

# Foundation CUS

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# RSNA 2007 Preview

The R&E Foundation presence at the RSNA annual meeting grows each year due to the generosity of donors and the success of grant recipients.

AT RSNA 2007, THE FOUNDATION IS proud to have 39 scientific posters, scientific papers, education exhibits and molecular imaging zone posters being presented that are based on R&E grant projects. A few of the highlights include scientific papers on imaging biomarkers by 2006-07 Bracco Diagnostics/RSNA Research Scholar Michael Kuo, M.D., an education exhibit by 2006 Philips/RSNA Research Fellow Jens Vogel-Claussen, M.D. on MRI in patients

at risk for Nephrogenic Systemic Fibrosis, and a presentation by 2006-07 Carestream Health/RSNA Research Scholar Patrick J. Bolan, M.D. on 7 Tesla body MR imaging and spectroscopy. These recipients are leading the way with new research, technologic developments and research methods that will improve academic and clinical practices.

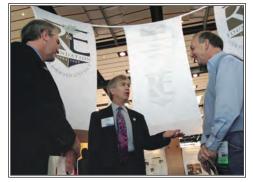
The R&E Foundation will give its annual report prior to the Sunday Image Interpretation Session in the Arie Crown Theater. Foundation Chair Anne G. Osborn, M.D., will update attendees on the \$15 million Silver Anniversary Campaign

progress and showcase the impact of Foundation grants on current radiology practice. Donors who gave a minimum of \$50 in the past year will have access to the RSNA 2007 R&E Foundation Donor Lounge, located in the R&E Foundation Pavilion in the Lakeside Center. The Donor Lounge will have computer terminals to check e-mail, wireless internet access, comfortable furniture and refreshments throughout the day. Complimentary boxed lunches will be available to Presidents Circle members and Visionary Donors and other lunch items will be available for purchase.

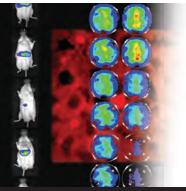








Foundation Focus RSNA Research & Education Foundation



"Supporting the RSNA Research & Education fund is all about doing the right thing for the right reasons. We benefit our professional society, our profession and we contribute to the advancement of science in the public good. Come share in this noble endeavor!"

John H. Rees, M.D. Bronze Visionary Donor

# Presidents Circle

# A Vision of Radiology's Future

A PROGRAM THAT STARTED WITH A GREAT vision for the future of radiology has grown to become a powerful movement in individual gifts to the Foundation.

"Unless we make significant contributions to support our investigators, new modalities will be assumed by those specialties that do,"

"I have always felt that

membership support if

radiology is to maintain

its lead in the imaging

Dr. Jerry P. Petasnick

sciences."

research needs major

Dr. Jerry P. Petasnick announced during his President's Address at RSNA 2001. He then introduced the Presidents Circle, encouraging individuals to set an annual goal of \$1,500 to fund radiology research. Membership participa-

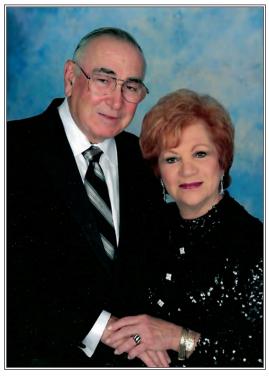
tion in this program, he predicted, would allow a greater number of grants to be funded each year, leading to future advances in radiology.

Dr. Petasnick and his wife Barbara became the first members of the Presidents Circle at RSNA 2001 and will be celebrating the growth of the program to over 175 members at RSNA 2007. While Dr. Petasnick is happy to see the growth of the program, he hopes that many more RSNA members will join. "I have always felt that research needs major membership support if radiology is to maintain its lead in the imaging sciences." he said, "The R&E Foundation has established a number of new programs to support

this goal but needs the support of the general membership to ensure the continued success of the specialty."

The new programs include a specially named RSNA Presidents Circle Research Resident Grant which

is awarded to a top-ranked research resident applicant each year. Now in its fourth year, the Presidents Circle Grant is enabling young investigators to pursue a career in academic radiology to explore new treatments and technologies which will shape the future of radiology practice.



