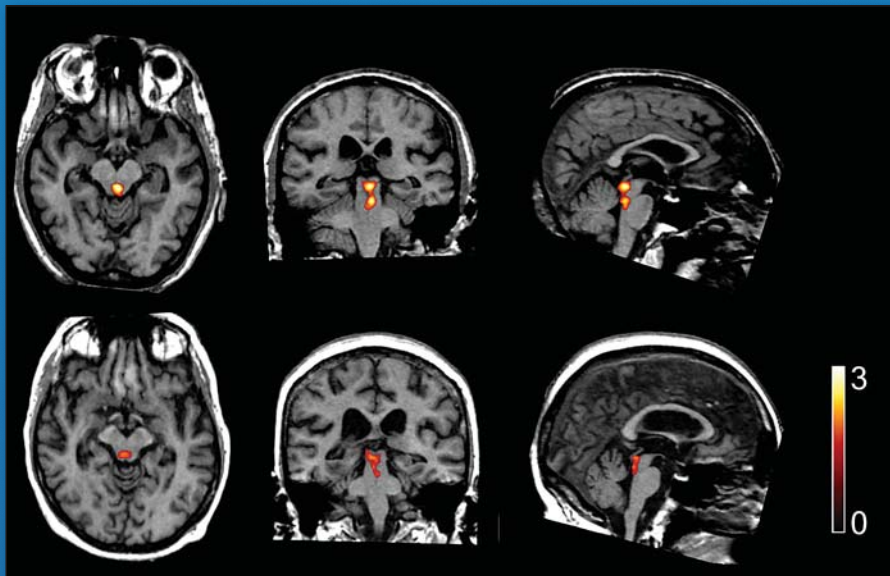


# RSNA *News*



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## RSNA Scholar Uses PET as Key to Unlock Mysteries of Elderly Brains

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- Radiation Protection Becomes Personal, Professional Priority
- E-Learning Program Puts Dent in U.K. Radiologist Shortage
- Residency Study Can't Explain Gender Gap in Radiology Specialty
- Brains Respond Better to Name Brands, fMRI Shows

Abstract Deadline for RSNA 2007  
April 15, 2007

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**RSNA News**

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## Kressel is New *Radiology* Editor

**H**ERBERT Y. KRESSEL, M.D., will be the new editor of *Radiology* beginning in January 2008. He succeeds Anthony V. Proto, M.D., who will retire as editor at the end of this year.

Dr. Kressel is the Miriam H. Stoneman Professor of Radiology at Harvard Medical School in Boston. He is also radiologist-in-chief in the Department of Radiology at Beth Israel Deaconess Medical Center.

Dr. Kressel is a prolific investigator and inventor who made his mark as a diagnostic radiologist in MR imaging of the abdomen and pelvis with particular interest in liver, pancreas, prostate and rectum imaging.

Serving as editor of *Radiology* is an opportunity to contribute to the radiology profession and help guide the scientific growth

of the imaging science globally, said Dr. Kressel. "*Radiology* has established itself internationally as the premier scientific journal devoted to imaging," he said. "I hope to continue the outstanding tradition of editorial leadership provided by Drs. Eyster, Siegelman and

Proto in the past."

Dr. Kressel said he particularly looks forward to further developing *Radiology* online, to meet the needs of readers and authors. "Internet and online communications present myriad opportunities for enhanced scientific discourse and education," he said.

An RSNA member since 1977, he previously served as an editorial board member of *Radiology* for six years.



Herbert Y. Kressel, M.D.

He is the author or co-author of nearly 200 peer-reviewed scientific papers, books, book chapters and invited papers and has published more than 60 papers in *Radiology* over the past 30 years.

### New Lab Studies Use of Scintillating Materials in Radiation Therapy

Researchers at the University of Alabama in Huntsville are studying how scintillating materials—those that flash or glow when hit by certain types of high energy radiation—might help accurately aim proton beams during radiation therapy.

Funded with an \$800,000 appropriation to the NASA

budget, the new lab will also explore the use of scintillating materials by astrophysicists seeking unique radiation signatures emitted by elements on other planets and by screeners at ports of entry looking for radioactive materials being smuggled into the U.S.

