Mitchell Schnall, M.D., Ph.D., knew from the get-go that he wanted to be a clinician scientist in radiology. He was less sure of how to become one.

“There weren’t a lot of radiologists in that mode in 1992,” said Dr. Schnall, who at the time was fresh out of his residency and new to the faculty at the University of Pennsylvania. “I quickly realized that I needed resources.”

Becoming the 1992 GE Healthcare/RSNA Research Scholar enabled him to take his first steps toward that research career: hiring a research coordinator and beginning to study rectal cancer and magnetic resonance imaging.

“It was absolutely crucial to be able to fund the coordinator position in order to begin collecting data and seeking additional funding,” he said.

Armed with his R&E grant and a background in biophysics, Dr. Schnall was able to design a surface coil to facilitate rectal MR imaging, an experience he would apply later in developing high spatial resolution breast coils and other patented probes for MR.

“The ability to obtain resources as a young faculty member is really critical because it validates you and garners respect from your peers,” he said. “It also makes you more competitive for national funding.”

And Dr. Schall would know: His initial R&E funding was followed by a slew of other grants—totaling $30 million to date—including R01, P01 and collaborative U01 grants from the NIH.

“Collaborative research not only produces scientific evidence of value, but by bringing key players together to form a multi-center group, it can even transcend the clinical impact of the research,” he said. “The group can develop a commonality of purpose and gain consensus on major issues.”

Dr. Schnall is most proud of his work on the U01 grant and multi-center consortium that led to the widespread utilization of MR for the detection and management of breast cancer in women at high risk for the disease.

“It very much excites me that imaging is not only able to promote early detection and management of cancer but also to personalize cancer therapy by measuring the characteristics of a specific cancer and its response to treatment,” he said.

With a keen interest in clinical trials, Dr. Schnall naturally gravitated to ACRIN, which recently named him principal investigator. As the cooperative’s chief investigator, he is responsible for coordinating dozens of committees and cancer-related clinical trials investigating new means of diagnosing and treating the disease throughout the body—from the head and neck to lung, cervical and prostate cancers.

“Radiology is so exciting because of the vastness of the technology,” he said.
Your Donations Help Increase Funding for Radiology

Thousands of Radiologists Come Together to Fund Their Specialty’s Future

This year, thanks to your continued support, the Foundation is able to provide grants to 60 researchers and educators. Over $2 million are being invested in their work and in your future. The success of the Silver Anniversary Campaign is already apparent as the R&E Foundation’s grant funding has risen each year since the start of the campaign. Every dollar you donate is going to help secure the future of radiology.

Below are just a few of the grants you are helping to fund in 2008.

William Copen, M.D.
Covidien/RSNA Research Scholar Grant
Massachusetts General Hospital
Beyond the Diffusion-Perfusion Mismatch: MR Imaging of Oxidative Metabolism in Acute Stroke

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

T. Jason Druzgal, M.D., Ph.D.
Siemens Medical Solutions/RSNA Research Fellow Grant
University of Utah
Functional MRI of Theory of Mind: A New Way of Imaging Autism

Dianne Georgian-Smith, M.D.
RSNA Education Seed Grant
Brigham and Women's Hospital
Detection of Breast Cancer-Mammographic Architectural Distortion: Understanding the Perception to Develop Methods for Teaching

Mark Buyyounouski, M.D.
Philips Medical Systems/RSNA Research Seed Grant
Fox Chase Cancer Center
Early Detection of Locally Persistent Prostate Cancer Following Radiotherapy

Tarik Alkasab, M.D.
Fujifilm Medical Systems/RSNA Research Resident Grant
Massachusetts General Hospital
RaceTrack: Improving Clinical Follow-up for Radiologists Using Information Technology

Gregory Chang, M.D.
Philips Medical Systems/RSNA Research Resident Grant
New York University School of Medicine
Osteoarthritis: Abnormalities in Cartilage and Trabecular Bone Micro-architecture Determined by High Resolution 7T MRI

Robert Chin, M.D., Ph.D.
RSNA Research Resident Grant
Stanford University Medical Center
Identification of Epithelial Ovarian Cancer Stem Cells for Radiotherapeutic Targeting

Garry Choy, M.D.
RSNA Research Resident Grant
Massachusetts General Hospital
Development of a Multivariable Risk Prediction Score for Contrast-Media Induced Nephropathy: A Tool for Prevention, Prognostication, and Decision Making.