Barbara and Jerry P. Petasnick, M.D.



The Presidents Circle is open to individuals who donate \$1,500 or more per year and provides a variety of recognition and benefits throughout the year.

RSNA.org/foundation Foundation Foundation

"I give to the RSNA R&E Foundation because it is an excellent investment in the future of research, education and ultimately the clinical practice of radiology."

Valerie P. Jackson, M.D. Campaign Pacesetter



#### **R&E Foundation Corporate Partners**

The RSNA R&E Foundation thanks the following companies who are supporting radiologic research and education by their membership in the RSNA Vanguard Program and Exhibitors Circle. Please show them your appreciation when you visit their booths at RSNA 2007.

#### VANGUARD PROGRAM

Agfa HealthCare
Bayer HealthCare
Pharmaceuticals
Bracco Diagnostics
Canon USA
Carestream Health
Cook Incorporated
Covidien
E-Z-EM, Inc.
FUJIFILM Medical Systems
GE Healthcare
Hitachi Medical Systems
Philips Medical Systems

Siemens Medical Solutions

Toshiba Medical Systems Varian Medical Systems

#### 2007 EXHIBITORS CIRCLE

#### **Platinum \$10,000**

Emageon Medtronic

NightHawk Radiology Services

#### Gold \$5,000

Adobe Systems Inc. Amirsys, Inc. Carilion Clinic iCAD, Inc. Vital Images, Inc.

#### Silver \$2,500

DeJarnette Research Systems, Inc. Intelerad Medical Systems, Inc. Zotec Partners

#### Bronze \$1,500

Alliance Imaging
ATS Laboratories, Inc.
Blue Ridge Medical Imaging, Inc.
CIT Healthcare
ContextVision AB
Dilon Technologies
Dimplex Thermal Solutions
Eizo Nanao
Ethicon Endo-Surgery

Geisinger Health System

InfiMed, Inc.

Lippincott Williams & Wilkins

MagView MedBuild

MedInformatix, Inc.

The Medipattern Corporation

ONI Medical Systems RADInfo SYSTEMS RCG Healthcare RIS Concepts

RT Temps LLC

Springer Staff Care U-Systems, Inc.

VIDAR Systems Corporation

#### EXHIBITORS CIRCLE PROFILE

### Vital Images Invests for the Future

VITAL IMAGES, INC., A LEADING PROVIDER OF enterprise-wide advanced visualization and analysis software solutions, is a second year member of the Gold Exhibitors Circle. According to Jeremy A. Abbs, vice president of marketing, Vital Images is proud to take part in this important Foundation initiative. "Vital Images feels it is important to support radiologic research by partnering with RSNA and the R&E Foundation to advance the field and consistently strive to improve patient care."

The company knows that continued investment in research is integral to the future of medical imaging. Vital Images works to continually develop and enhance its offerings to radiologists, cardiologists, oncologists and other medical specialists so that physicians can strengthen their roles as a critical component in exceptional

patient care. By forming partnerships with the best minds in medicine and research, Vital Images looks to continue the development of innovative solutions that will improve clinical outcomes and reduce medical costs.

Vitrea® software is Vital Images' advanced visualization solution that creates 2D, 3D and 4D images of human anatomy from CT (computed tomography) and MR (magnetic resonance) image data. With this productivity-enhancing tool, physicians can easily

navigate within these images to better understand disease conditions. ViTALConnect®

software is a Web-enabled medical tool that allows physicians to use PCs or notebook computers to access interactive 2D, 3D and 4D advanced visualization. This communication tool

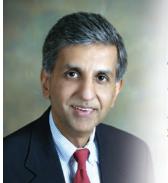
includes collaboration capabilities that enable multiple physicians in different locations to confer while interacting with the same data in real-time. These products are just an example of the full spectrum of solutions that will be showcased at RSNA 2007.

By expanding the use of imaging technology, allowing for rapid presentation and interpretation of images and disseminating that information quickly and efficiently to physicians and their



patients, Vital Images looks to fundamentally improve the

quality and cost-effectiveness of healthcare. Support of the RSNA R&E Foundation Exhibitors Circle is just one way that this leader in medical imaging is working to do just that. Foundation Focus RSNA Research & Education Foundation



"Radiologists who have benefited from past innovation have an obligation to ensure our specialty's continued success by supporting imaging research through contributions to RSNA's R&E Foundation."