### Report Looks at Measuring Safety of Medical Implants in MR Imaging

Biomedical technology developer Biophan Technologies, Inc., has published a report detailing the meeting it convened with the U.S. Food and Drug Administration (FDA) to define methods for measuring the MR imaging safety of medical implants.

The report, "Biophan Technologies Cooperative Research and Development Agreement (CRADA) Workshop on the Safe Use of Implantable Medical Devices in Magnetic Resonance Imaging Systems – Summary from Initial Workshop," is available at [www.biophan.com/crada\\_workshop0107](http://www.biophan.com/crada_workshop0107).

### NIH Seeks to Improve Grant Application Review

The Center for Scientific Review (CSR) at the National Institutes of Health (NIH) is convening workshops this year to solicit input on its application review groups, so that the more than \$20 billion invested annually by NIH in biomedical research advances the most promising projects.

Leaders of scientific societies and disease-affiliated groups are encouraged to attend the workshops. Comments from each workshop will be posted online.

All workshops will be held from 8:30 a.m. to 4:30 p.m. at NIH's Natcher Conference Center in Bethesda, Md.

April 25—**Behavioral and Social Science**

June 29—**Disease-based**

Aug. 14—**Integrated Biological, part 1** (digestive sciences, musculoskeletal, oral and skin sciences, renal and urological sciences and endocrinology, metabolism, nutrition and reproductive sciences)

Oct. 30—**Integrated Biological, part 2** (immunology, hematology, cardiovascular sciences, respiratory sciences and biology of development and aging)

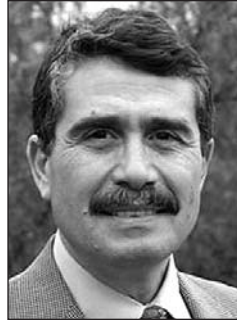
Dec. 18—**Biomolecular**

More information and online registration forms can be found at [www.csr.nih.gov/openhouse](http://www.csr.nih.gov/openhouse). NIH encourages registration at least three weeks before the selected workshop.





**Hedvig Hricak, M.D., Ph.D.**



**Robert Mattrey, M.D.**



**Janet L. Strife, M.D.**

## AUR to Present Awards

**T**HE Association of University Radiologists (AUR) will award its gold medal this year to RSNA Board Liaison for Publications and Communications **Hedvig Hricak, M.D., Ph.D.** Dr. Hricak is the Carroll and Milton Petrie Chair of the Department of Radiology at the Memorial Sloan-Kettering Cancer Center in New York.

Also at its annual meeting next month in Denver, AUR will present a gold medal to **Robert Mattrey, M.D.**, a professor of radiology at the University of California, San Diego. **Janet L. Strife, M.D.**, a staff radiologist and professor of radiology and pediatrics at Cincinnati Children's Hospital Medical Center, will receive the Association of Program Directors in Radiology achievement award.

## Hébert is Canadian Journal Editor

Prominent researcher and critical care physician **Paul C. Hébert, M.D., F.R.C.P.C., M.H.Sc.**, is the new editor-in-chief of the *Canadian Medical Association Journal (CMAJ)*. A clinician-scientist at Ottawa Hospital, Dr. Hébert is also



**Paul C. Hébert, M.D., F.R.C.P.C., M.H.Sc.**

vice-chair of research and a professor of critical care and epidemiology in the Department of Medicine at the University of Ottawa. He also holds the Chair in Transfusion and Critical Research at the Ottawa Health Research Institute.

## Ehman Named to NIBIB Advisory Council

2006 RSNA Outstanding Researcher **Richard L. Ehman, M.D.**, has been named to the advisory council of the National Institute of Biomedical Imaging and Bioengineering (NIBIB). The council makes recommendations on the conduct and support of biomedical imaging and bioengineering research and research training.



**Richard L. Ehman, M.D.**

Dr. Ehman is a professor of radiology at Mayo Medical School in Rochester, Minn., where seven of the eight extramurally funded projects he oversees are funded by the National Institutes of Health.