Diana L. Gage, M.D., Ph.D.
RSNA Research Resident Grant
UCLA Medical Center
Radiosensitization with Anti-VEGF in Glioblastoma Cells

Michael D. Hope, M.D.
RSNA Research Resident Grant
University of California, San Francisco
Evaluation of Bicuspid Aortic Valve and Aortic Coarctation with 4D Flow MR Imaging.

Ryan Hung, M.D., Ph.D.
RSNA Research Resident Grant
University of Alberta
Magnetic Resonance Imaging for In Vivo Cancer Antigen-Specific T Lymphocyte Tracking

Jennifer Jones, M.D., Ph.D.
RSNA Research Resident Grant
Stanford University
Strategic Design of Novel Radiation and Immunotherapeutic Combinations: Selective Targeting of Radiation-Induced Changes in Costimulatory Pathways

Elizabeth Kidd, M.D.
RSNA Research Resident Grant
Barnes-Jewish Hospital, Washington University
Intra-Tumoral Metabolic Heterogeneity of Cervical Cancer

Andrea Donovan, M.D.
RSNA, AUR, APDR, SCARD Radiology Education Research Development Grant
University of Toronto, Sunnybrook Health Sciences Centre
Developing Radiology Residents as Teachers: Program Director Views and Implementation of a National Resident Teacher Development Course

Samir Abboud, B.S.
Canon U.S.A./RSNA Research Medical Student Grant
University of Maryland
Role of Whole-Body CT Imaging Autopsy in the Investigation of Mechanisms of Blunt Force in Accidental Traumatic Death

Nour Birouti, B.A.
RSNA Research Medical Student Grant
Northwestern University Feinberg School of Medicine
Assessment of Aneurysm Pulsatility in a Rabbit Model

Tze Luck Chia, B.Sc.
RSNA Research Medical Student Grant
University of Toronto, Sunnybrook Health Sciences Centre
Pilot Study - Relationship between Grey Matter Perfusion and Cognitive Impairment in Secondary Progressive Multiple Sclerosis Using CT Perfusion

Sona Chikarmane, B.A.
Fujifilm Medical Systems/RSNA Research Medical Student Grant
Harvard Medical School, Brigham and Women's Hospital

Lee Coryell, B.A.
RSNA Research Medical Student Grant
University of Pennsylvania School of Medicine
The Spectrum of Findings Associated with Fibroid Expulsion After Uterine Artery Embolization

Guillermo Gonzalez, B.A.
RSNA Research Medical Student Grant
Washington University in St. Louis School of Medicine
Evaluation of Hepatic Steatosis on Contrast Enhanced Computed Tomography Scan

See Your Donations in Action at the RSNA 2008 Scholar Advisor Program

Current R&E Foundation Scholar Grant Recipients will present their research plans and data at a special Scholar Advisor Program. Mentors, scientific advisors and department chairs will attend, consulting with and advising Scholars on advancing their research careers. Anyone interested in learning more about their donations in action is invited to attend. Please check the Annual Meeting Program for date, time and room location. CME credit is available for this scientific session.
“The R&E Foundation needs the support of the general RSNA membership to ensure the continued success of the specialty.”

Barbara and Jerry P. Petasnick, M.D.
Campaign Pacesetters

$50, $100, $250...Your Gift Can Make a Difference!
Gifts of All Sizes Needed to Reach Silver Anniversary Campaign Goal

With a campaign goal of $15 million to maintain a high grant funding rate, it is easy to get discouraged and think that your gift won’t matter. The R&E Foundation is thrilled to have generous donors supporting the campaign through endowments, Pacesetter pledges and Presidents Circle membership, but the power of small gifts cannot be forgotten.

Every $50, $100, and $250 adds up to impressive amounts when the community comes together. Just think, if every RSNA member gave $200, we would not only exceed our campaign goal, but more importantly guarantee increased funding and be able to keep radiology research and education vibrant for the next 25 years. It would send an incredible message that the radiology community will come together to invest in its future by supporting the R&E Foundation.