Sanjay Saini, M.D. 1987 RSNA Research Fellow Grant Platinum Visionary Donor

EXHIBITORS CIRCLE PROFILE

# Emageon's 'Enterprise Vision' on Display with Its Support of Foundation

THE RSNA R&E FOUNDATION IS PROUD TO welcome Emageon as a new member of the Exhibitors Circle at the Platinum level. A technical exhibitor at the Annual Meeting since the company was founded in 1999, Emageon's support of the Foundation is an important part of its successful partnership with the RSNA. According to Wendell Brown, Emageon's Senior Vice President of Business Development, Emageon has been able to make significant headway in the industry due to the receptivity of RSNA members to new technologies and applications designed to make their jobs easier. "Without organizations like the RSNA R&E Foundation," said Mr. Brown, "programs to find and develop these new applications would not reach the end-users nearly as quickly."

Founded with an emphasis on open-systems architecture for standards-based image management and archiving, Emageon has successfully expanded this platform to encompass enterprise

medical image management, ubiquitous image access and leading edge visualization tools for medical content. Today, the company has achieved an industry-leading position as more than 500 hospitals, hospital operators and imaging centers rely on Emageon's enterprise vision.

RadSuite Express™, the company's latest product, is the result of a new strategic alliance with Dell to bring an affordable high-end PACS solution to small to mid-sized hospitals

and clinics. RadSuite Express delivers high-performance advanced visualization and Emageon's relationship with Dell makes purchasing, procurement and management of the PACS technology easier for small to mid-sized facilities and enables them to quick-start their PACS operations. Emageon's enterprise solutions, including RadSuite Express, will be on display at RSNA 2007 where the company looks forward to meeting radiologists and imaging professionals to share recent product developments and receive their feedback on current products or requirements.

Emageon is excited about the growth of new technologies and applications that will improve care and increase productivity. To stand out in the

MAGEON)

evolving field of medical imaging, the company exercises its leadership by participating in the efforts of professional societies. "We are proud

to sponsor and support a number of organizations important to our industry," said Mr. Brown. Thanks to the vision of companies like Emageon, the RSNA R&E Foundation will continue to provide the R&D that keeps radiology in the forefront of medicine.

EXHIBITORS CIRCLE PROFILE

#### iCAD Committed to Innovation

ALIGNED WITH THE MISSION OF THE R&E Foundation, iCAD believes that research and education are the building blocks to innovation. As a leader in Computer-Aided Detection

(CAD), iCAD wants to drive clinical research that focuses on improving the quality of healthcare. iCAD demonstrates its support of the work

iCAD

Never stop looking™

of RSNA and its thought leaders by its Gold Member support of the RSNA Exhibitors Circle. Completely focused on Computer-Aided Detection solutions, iCAD's newest algorithm innovations and open system architecture deliver powerful performance improvements that

increase the confidence of radiologists' findings, enhance their workflow, and give them the freedom to choose the best imaging solution that meets their needs. Additionally, iCAD's scaleable platform facilitates rapid migration into new disease states such as the early

detection of colon cancer using Computed Tomography (CT).

"We have a long-term vision for extending our superior CAD capabilities to help clinicians detect disease earlier, improve outcomes and enhance patient care," said Ken Ferry, CEO of iCAD. "By supporting the Foundation, we can help drive innovation and continuously improve the technology's power and accuracy, expand its reach and extend it to more radiologists and patients."

iCAD will be showcasing the world's most advanced CAD solutions at RSNA 2007.

RSNA.org/foundation Foundation Foundation

"It is a great honor to be a part of RSNA's grants to the young minds who are keeping radiology vibrant and in tune with the evolving practice of medicine."