Also named to the advisory council were:

- **Rebecca Mary Bergman, B.S.**, vice-president of science and technology at Medtronic, Inc.
- **Katherine W. Ferrara, Ph.D.**, a professor and chair of the Department of

Biomedical Engineering at the University of California, Davis

- **David Satcher, M.D., Ph.D.**, former U.S. Surgeon General and assistant secretary for health at the Department of Health and Human Services and current director of the Center of Excellence on Health Disparities and the Poussaint-Satcher-Cosby Chair in Mental Health at Morehouse School of Medicine.

### MEDICAL IMAGING COMPANY NEWS

#### Tyco Healthcare Unveils Name for New Entity

Tyco Healthcare of Mansfield, Mass., has announced that its global healthcare entity will be known as Covidien after it separates from the parent company this spring and becomes an independent, publicly traded company.

The Covidien brand will unite Tyco Healthcare's many well-known brand names, including Autosuture, Kendall, Mallinckrodt, Nellcor, Puritan Bennett, Syneture and Valleylab. Tyco's healthcare products division employs more than 43,000 people worldwide.

#### AngioDynamics Acquires RITA Medical Systems

AngioDynamics, Inc., of Queensbury, N.Y., has completed the acquisition of RITA Medical Systems, Inc., of Fremont, Calif. AngioDynamics designs, develops, manufactures and markets therapeutic and angiographic devices for treatment of peripheral vascular disease and other non-coronary diseases. RITA focused on ablation technology products.

## Hendrix College Awards Alumni Medal to Hendrick

**R. Edward Hendrick, Ph.D.**, research professor at Northwestern University's Feinberg Medical School in Chicago and director of breast imaging research at the Lynn Sage Comprehensive Breast Center at Northwestern Memorial Hospital, has received an Odyssey Medal for Research from Hendrix College in Conway, Ark.

Dr. Hendrick, a 1968 graduate of Hendrix College, was recognized for his clinical applica-

tion of MR imaging and its use in breast imaging, as well as the development and evaluation of digital mammography. He helped establish the American College of Radiology's (ACR) Mammography, MR Imaging, and Stereotactic Breast Biopsy Accreditation programs and helped define ACR and federal standards for mammography equipment and its quality control.



**R. Edward Hendrick, Ph.D.**

### RSNA News

Send news about yourself, a colleague or your department to [rsnanews@rsna.org](mailto:rsnanews@rsna.org), 1-630-571-7837 fax, or *RSNA News*, 820 Jorie Blvd., Oak Brook, IL 60523. Please include your full name and telephone number. You may also include a non-returnable color photo, 3x5 or larger, or electronic photo in high-resolution (300 dpi or higher) TIFF or JPEG format (not embedded in a document). *RSNA News* maintains the right to accept information for print based on membership status, newsworthiness and available print space.

### MY TURN

## Flat-Panels, Flat World: Radiology Goes Global

**M**ORE THAN 35 years in diagnostic radiology and six years as an RSNA Board member have shown me that the perspective offered by Thomas Friedman in his provocative book, *The World Is Flat: A Brief History of the Twenty-first Century*, has major significance for RSNA and radiology. The past decade has seen a growing global tenor in Society membership and annual meeting attendance, with more than half the scientific abstracts and education exhibits now presented at the annual meeting coming from international authors—a statistic also reflected in the manuscripts submitted to and published in *Radiology*. RSNA annual meeting attendance by North Americans also continues to increase but is still out-paced in growth by international professional attendance, which has increased 14 percent over the last four years. Ever increasing numbers of international members are also accessing educational materials via the RSNA

### My Turn ONE RADIOLOGIST'S VIEW

Web site. For RSNA the world is, as Friedman would say, "flattening even more."

I'm enthusiastic about RSNA's response to this global trend—collaborating with international radiology organizations while

enhancing the programs that helped get the Society where it is today. For many years RSNA has served Third World countries with such programs as Introduction to Research for International Young Academics and the Derek Harwood-Nash International Fellowship. Now, the RSNA R&E Foundation plans to extend eligibility for some of its grant programs to the international community. Informed by the results of last year's survey of international members and meeting attendees, RSNA is also seeking guidance from its recently established International Advisory Committee, chaired by Christian Herold, M.D., of Vienna,



**Theresa C. McCloud, M.D.**

Austria. Members from five continents advise RSNA on important international issues and are currently considering the inclusion of more international members as RSNA committee representatives and annual meeting faculty, translation of RSNA publications and presentation of, via video conferencing and live instruction, more educational programs internationally.