You have made a tremendous impact so far, but now we need you to finish the job. Do your part today to ensure that our campaign goal is met, and encourage your colleagues to join the community of supporters, by making a donation at RSNA.org/donate.

And remember, whatever the size, your gift will make a difference.

NEWS

Education Scholar Grant Opens to International Applicants
In honor of the contributions of the late Derek Harwood-Nash, M.D., to international radiology education, and thanks to the generosity of Paul E. Berger, M.D., the R&E Foundation Board of Trustees announced at its May meeting that it would begin accepting international applications for the Education Scholar Grant this fall.

To recognize the contributions of the international radiology community, the Foundation now offers two grants for international applicants. Complete eligibility details and information on the Research Seed Grant and the Education Scholar Grant can be found at RSNA.org/Foundation or by contacting Scott Walter at swalter@rsna.org. Applications can be completed online beginning in fall 2008.

Are You Interested in Volunteering?
R&E Foundation Now Accepting Committee Appointment Recommendations

Appointments to 2009 R&E Foundation committees will be made by the Board of Trustees in September; your recommendations are welcome. Appointments will be needed for the following committees, subcommittees and review panels:

- Individual Giving Subcommittee of the Fund Development Committee
  Responsible for all aspects of planned and individual giving, including oversight of solicitations to potential donors, assistance with the cultivations, and solicitation and promotion of the planned and annual giving programs.

- Corporate Giving Subcommittee of the Fund Development Committee
  Responsible for development and oversight of the Foundation's corporate giving programs.

- Visionaries in Practice Subcommittee of the Fund Development Committee
  Responsible for all aspects of both private and academic practice group giving, including all solicitations of members working in a practice group setting.

- Research and Education Study Sections
  Responsible for reviewing and scoring grant applications.

- Outstanding Researcher/Outstanding Educator Review Panel
  Responsible for reviewing all the nominations and ranking all the nominees for the award programs.

- Public Relations Committee
  Responsible for development and oversight of all Foundation public relations activities.

- Finance Committee
  Responsible for overseeing all issues and practices that impact the finances of the Foundation.

- For 2009 appointments, recommendations need to be submitted before the end of August 2008. To submit your recommendations or for further information, please contact Susan Thomas, Assistant Director, Governance and Administration, R&E Foundation at sthomas@rsna.org or 630-571-7810.
Foundation Focus
RSNA Research & Education Foundation

**Seed Grant Launches Career, Puts Researcher at the Forefront of IR**

Silveberman Turns Lab Research into Clinical Reality Benefiting Patients

**Talk about right place, right time.**

Stuart G. Silverman, M.D., was a young researcher at Harvard Medical School and Brigham and Women’s Hospital when a mentor approached him about exciting lab research that showed magnetic resonance imaging could be used to visualize temperature changes in body tissues. Ferenc A. Jolesz, M.D., Director of Brigham Radiology’s Image-Guided Therapy Program, needed an interventional radiologist to help translate the bench research to patient care.

“Interventional radiologists had been using ultrasound and CT to guide biopsies and other interventional procedures for many years,” Dr. Silverman said. “The next frontier was adding MRI to the interventionalists’ armamentarium. More importantly, percutaneous tumor ablations were being developed and the opportunity to advance the field by using MRI to monitor temperature changes during the freezing or heating of a tumor was exciting.”

Two major technological advances paved the way for the minimally invasive procedure: a new, interventional MRI system that could provide the interventionalist with image-guidance in the IR suite and a needle-sized cryotherapy probe able to deliver extreme cold deep within the body.

“I thought it was a great idea to build my career on,” said Dr. Silverman, who applied for and won the 1998 Toshiba America Medical Systems/RSNA Research Seed Grant.

His trial of MR-guided percutaneous cryoablation of liver metastases was not only successful, it provided a foundation for the launching of the now clinically robust Tumor Ablation Program at Brigham and Women’s—and put Dr. Silverman at the forefront of one of the most exciting advances in interventional radiology. In addition, the ablation program has provided fertile clinical substrate that continues to embellish Brigham Radiology’s active research in image-guided therapy that is intensively funded by multiple sources, including NIH.