Martin R. Prince, M.D., Ph.D.
1991 RSNA Research Resident Grant Recipient
Presidents Circle Member



VANGUARD COMPANY PROFILE

# Carestream Health, Inc., a Global Leader in Health Imaging and IT

WHEN CARESTREAM HEALTH, INC., OPENED FOR business just a few months ago, it was already serving tens of thousands of healthcare customers worldwide. From Day I, the new company offered a comprehensive suite of health imaging and IT solutions and had an employee base of some 8,100 energetic people driving sales of \$2.5 billion annually in 150 countries around the world.

Carestream Health began not as a start-up, but, rather, as a successful business with a solid track record: The company emerged when

Toronto's Onex Corporation acquired
Eastman Kodak
Company's Health
Group. Today, as

a standalone company, Carestream Health is a leader in health imaging and IT solutions, including PACS, RIS, information management systems,

computed radiography, digital radiography, mammography and oncology products, molecular imaging agents and imaging systems, film printers and a range of film-based imaging products.

One recent example of the company's leadership: the success of its PACS vs. competing systems in the "Workstation Face-Off" at Stanford University's 9th Annual International Symposium on Multidetector-Row CT in San Francisco.

As a result of Carestream Health's successful product portfolio and broad global sales, service

and distribution capabilities, solutions from the company can be found in approximately 90% of hospitals around

the world. Additionally, more than 75% of the company's revenue comes from products that enjoy a number one market position.

Carestream Health, while looking aggressively toward its future as an independent company, is proud of its heritage, bringing from its former owner a history of innovation, more than 110 years' experience in health imaging and some 1,000 patents in healthcare technology.

"We couldn't be more excited," said Kevin Hobert, Chief Executive Officer of Carestream Health. "We now have an incredible opportunity to build on our history of innovation and to invest in our future and grow our business."

"Our growth," he added, "depends on the success of our customers. And the RSNA's leadership in scientific research and education is fundamental to this success. We endorse the RSNA Research & Education Foundation's efforts and we are proud to be associated with the Vanguard Program."

#### **NEWS**

#### Thorwarth First Radiologist to Chair AMA CPT Editorial Panel

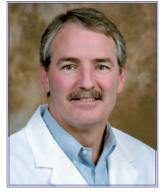
William T. Thorwarth Jr., M.D., Co-Chair of the R&E Foundation Visionaries in Practice Subcommittee, will begin his two-year term as Chair of the American Medical Association CPT® Editorial Panel in October. Dr. Thorwarth is the first radiologist to chair this prestigious panel and only the fourth chair of the panel since its formation in 1966. "The CPT Editorial Panel, with representatives from the practicing physician, non-physician provider and payer communities, is a group that truly dedicates its time and energy to having a procedural

code set that accurately describes all medical care performed today," said Dr. Thorwarth, "It will be an honor and pleasure to chair such a group."

Carestream

A recognized expert in the field of coding, nomenclature and the relative value scale, Dr. Thorwarth was

first appointed to a full seat on the panel in 2003. Since then, the Panel has taken on the expanded



William T. Thorwarth Jr., M.D.

emerging and investigational procedures (Category III codes) as well as performance monitoring (Category II codes). Dr. Thorwarth is honored to be a part of this important group, as he said, "The Panel and the CPT Advi-

role of creating

code sets for

sory Committee members are a group of volunteers who work hard at getting it right."

#### New Pacesetters Join The Campaign

Maysoon and Talal Beydoun, M.D., Patricia G. Becker, M.D. and Gary J. Becker, M.D., and Marilyn J. Siegel, M.D. and Barry A. Siegel M.D. are the latest to make leading gifts towards the Silver Anniversary Campaign. These individuals have pledged \$25,000 to join 23 other Campaign Pacesetters in support of radiology research and education. Individuals committing by the end of RSNA 2007 to a pledge of \$25,000 or more will qualify as Campaign Pacesetters and receive a variety of recognition and benefits.

### 2008 Grant Applications

EACH YEAR, THE FOUNDATION HELPS TO pave the way for the brightest young minds in medical imaging. By offering funding in all areas of radiology, the Foundation is serving radiologists in practice today and creating the foundation for research tomorrow.