I cherish all I have gained from participating in organized radiology in the international arena and encourage all RSNA members to embrace the world radiology community and help make a difference for our specialty in a truly global manner.

*Theresa C. McCloud, M.D., is 2007 president-elect of RSNA. Currently associate radiologist-in-chief and director of education for the Department of Radiology at Massachusetts General Hospital in Boston, Dr. McCloud is also a professor of radiology at Harvard Medical School.*

# Radiation Protection Becomes Personal, Professional Priority

**A** NEW HAMPSHIRE doctor's public quest to educate other physicians about the risks of patient radiation exposure during helical CT had a very personal genesis.

When his own daughter was in a car accident and received CT scans from head to toe, Steven B. Birnbaum, M.D., agreed to the procedures, and agreed again when another CT was ordered to look for blood in her abdomen, although clinically she remained stable. Dr. Birnbaum drew the line when the radiology resident and attending doctor wanted a third scan.

"This is a fabulous test, but it is often overutilized," said Dr. Birnbaum, radiology safety officer at the Southern New Hampshire Medical Center in Nashua and Parkland Medical Center in Derry, during a hot topic presentation at RSNA 2006.

Before his daughter's accident, Dr. Birnbaum had encountered a 14-year-old boy with 14 renal stone CT scans over a two-year period. Declaring "enough is enough," Dr. Birnbaum became the patient's personal radiologist. The patient has since had no CT studies, 12 renal ultrasounds and one single-shot intravenous pyelogram.

Those experiences got Dr. Birnbaum thinking about the number of helical CT exams and caused him to expand his job responsibility as radiology safety officer in the hospitals. He said he has found a variety of factors—from speed and accessibility to the increasing number of uninsured who wind up in the emergency room because they have no regular medical care—drive the abundant use of CT today.



**Steven B. Birnbaum, M.D., was moved to educate other physicians about the risks of overusing helical CT after his own daughter received numerous scans following a car accident.**

Now working with two community hospitals in New Hampshire to protect patients from needless overexposure to potentially carcinogenic radiation from helical CT exams, Dr. Birnbaum and his colleagues educate referring physicians both individually and in educational forums.

*[Helical CT] is a fabulous test, but it is often overutilized.*

**Steven B. Birnbaum, M.D.**

"Radiologists need to pick up the ball on this and they have been slow to do so," he said. "Every practice in the country can see this happening if they look. It is sad that we are not doing much about this," he added.

While experts in the field applaud Dr. Birnbaum's proactive stance, they also warn against using unsubstantiated rhetoric to describe overexposure and to be careful about implying that patients have somehow been subjected to bad treatment. Other authorities use this issue as yet another reason why electronic health records (EHRs) are so

important—different physicians ordering studies on the same patient may be unaware of the prior CT scanning history, something that could be remedied by EHRs and alert systems built into future radiology performance improvement systems.

Dr. Birnbaum has retrospectively identified patients under 40 with benign conditions who have had five or more helical CT studies of the neck, chest, abdomen and pelvis with total estimated exposure of 50 milliSieverts (mSv). These radiologists used generic FDA dose estimates when reviewing the helical CT studies. Once patients were identified, their providers were notified and their medical records marked just as if they had experienced previous reactions to contrast media.

In these cases, future exposure should occur only with strong clinical indication for the exam plus a radiologic consultation, said Dr. Birnbaum. Patients with 100 mSv or more of

exposure, said Dr. Birnbaum, were notified directly and offered counseling, which empowers patients to make more educated decisions about their medical care.

During the last two years, the researchers have found 41 patients at two area community hospitals whom they consider overexposed to radiation using their criteria. Radiologists have choices to minimize radiation exposure, said Dr. Birnbaum, who recommends that every female patient, especially those of childbearing age, use bismuth breast and thyroid shields when getting a CT scan. Reducing exposure by at least 20 percent, the shields cost \$100 and are reusable. The shields cause no significant artifact on scans, he said.