“The R&E Seed Grant was obviously very important to help launch a project that was really at the foundation of my career in interventional radiology. I’d like to think that in the future this research will help solidify the field of tumor ablation in general, and the role of MRI in particular,”

Stuart Silverman, M.D.

Silverman’s research published in *Radiology* led the way to further investigations and finally translation into routine patient care.

Stuart Silverman, M.D.’s Research Seed Grant trial helped provide the foundation for the highly successful Tumor Ablation Program at Brigham and Women’s Hospital.

**The R&E Seed Grant was obviously very important to help launch a project that was really at the foundation of my career in interventional radiology. I’d like to think that in the future this research will help solidify the field of tumor ablation in general, and the role of MRI in particular.”**

Stuart Silverman, M.D.

is now used routinely to destroy tumors in the liver, kidney, lung, bone and soft tissues.

“There’s no question that ablation therapy is on its way to becoming the standard of care for many cancers throughout the body,” said Dr. Silverman.

In addition to further studies on MRI-guided tumor ablation, new areas for research continue to crop up—such as combining percutaneous ablations with PET/CT to visualize and pinpoint the location of metabolic activity in the body.

“Thank you to Dr. Silverman and the Foundation for making this research possible,” said Dr. John Mankovich, Director of the Image-Guided Therapy Program at Brigham and Women’s Hospital. “This is a great example of how research funding can have a significant impact on patient care.”

**The R&E Seed Grant was obviously very important to help launch a project that was really at the foundation of my career in interventional radiology,” he said. “I’d like to think that in the future this research will help solidify the field of tumor ablation in general, and the role of MRI in particular.”**

Stuart Silverman, M.D.’s Research Seed Grant trial helped provide the foundation for the highly successful Tumor Ablation Program at Brigham and Women’s Hospital.
Dedication to Science Guides Toshiba America Medical Systems

Company’s Support Ranges from Young Scientists to School Children

Many a company claims to value creative thinking. But few invest in the concept as seriously as Toshiba America and its subsidiary, Toshiba America Medical Systems.

“Toshiba’s vision is to provide quality medical imaging products and services through long-term customer relationships,” said Larry Dentice, General Manager and Senior Vice President. “We fulfill that vision with a commitment to research and education, and that starts at the grassroots level.”

The company has invested $25 million to date in two initiatives designed to help young students discover the wonders of science. With help from the Toshiba America Foundation, which funds hands-on experiments in American schools, K-12 students are able to explore real-world questions—to “do” science, rather than just read about it in textbooks. And through the Toshiba/National Science Teachers Association ExploraVision Awards Program, students across the country have a chance to imagine how a current technology might evolve in the next 20 years with the help of teachers and mentors.

By funding the R&E Foundation, which Toshiba has done since 1990 as a Vanguard founder, the company also invests in innovative thinking at the highest levels.

“R&E award recipients are young, bright minds who are thinking outside the box. We want to support their advanced research on groundbreaking technology that will ultimately improve lives.”

Larry Dentice

“We feel we maximize the information that comes out of our funded R&E research,” Mr. Dentice said. “Every year we sit down and meet the recipients of our grant awards and it generates a lot of good dialogue.” Toshiba listens intently not only to researchers but also to its customers, a strategy that has enabled the company to boost sales by more than 20% in a nearly flat diagnostic imaging market and to consistently outrank its competitors in terms of customer satisfaction. According to the KLAS Enterprises Inc, an independent monitor of healthcare technology firms, Toshiba America Medical Systems secured Best in KLAS 2007 ratings in CT, ultrasound and MR. Toshiba also holds more number one ratings with MD Buyline users than any competitor.

“Ensuring that the medical community is able to use our equipment to its full capacity means patients are getting better care,” Mr. Dentice said. “In the end, that’s the real reward.”

Move to the Front!

Express Boarding Pass takes Presidents Circle members to the front of taxi and shuttle bus lines at RSNA 2008

Anyone who has attended an RSNA Annual Meeting has witnessed the massive crowds of people leaving McCormick Place at the end of busy meeting days. Often this can lead to long taxi and shuttle bus lines and a frustrating end to your day.