Funding opportunities are available for medical students, residents, fellows, and faculty members. R&E Foundation research grant programs often serve as the first step toward a career in radiologic research—in fact, a recent survey shows that for every \$1

awarded by the R&E Foundation, recipients receive \$9 in subsequent funds from other sources as principal investigator. Funding opportunities are also available for development of educational materials and methods, clinical training and education career development.

Annual grants range from \$3,000 (Medical Student) to \$75,000 (Scholar) for all areas of medical imaging including diagnostic radiology, interventional radiology, medical physics, molecular imaging, biomarkers, health informatics and radiation oncology.

The online grant application system will open for 2008 grants in mid-October. The deadline for Education Grants is January 10, 2008. The deadline for Research Grants is January 15, 2008. Complete eligibility requirements and procedures are available at RSNA.org/Foundation.

### 2007 Grant Recipient Highlights

The 61 grant recipients this year highlight the outstanding research being done in radiology today. The need for the Foundation's continued support is apparent with the promise of topics listed below. A complete listing of grant projects can be found at RSNA.org/Foundation.

#### Antonio Carlos Westphalen, M.D.

GE Healthcare/RSNA Research Scholar Grant Advanced MR Imaging after External Beam Radiation Therapy of Prostate Cancer

#### Bachir Taouli, M.D.

Siemens Medical Solutions/RSNA Research Scholar Grant Correlation Between Perfusion Metrics Measured with Perfusion-Weighted MRI and Tissue Oxygenation Measured with BOLD MRI with VEGF Expression and Microvessel Density in Hepatocellular Carcinoma

#### Zhen Jane Wang, M.D.

Philips Medical Systems/RSNA Research Fellow Grant Urinary Oxygen Tension Measurement in Humans Using MR Imaging

#### Joseph Contessa, M.D., Ph.D.

Hitachi Medical Systems/RSNA Research Resident Grant Radiosensitization of Gliomas Through Targeting of the N-linked Glycosylation Pathway

#### Maximilian Diehn, M.D., Ph.D.

Philips Medical Systems/RSNA Research Resident Grant Investigating the Mechanism of Cancer Stem Cell Radioresistance

#### Michael Spiotto, M.D., Ph.D.

RSNA Research Resident Grant The Role of Hypoxia During the Induction of Immune Responses In Vitro and In Vivo

#### Clifton D. Fuller, M.D.

RSNA Research Resident Grant Human-Computer Interface Differentials in Target Delineation: A Multi-Institutional Study

#### Marilyn Siegel, M.D.

Philips Medical Systems/RSNA Research Seed Grant Hyperpolarized Helium-3 MRI Assessment of Bronchiolitis Obliterans in Pediatric Lung Transplant Recipients

#### Kiran Sheikh, B.A.

Canon USA/RSNA Research Medical Student Grant Perfusion MR Imaging Methods for Characterization of Prostate Cancer: Preliminary Experience

#### Alex Yeung, M.S.

RSNA Research Medical Student Grant

Utility of Silicone Rubber Contrastenhanced MicroCT in Evaluating the Angioarchitecture of Malignant Prostatectomy Specimens

#### David M. Chacko, M. Phil.

RSNA Research Medical Student Grant

Cosmetic Outcomes and Complications After Breast Conservation Treatment in Early-Stage Breast Cancer: Electron Boost Versus Iridium Implant

#### Christopher Abraham, B.S., R.T.

RSNA Research Medical Student Grant

Determination and Utilization of Optimum Oblique Cutplanes of the Prostate for Use in Radiotherapy Contouring

#### Jeffrey Shyu, B.S.

RSNA Research Medical Student Grant

MRI of Neural Stem Cell Migration in Response to Excitotoxic Injury in the Adult Mouse Brain

#### Heather Clark, B.A.

RSNA Research Medical Student Grant

Detection of Skeletal Muscle Denervation in Living Aging Rodents with Positron Emission Tomography



Help spread the word about grant funding opportunities. Encourage colleagues, residents and fellows to take advantage of R&E grants. Grant Posters are available to display at your office or send to interested candidates at http://www.rsna.org/Foundation/GrantPosters.cfm.

RSNA.org/foundation Foundation Foundation



In 2007 the Foundation awarded over \$1.5 million to radiologic investigators and educators.