Companies manufacturing CT equipment also need to continue to reduce the dosage of radiation, he said. Dr. Birnbaum said he dreams one day of a flash drive or chip for every patient that would contain patient imaging history and radiation exposure so that as patients move around the country their new physicians can track exposure history to help lower the potential carcinogenic risk. □

■ Note: These articles were adapted from stories that appeared in the RSNA 2006 *Daily Bulletin*. The daily newspapers from the annual meeting are available online at [RSNA.org/bulletin](http://RSNA.org/bulletin).

**Daily Bulletin**

■ To read the abstracts of Drs. Birnbaum and Middelkamp's presentations, go to the RSNA Meeting Program at [rsna2006.rsna.org](http://rsna2006.rsna.org). The direct link for "Radiation Protection in the Era of Helical CT: A Patient Identification and Physician Education Program Currently in Use in Two Community Hospitals" is [rsna2006.rsna.org/rsna2006/V2006/conference/event\\_display.cfm?id=66601&em\\_id=8002497](http://rsna2006.rsna.org/rsna2006/V2006/conference/event_display.cfm?id=66601&em_id=8002497).

The direct link for "Evaluation of Adult Outpatient MRI Sedation Practices: Are We Sedating Patients Optimally?" is [rsna2006.rsna.org/rsna2006/V2006/conference/event\\_display.cfm?id=66601&em\\_id=4438998](http://rsna2006.rsna.org/rsna2006/V2006/conference/event_display.cfm?id=66601&em_id=4438998).

## MR Sedating Agents Not Administered in Time for Optimal Effect

**A**NOTHER patient safety study presented at RSNA 2006 indicated that radiologists in adult outpatient MR imaging centers often scan patients before the peak effects of prescribed anxiolytics are achieved.

Researchers from the Department of Radiology at The University of British Columbia in Vancouver surveyed radiology facilities for the percentage of studies requiring sedation, as well as the drugs used and the routes of administration.

The team also sought information about who ordered the drugs, when they were administered and how patients were monitored, including whether a dedicated nurse was employed for monitoring. Use of standard sedation/discharge protocols also was surveyed.

Results from 85 facilities showed 40 percent of patients received medication 15 to 30 minutes before MR imaging, which the research team deemed too early for peak effect of oral or sublingual drugs. Lorazepam was the most commonly used drug, with 64 percent of respondents indicating it as their first choice.

In addition to confirming their suspicion that many outpatients are scanned before the peak effect of prescribed anxiolytics, the team also noted that standard sedation protocols are associated with more appropriate drug choices, optimized monitoring and post-procedure care, according to Janel Middelkamp, M.D., who presented the study results.

Facilities with standard protocols (56 percent of respondents) were more likely to use midazolam, have a nurse for monitoring and have standard discharge criteria with written information regarding side effects provided to patients.

Though lorazepam may be used more frequently, midazolam may be a more



**Understanding the pharmacology of drugs used for sedation in MR imaging is critical, Janel Middelkamp, M.D., said in an RSNA 2006 presentation.**

appropriate choice, said Dr. Middelkamp. "While lorazepam takes 60 to 90 minutes to reach peak effect, IV midazolam acts in two minutes and lasts 45 to 60 minutes," she said. "Understanding the pharmacology of the drugs used is critical."

The survey also showed that, in addition to not optimally serving the patient, MR imaging exams performed with inadequate sedation were more likely to be nondiagnostic and result in increased procedure time.

Dr. Middelkamp had two recommendations for proper sedation—use an intravenous drug with proper monitoring or administer sublingual Ativan well in advance of the patient's scanning time to take advantage of the 60-minute peak effect time.

"Radiologists are the ones who order the medications more than half the time," said Bruce Forster, M.Sc., M.D., an associate professor and vice-chair of the Department of Radiology at the University of British Columbia and the study's senior author. "It's incumbent on us to understand the basic pharmacology of the drugs being administered, since we're often the people ordering them."

# E-Learning Program Puts Dent in U.K. Radiologist Shortage

**A**N E-LEARNING PROGRAM devised five years ago in response to a severe workforce shortage is credited with a 20 percent increase in the number of radiology trainees in the United Kingdom.

The Radiology Integrated Training Program (R-ITI) was created as the sudden shortage—reminiscent of that in the U.S.—had patients waiting as long as a year to get MR imaging exams.

