amount of available funds.

- The Education Study Section & Research Study Sections are responsible for reviewing and scoring applications for education and research grants. The study sections comprise experts recruited from academic institutions and other facilities that specialize in various areas of radiology. Preference for study section member selection will be given to individuals that have extensive experience in education and a proven track record for obtaining significant grant funding from sources such as the NIH. Individuals outside the study section may be recruited to provide reviews for proposals that require specific expertise outside the scope of the general study section members.

- The Outstanding Researcher/Educator Award Review Panel is responsible for reviewing all the nominations and ranking all the nominees for the Outstanding Researcher and Outstanding Educator Award programs. The panel will make a recommendation of the recipient for each award to the Board of Trustees. The members of the panel include a Trustee, members-at-large, and a former recipient.

- The Medical Student Grant Review Panel is responsible for reviewing Research Medical Student Grant applications, providing written comments on the strengths and weaknesses of the applications, and developing funding recommendations. The Medical Student Grant Review Panel comprises individuals representing expertise in specific radiologic areas including diagnostic radiology, interventional radiology, radiation oncology/biology, medical physics, and nuclear medicine.

The R&E Foundation depends on the expertise and support of dozens of volunteers who serve in various capacities from grant review to fundraising to evaluation of programs. Interested in volunteering on a committee? Contact Susan Thomas, Assistant Director, Governance and Administration at 630-571-7810 or sthomas@rsna.org.
“My wife Lizabeth and I have both come to have a deep respect for what RSNA does for the field of radiology. We felt this was a wonderful opportunity to make a tax-deductible contribution and to give back to the field that has provided so many benefits to us.”

Sam Hissong, M.D.
Silver Legacy Donor

EXHIBITORS CIRCLE PROFILE

Dedicated to Research and Training

Amirsys® Aligns with the R&E Foundation for Fourth Year

Amirsys’ support of the RSNA R&E Foundation is no surprise. From its inception in 2001 as a co-op owned and run by radiologists, Amirsys has focused on sharing the collective experience and wisdom of its world-renowned academic radiologists. Amirsys is proud to have improved the daily “in-the-trenches” experience for busy practicing radiologists and helped train residents and fellows. The results: improved diagnostic accuracy, faster report turn-around time and better quality of patient care.

A strong dedication to research and training is just one more reason Amirsys supports the R&E Foundation and has been doing so for the past four years as a Gold Level Exhibitors Circle company. “We published our first book when a bulleted format book was virtually unheard of in traditional radiology publishing,” laughed Ric Harnsberger, M.D., chaired professor of radiology, and CEO of Amirsys. “Now over 75% of all practicing radiologists worldwide and 95% of all training programs utilize our products on a daily basis.” Amirsys has spawned research and publications in professional journals,” said Anne Osborn, M.D., chaired professor of radiology, EVP and Editor-in-Chief of Amirsys. “Our comprehensive case database has enabled authors to compare and contrast rare images that no single academic institution could ever match.”

“We are pleased to provide support to our fellow academic researchers via the R&E Foundation,” commented Paula Woodward, M.D., chaired professor of radiology, Sr. V.P. and Medical Director of Amirsys. Amirsys also supports the RSNA membership by linking online Amirsys’ STATdx® with myRSNA®. Launched 4 years ago, STATdx was created to help busy radiologists reach an accurate differential diagnosis for their most challenging cases in about two minutes or less. “With thousands of radiologist users in dozens of countries and over 4,500 diagnoses, 1000 differential diagnoses, 16,000 cases, and 200,000 images – and an ever-growing, constantly updated repository of expert-based radiology information built to think like a radiologist – STATdx is uniquely powerful,” added Dr. Harnsberger.

A Special Thanks to the 2009 Exhibitors Circle

Each year, the RSNA Research & Education Foundation awards over $1 million in grants to fuel R&D in radiology with the support of our individual and corporate donors. Exhibitors Circle Companies support the Foundation on an annual, non-endowed basis. Supporting companies as of July 22, 2009:

Gold Circle ($5,000)

* Amirsys, Inc.
* SenoRx
* Vital Images

Silver Circle ($2,500)

* Dejarnette Research Systems
* MedInformatix
* Teleradiology Solutions
* Totoku/U.S. Electronics

Bronze Circle ($1,500)

* VIDAR Systems Corporation
* Zotec Partners

* ContextVision
* InfillMed, Inc.
* InSite One
* Lippincott Williams & Wilkins – Wolters Kluwer Health
* Naviscan

* Parascript
* RADinfo SYSTEMS
* Radiology OneSource
* RCG HealthCare Consulting
* Resonance Technology Inc.
* Springer
* Ultrasonix
* Ziosoft

Learn more about the Exhibitors Circle at RSNA.org/Foundation/Exhibitor
2009-2010 Grant Funding

Over $1.6 million will be awarded for new and continuing research and education grants. A total of 60 grants will be awarded to recipients representing over 35 institutions.