### Foundation Grant

# A Springboard for Molecular

# Imaging Research

"We need the RSNA R&E

Foundation funding to

further the profession of

radiology. RSNA provides

It's like the soil that allows

Umar Mahmood, M.D., Ph.D.

plants to grow."

an incubator for small ideas.

IN VIVO OPTICAL IMAGING WAS JUST EMERGING as a technology in 1997 when Umar Mahmood, M.D., Ph.D, started his radiology residency at Massachusetts General Hospital/Harvard Medical School. Dr. Mahmood was intrigued by the ability to "see" molecular targets that previously had never been visualized inside living animals through his participation in one of the first studies on this topic. Based on this idea he applied for and earned an RSNA

Research Resident Grant in 2000.

"This was the first time in which I served as principal investigator," said Dr. Mahmood. "The R&E Foundation grant was important because it made me focus on grant writing. This helped me develop a skill set necessary to be an

independent investigator, setting the stage for an array of diverse research projects."

With the RSNA grant, Dr. Mahmood gained a much better understanding of optical imaging's possible applications. Though the process is still in the pre-clinical phase, he anticipates that optical imaging may some day be used to detect diseases at an earlier, more treatable stage, ultimately improving patient outcomes in colon cancer, breast cancer, coronary artery disease, rheumatoid arthritis and other diverse diseases.

The R&E Foundation also provided a springboard for Dr. Mahmood to take his interests in molecular imaging to the next level, and helped generate preliminary data for a successful R01 grant application that he submitted to the National Institutes of Health.

Now serving as director of Massachusetts General's Mouse Imaging Laboratory, Dr. Mahmood manages a team of researchers who combine novel transgenic mouse models of disease

with novel imaging agents and imaging technologies to characterize basic biological disease mechanisms, improve methods for early disease detection and develop ways to assess therapeutic efficacy at earlier stages. Their goal is to eventually translate the most promising findings into clinical practice.

"Radiology is truly a trail-blazing field of medicine," said Dr. Mahmood. "A radiologist of the 1920s or '40s — or even the 1980s — would not recognize many of the imaging techniques as they are being used today. We need the RSNA R&E Foundation funding to further the profession of radiology. RSNA provides an incubator for small ideas. It's like the soil that allows plants to grow. The best ideas grow, becoming bigger projects funded by larger sources such as NIH."



Umar Mahmood, M.D., Ph.D.
Director of The Mouse Imaging Program Center for
Molecular Imaging Research
Massachusetts General Hospital/Harvard Medical
School

# Presidents Circle Member Feels Foundation's Impact First-Hand

A GRADUATE OF THE UNIVERSITY OF OKLAhoma, Charles M. Swaney, M.D. has played a role in the introduction and development of medical devices and techniques for Radiology Consultants, Inc. in Columbia, Missouri for over 20 years. MCD and PET imaging, PACS, and CT colonography are a few of the techniques that he has been instrumental in procuring and implementing for his group.

A consistent supporter of the Foundation, Dr. Swaney has always felt an obligation to give back to the educational institutions and profession that helped to mold his career.

During the course of developing two new medical devices, Dr. Swaney relied on research from many institutions to form a scientific basis for why the devices should work and the practical reasoning behind them. He was pleasantly surprised to learn at a RSNA 2006 physics session that the R&E Foundation was

one of the sources funding the research that is playing a role in the evaluation of the devices as they undergo patent and FDA approval. A regular supporter of the RSNA R&E Foundation as a Presidents Circle member, this was the first time Dr. Swaney felt the personal effects of the research he helps to fund. "I have supported the R&E Foundation for several years," said Dr. Swaney, "but this was the first time the importance of these donations was directly evident to me."

Radiologists and patients alike have felt the impact of research funded by the Foundation for almost 25 years. With the help of generous donors like Dr. Swaney, research funded by the Foundation will continue to make a difference in the lives of many for years to come. As Dr. Swaney points out, "the point is that we don't know which research will affect us or our patients, but some will and it is important



Charles M. Swaney, M.D.

to make that investment in our future as radiologists and in the future of our patients."



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Silver Anniversary Campaign

Celebrating
25 Years of Funding
Radiology's Future®

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