The program's computerized teaching modules are unique and fantastic, said Janet Husband, F.Med.Sci., F.R.C.P., F.R.C.R., who became president of The Royal College of Radiologists in 2004. Beyond addressing the shortage, she said, the program also will yield clinical benefits such as safer practice skills, uniform training and more cost-effective practices.

Dr. Husband, along with program developers Philip Cook, F.R.C.R., Richard Fowler, M.B.B.S., F.R.C.R., and Paul Dubbins, M.B.B.S., F.R.C.R., presented their experiences in a refresher course and informatics exhibit at RSNA 2006.

Previous e-learning programs have placed a few courses online or on a CD-ROM, said Dr. Dubbins, but "this is the first time that a whole basic curriculum within any specialty has been designed from the ground up." Participating radiologists endeavored to cover all subject matter in the program, which is a joint project of the Department of Health and the Royal College.

Radiology trainees, the equivalent of radiology residents in the U.S., will use the e-learning program initially during the first three of their five-year training. The program is divided into e-learning tutorials and a validated case-based archive. Each of the 1,000



Paul Dubbins, M.B.B.S., F.R.C.R., Janet Husband, F.Med.Sci., F.R.C.P., F.R.C.R., Philip Cook, F.R.C.R., and Richard Fowler, M.B.B.S., F.R.C.R., presented results of the Radiology Intergrated Training Program (R-ITI) at RSNA 2006.



Richard Fowler, M.B.B.S., F.R.C.R., discusses aspects of the R-ITI with visitors to an RSNA 2006 informatics exhibit.

e-learning tutorials takes 20 to 40 minutes to complete, for a total of 325 to 650 hours of e-learning.

The sessions are thought-provoking, said Dr. Fowler, and function as individual pieces that can be constructed in many different ways by various users. Learning objectives at the beginning, he said, are like a contract with the learners. Everything is designed to be measurable.

Dr. Cook described the validated

case archives of real patients as an opportunity to allow trainees to make medical decisions in a safe interpretive environment without risking patient lives. "The sessions are reusable, unlike the lectures we give every year," he said. "At the end of a lecture, if a student doesn't understand the material, it's too late. With this, the resident can come back on his or her own time and review it. The tutorials are entirely flexible."



Dr. Husband said programs like R-ITI help trainees with other responsibilities complete medical study programs because they won't always have to be at the hospital. "It is flexible—they can do this work when they are at home," she said. She said she hopes to move the program forward by creating a learning matrix with other specialties

*The program is flexible—[trainees] can do this work when they are at home.*

**Janet Husband, F.Med.Sci., F.R.C.P., F.R.C.R.**

such as emergency medicine. The group also foresees sharing its program with the developing world, where the cost of training can be a problem. They said they will explore offering the program for free through the World Health Organization, the United Nations and other funding organizations. □

■ Note: These articles were adapted from stories that appeared in the RSNA 2006 *Daily Bulletin*. The daily newspapers from the annual meeting are available online at [RSNA.org/bulletin](http://RSNA.org/bulletin).  
 ■ To read the abstract of the presentations, go to the RSNA Meeting Program at [rsna2006.rsna.org](http://rsna2006.rsna.org). The direct link for "e-learning in Radiology Training—A National Solution: The Royal College of Radiologists' Integrated Training Initiative" is [rsna2006.rsna.org/rsna2006/V2006/conference/event\\_display.cfm?id=66601&em\\_id=8002378](http://rsna2006.rsna.org/rsna2006/V2006/conference/event_display.cfm?id=66601&em_id=8002378).  
 ■ The direct link for "The Teleradiology Network of Greenland" is [rsna2006.rsna.org/rsna2006/V2006/conference/event\\_display.cfm?id=66601&em\\_id=4437850](http://rsna2006.rsna.org/rsna2006/V2006/conference/event_display.cfm?id=66601&em_id=4437850).

## Teleradiology Faces Ultimate Challenge on World's Largest Island

SOME 2,000 miles away from the United Kingdom in Greenland, technology has been put to a different kind of test. The race to connect widely dispersed healthcare facilities may face no bigger hurdle than in Greenland, 85 percent of which is covered by an ice cap and has no roads or railways connecting its towns and settlements.