Below are several featured grant projects your donations are funding. See the entire list at RSNA.org/Foundation

Jennifer Kung, B.A.
RSNA Research Medical Student Grant
Radiology, UCLA David Geffen School of Medicine
Anatomopathological Correlation of Diffusion Tensor Imaging in Epilepsy Patients with Focal Cortical Dysplasia

Mizuki Nishino, M.D.
Agfa HealthCare/RSNA Research Scholar Grant
Radiology, Brigham and Women's Hospital/Dana-Farber Cancer Institute
Chronological Analysis of Tumor Size, Volume and CT attenuation coefficient in Women with Adenocarcinoma of the Lung Treated with Erlotinib

Chirag Patel, B.S.
RSNA Research Medical Student Grant
Radiation Oncology, University of Texas Health Science Center at Houston Medical School
Impact of Radiation Dose on Tumor Downstaging, Pathological Complete Response Rate, and Overall Survival Rates in Advanced Stage Rectal Cancer

William Rockey, M.D., Ph.D.
Bracco Diagnostics/RSNA Research Resident Grant
Radiation Oncology, University of Iowa Hospitals and Clinics
High-Resolution RNA-Based Targeted PET Imaging Agents for Prostate Cancer

Jiang Du, Ph.D.
Agfa HealthCare/RSNA Research Scholar Grant
Radiology, University of California, San Diego
Direct Imaging and Quantification of Cortical Bone on a Clinical 3T MR Scanner

Brian Ghoshhajra, M.D.
Siemens Healthcare/RSNA Research Fellow Grant
Radiology (Cardiac CT/MR/PET Program), Massachusetts General Hospital
Adenosine Induced Stress Myocardial Perfusion Imaging using Dual Source Cardiac Computed Tomography

Brad Barnett, B.S.
RSNA Research Medical Student Grant
Radiology, The Johns Hopkins University School of Medicine
Evaluation of MR-Visible ThermaSphere® Microwaves For Simultaneous Chemoembolization and Thermal Ablation

Myria Petrou, M.A., M.B.Ch.B.
Covidien/RSNA Research Scholar Grant
Diagnostic Radiology, Stanford University
First-in-Man Study of Extrathalamic Nicotinic Transmission with [18F]XTRA: Evaluation in Healthy Subjects and Comparison to Individuals with Alzheimer’s Disease

Ehsan Balagamwala, B.A.
RSNA Research Medical Student Grant
Radiation Oncology, Cleveland Clinic Foundation
Investigating the role of the Gradient Index in predicting side effects from Gamma Knife Radiosurgery in the treatment of meningiomas

Robert Chin, M.D., Ph.D.
Philips Healthcare/RSNA Research Resident Grant
Radiation Oncology, Stanford University Medical Center
Molecular and Bioinformatic Identification of Epithelial Ovarian Cancer Stem Cells

Jacob Brown, B.A.
RSNA Research Medical Student Grant
Radiology, Georgetown University/NIH MD/PhD Partnership Program
Evaluation of the coagulation state in relation to transarterial chemoembolization for hepatocellular carcinoma

Lewis Shin, M.D.
Hitachi Medical Systems/RSNA Research Seed Grant
Diagnostic Radiology, Stanford University
Ultra-High Resolution Clinical Imaging of the Human Medial Temporal Lobe with 7T MRI

Michael Zeineh, M.D., Ph.D.
RSNA Research Fellow Grant
Radiology, Stanford University
An investigation of EphB1 as a mediator of the AT phenotype

Christopher Lominska, M.D.
RSNA Presidents Circle Research Resident Grant
Radiation Medicine, Georgetown University Medical Center
64Cu-ATSM Uptake in vitro and ex vivo in Cervical Cancer

“The RSNA seed grant is very important to help junior researchers become established. The preliminary data they collect during their initial funded projects allow them to apply for more grants from other agencies such as NIH. It is like a seed that can grow into a productive tree.”

Bensheng Qiu, Ph.D.
2007-08 Fujifilm Medical Systems/ RSNA Research Seed Grant Recipient
DURING HIS SECOND SUMMER OF ACTIVE DUTY in the Navy Medical Scholarship program, Gill Taylor-Tyree, Sr., M.D., worked in the Department of Radiology at the U.S. Naval Hospital, in Oakland, California. It was this experience that shaped his decision to pursue a career in the field.

Lieutenant Taylor-Tyree was initially a Flight Surgeon flying F-4 Phantom fighter jets with the Marines, and then P-3 Orion submarine chasers, back with the Navy. As his career developed in the early eighties, Dr. Taylor-Tyree advanced to department head of Radiology, U.S. Naval Hospital as a Commander, Medical Corps, U.S. Navy, at the Naval Air Station in Lemoore, California.

In 1983, Dr. Taylor-Tyree attended his first annual meeting in Chicago. “I was hooked by the enormity of it all,” he said. As a member, and volunteer with numerous professional membership organizations, Dr. Taylor-Tyree had been initially introduced to RSNA through the RSNA teaching files. At his second annual meeting, the next year, he co-presented a paper with his mentor, Dr. Larry O’Connor.

In 1986, Dr. Taylor-Tyree went into private practice, and today practices locum tenens in Baltimore, Maryland. “The most rewarding part of my career continues to be direct patient interaction with interventional procedures,” said Dr. Taylor-Tyree.

Dr. Taylor-Tyree has been a loyal supporter of the RSNA Research & Education Foundation throughout his career. Annual donors like Dr. Taylor-Tyree are invaluable to the R&E Foundation. Their commitment to the future of the specialty enables grants for young investigators. “We invest in R&D in order to secure the future for our enterprise. If we fail to invest in our future, then our enterprise is inevitably doomed,” said Dr. Taylor-Tyree.