Why wait?

As a Presidents Circle member you will receive an Express Boarding Pass that will take you to the front of the taxi and shuttle bus lines during high volume exit times on the busiest days of the meeting.

How does the process work? Simply present your Boarding Pass at the R&E Foundation Express Boarding Desk near the entrance to the Grand Concourse and you will be escorted to the front of the taxi or bus line of your choice. It is an easy way for you to get out of McCormick Place quickly and get back to the comfort of your hotel room or to your dinner reservation on time.

In addition to Express Boarding, Presidents Circle members enjoy special benefits including complimentary lunches throughout the annual meeting and early notice of hotel registration each spring.

You can join this elite group today by making a $1,500 donation online at RSNA.org/donate.
Celebrating 25 years, the RSNA R&E Foundation provides the R&D that keeps radiology in the forefront of medicine.

Exhibitors Circle Profile

**SenoRx Targets Breast Care**

**Research and Education Key to Improving Patient Outcomes**

Since it was founded in 1998, SenoRx has focused on just one segment of the vast healthcare industry – breast care. Seeing the enormous potential for improvement in diagnosis and treatment of breast cancer, SenoRx dedicated itself to enhancing this very important field of women’s health.

With a strong dedication to research and education and constant goal of improving patient outcomes, SenoRx has transformed itself from a small development stage medical device company to a growing force in the minimally invasive medical device market. The company’s flagship EnCor® breast biopsy system is the first to offer a multi-modality all-in-one breast biopsy platform compatible with MR, stereo and ultrasound imaging.

The launch of the VisiLoc™ MRI visible obturator at RSNA 2007 further strengthened the EnCor platform as it allows physicians to verify the targeted position within the breast for easy identification of the lesion. It is the goal of SenoRx to offer products and procedures that dramatically enhance patient outcomes.

Today, SenoRx serves over 1,000 breast diagnostic and treatment centers in the United States and Canada with 18 breast care products having received FDA 510(k) clearance. In a rapidly advancing field, the company knows it cannot rest on its success. It is constantly looking toward the future with a strong portfolio of patents on devices that could become the next products to advance women’s health.

Realizing that research and education in the radiology community is critical to patient care, SenoRx is supporting the RSNA R&E Foundation as a Gold Level Exhibitors Circle member. Visit SenoRx at RSNA Booth #8920, Hall B, North Building.

Exhibitors Join in Supporting Radiology

The following companies are showing their support through membership in the 2008 Exhibitors Circle program.

**Platinum $10,000**
- Medtronic Navigation
- NightHawk Radiology Services

**Gold $5,000**
- Amirsys, Inc.
- SenoRx
- Vital Images

**Silver $2,500**
- DeJarnette Research Systems, Inc.*
- Reliant Medical Services, Inc.
- Teleradiology Solutions
- VIDAR Systems Corporation*
- Zotec Partners

**Bronze $1,500**
- ATS Laboratories, Inc.*
- Carilion Clinic
- ContextVision, AB
- Ethicon Endo-Surgery, Inc.
- Franklin & Seidelmann Subspeciality Radiology
- Geisinger Health System
- InfMed, Inc.
- Lippincott, Williams & Wilkins
- MagView
- The Medipattern Corporation
- MedInformatix, Inc.
- Meta Imaging Solutions
- Naviscan PET Systems
- NovaRad Corporation
- ONI Medical Systems*
- Parascript, LLC
- RCG HealthCare Consulting
- Sage Software
- Springer
- Staff Care

*Special thanks go out to the companies that have been supporters for five or more years.
“As a practicing radiologist and medical device developer, the necessity for research is evident to me on a daily basis.”

Charles M. Swaney, M.D.
Presidents Circle Member

Results of R&E Research Are Evident in Everyday Work

Angtuacos Encourage Others to Support Advances as Pacesetters

Edgardo J. Angtuaco, M.D., and Teresita L. Angtuaco, M.D., have both been members of the faculty of the radiology department at the University of Arkansas for Medical Sciences for the past 29 years. Among the many awards they have achieved in their academic careers, they both have been included in the Best Doctors in America list several times this past decade.