Presenting the Teleradiology Network of Greenland project at RSNA 2006, Uwe Engelmann, Ph.D., M.S., reported that all images of any of Greenland's patients are now available at every hospital. The result is improved medical care for people in inaccessible regions, said Dr. Engelmann, of the German Cancer Research Center's Department of Medical and Biological Informatics in Heidelberg and co-founder of CHILI GmbH, the center's spin-off digital radiology company.

Greenland, at more than

800,000 square miles, is the largest island in the world. Its population of more than 56,000 lives in 18 towns and some 60 settlements, mainly along the ice-free rim of the coastline. The island is divided into 16 healthcare districts, with 15 district hospitals scattered along the coastline and a national hospital in the capital city of Nuuk.

The national hospital computer gateway is connected to the network's central picture archiving and communication system (PACS) and radiology information system (RIS), which holds all image data and reports for the whole country. If transmission to the central gateway is interrupted, external gateways continue transfers automatically when the network is up again. In addition, when a new study arrives at a teleradiology gateway, existing studies of the same patient are automatically retrieved as well.

Getting the network in



**The Teleradiology Network of Greenland has improved care for people in inaccessible regions, said Uwe Engelmann, Ph.D., M.S., in an RSNA 2006 presentation.**

place was challenging, said Dr. Engelmann. Most towns and settlements are linked by either radio or satellite, but those systems are relatively unreliable due to heavy snow storms and power outages. The high turnover rate of medical personnel and a lack of information technology professionals in the district hospitals were other obstacles to overcome.

The solution was to make the local gateways, the teleradiology network's key components, easily configurable for different application scenarios and protocols, with integrated

security and failure measures and no need for users to install specific software on their computers.

The system also provides critical user authentication and emergency accounts that can be used when the directory is not available. Each authorized user has access to every image and report created in the network.

The program showed the feasibility of establishing reliable blackbox solutions supporting medical care for people in inaccessible regions, said Dr. Engelmann.



# Residency Study Can't Explain Gender Gap in Radiology Specialty

**A** RECENT STUDY focusing on the role of residency in radiology's gender gap offered some insights but failed to yield what researchers consider a conclusive answer.

The study, presented at RSNA 2006, compared the concerns of men and women entering radiology residencies and found both groups were very concerned with malpractice issues, while neither gender was too concerned about lack of patient contact and management, physics instructions or the length of training required.

These results surprised lead author Stephen R. Baker, M.D., who at RSNA 2005 co-presented a study about why women entered radiology residencies and the factors they considered to be major concerns. Dr. Baker's team at the University of Medicine and Dentistry of New Jersey (UMDNJ) followed up this year with a similar look into the motivation of men entering radiology residencies. They hoped to compare the two studies to obtain a definitive explanation for why fewer women than men enter radiology.

Presenting the latest findings at RSNA 2006, Esben Vogelius, M.D., of UMDNJ said the team did find differences: Men were nearly three times more concerned than women about radiologists' lack of contact with other physicians, while women were somewhat more concerned about radiation exposure and the accommodation of parental roles. One surprising difference, said Dr. Vogelius, was that women were much more concerned than men about the rapid evolution of the specialty and the



At RSNA 2006, Esben Vogelius, M.D., presented findings from a study of men's motivation for entering radiology residencies.

time and effort required to keep up with new techniques.

Further study is needed to confirm if these issues are preventing women from going into radiology, said Dr. Vogelius. He and his colleagues also found women trailed men in their exposure to radiology mentors while in medical school—only 44 percent of women knew radiology mentors, com-

pared to 64 percent of men—a disparity authors believe must be remedied as it negatively affects female radiology application rates.

Still, Dr. Vogelius said, “there was no

one smoking gun that could explain the large gender gap that persists in our field.”

The study did elicit a number of write-in responses from women who

noted societal pressures pushed women into direct-care fields. Female respondents commented on the perception that they should be “nurturers” in primary patient care, rather than a “doctor’s doctor.” This unanticipated response will be a major focus of the next phase of the residency gap study, said Dr. Baker.

## Surprise in Study of After-Hours Coverage in Radiology Residencies

A separate study of the effects of after-hours attending-level coverage on the training of radiology residents also yielded unexpected results.