Known among their colleagues and residents as Dr. Eddie and Dr. Terry, they are among the 38 Pacesetters helping the R&E Foundation reach its $15 million goal for the Silver Anniversary Campaign. They have pledged $25,000 toward the campaign commemorating the Foundation’s 25th anniversary.

“We feel strongly about the RSNA and support young researchers in our field,” said Dr. Eddie. “We see the future of radiology in the research we perform with our exciting tools. We support the RSNA as a main driver of these efforts.”

“It’s hard not to get swept up in the RSNA mystique when you attend the annual meeting with thousands of people from all over the world all with the same interest in radiology,” added Dr. Terry, who attended her first RSNA meeting in 1978. “Every resident should be there to see the breadth and depth of this medical specialty.”

Over time, Dr. Terry became more involved in RSNA committees and familiar with the work of the R&E Foundation.

“I can’t imagine why one wouldn’t support the R&E when there are dire needs in medical research and few dedicated research funds for radiology,” she said. “And we see results from R&E research in our everyday work.”

She said that many an R&E grant has funded research on new technologies that eventually became part of the radiologists’ armamentarium, from advances in MR, CT, ultrasound and PET which have been part of their respected specialties in neuroradiology and body imaging.

“We use techniques on a day-to-day basis that would not have been possible without R&E support,” she said. “We should all contribute to efforts that connect the two.”

The Angtuacos hope that other members of RSNA will follow in their footsteps by contributing to the Silver Anniversary Campaign, which is three quarters of the way to its goal with $11.5 million in donations and committed pledges.

“R&E provides the opportunities and resources to help young researchers with ideas,” Dr. Eddie said. “We know how important the tool of imaging is and we must continue funding radiologists to study it or others will do it for us.”

Edgardo J. Angtuaco, M.D., and Teresita L. Angtuaco, M.D., donate because everyday they use techniques that resulted from R&E grants.

Join the Campaign Pacesetters

You can join the Angtuacos and 37 other Campaign Pacesetters with a five year pledge of $5,000 per year. The Campaign Pacesetters will endow a grant award following the campaign, allowing 20 new researchers to start careers in academic radiology. Contact Karena Rybarczyk at 630-590-7742 or krybarczyk@rsna.org for more information and to start your pledge today.
Your Donations at Work to Improve Patient Care

Current UCSF Investigator Studying Advanced MR Imaging for Post-Radiation Prostate Cancer Patients

ANTONIO C. WESTPHALEN, M.D., AN ACTIVE member of a multi-disciplinary research team at the University of California San Francisco, is a perfect example of your donations working today to improve patient care tomorrow.

Dr. Westphalen received a 2006 Siemens Medical Solutions/RSNA Research Fellow grant to study MR spectroscopic imaging (MRSI) after external beam radiation therapy for prostate cancer. After gaining insight into investigation and competence in research techniques during his fellowship, Dr. Westphalen sought to continue his focus on advanced MR imaging and won a two-year GE Healthcare/RSNA Research Scholar grant that he is in the midst of today.

“The results of this project will add to our understanding of post-radiation changes in prostate cancer,” said Dr. Westphalen. “Our goal is to improve patient care by promoting MRSI and diffusion tensor MR imaging (DTI-MRI) as prognosis tools to be used in the post-radiation prostate cancer population and to develop a new line of investigation in multiparametric MR imaging of prostate cancer patients.”

Dr. Westphalen credits the Research Fellow and Scholar Grants with allowing him to take his very first steps as an independent clinical investigator: “The R&E grants have been essential to my career at UCSF,” he said. “Support from these grants was the cornerstone of my advancement.”

Even though he is still in the early stages of his career, Dr. Westphalen understands the importance of the R&E Foundation and is giving back what he can to help start others’ careers. “By fostering the academic drive of potential young researchers,” he said, “the R&E Foundation ensures a successful future for our field.”

You can support young investigators like Dr. Antonio C. Westphalen today by donating online at RSNA.org/donate. Don’t wait, the future of the specialty depends on it.

See page 2 for details on Dr. Westphalen’s project presentation at the RSNA 2008 Scholar Advisor Program.