William B. Crymes Jr., M.S., M.D., of Emory University in Atlanta, said he set out to explore how the goal of training residents might be affected by the use of overnight attending-level coverage. He said he expected radiology program directors with after-hours attending coverage to say it wasn't necessarily

*There was no one smoking gun that could explain the large gender gap that persists in our field.*

**Esben Vogelius, M.D.**

a positive influence on training.

“Instead ... directors with overnight coverage said ‘it’s not that bad’ ... and thought it improved overall competency,” said Dr. Crymes, presenting his results at RSNA 2006.

However, nearly 100 percent of program directors not currently using attending-level coverage after hours reported that they felt it would have a negative effect on resident training.

Dr. Crymes surveyed 439 radiology program directors and residents, asking whether their program used after-hours attending coverage, why and what effect they felt it had on training in terms of residents’ problem-solving ability, communication skills, self-confidence and overall competency.

Of the director respondents, 17 percent said they used attending-level coverage after hours, with more than 70 percent of those using a faculty in-house attending as opposed to contracting the coverage to a teleradiology group. Results indicated that overall, programs with after-hours attending coverage were larger (25 or more residents) and university affiliated.

Also surprising, said Dr. Crymes, was that a majority of program directors using attending coverage after



**William B. Crymes Jr., M.S., M.D. discussed after-hours attending coverage at RSNA 2006.**

hours reported doing so in response to increased study volume and a need to improve turnaround time. On the other hand, most directors who did not use attending-level coverage after hours—but who were considering it—said they would do so to prevent medical errors and to reduce legal liability.

In the end, the study showed that the perceived effects of after-hours attending-level coverage on resident training depend on who you ask, said

■ Note: This article was adapted from a story that appeared in the RSNA 2006 *Daily Bulletin*. The daily newspapers from the annual meeting are available online at [RSNA.org/bulletin](http://RSNA.org/bulletin).

**Daily Bulletin**

■ To read the abstract of Drs. Vogelius’ and Crymes’ presentations, go to the RSNA Meeting Program at [rsna2006.rsna.org](http://rsna2006.rsna.org). The direct link for “After-Hours Attending-level Coverage in Radiology Residencies: Prevalence, Characteristics, and Program Director/Resident Perceptions of Impact on Resident Training” is [rsna2006.rsna.org/rsna2006/V2006/conference/event\\_display.cfm?id=66601&em\\_id=4435994](http://rsna2006.rsna.org/rsna2006/V2006/conference/event_display.cfm?id=66601&em_id=4435994).

■ The direct link for “The Concerns of Male Radiology Residents Prior to Entering Training, in Comparison with the Views of their Female Counterparts,” is [rsna2006.rsna.org/rsna2006/V2006/conference/event\\_display.cfm?id=66601&em\\_id=4433734](http://rsna2006.rsna.org/rsna2006/V2006/conference/event_display.cfm?id=66601&em_id=4433734).

Dr. Crymes. “If you are using it, you don’t think it’s bad; if you aren’t using it, you think it’s horrible,” he said. More comprehensive studies are needed to determine if there’s a real measurable difference between resident training programs with and without attending coverage after hours, he added. □

## ACGME Votes to Extend Residents’ Wait for Solo Call While Study Indicates No Change Necessary

**A**T ITS MEETING last month, the Accreditation Council for Graduate Medical Education (ACGME) Board of Directors voted to lengthen to 12 months the time a radiology resident must be in training before assuming in-house on-call responsibilities. Residents are currently required to have six months of training before being allowed solo call.

Meanwhile, a recent study of how a resident’s experience level influences discrepancies on preliminary reads of emergency department radiographs indicated a higher discrepancy rate in reports generated by first-year residents.

However, the discrepancy rate compared to other resident experience levels was small and its overall significance is debatable, William M. Strub, M.D., and colleagues concluded in an article in the February 2007

issue of *Emergency Radiology*.

Dr. Strub, of the Department of Radiology at the University of Cincinnati, and colleagues studied radiographs prospectively interpreted by residents at night at a Level I trauma center. Discrepancies were documented after films were reviewed with the staff radiologist in the morning.

Of 13,184 radiographs interpreted, 120 total discrepancies were identified, for a rate of 0.9 percent. First-year residents showed a discrepancy rate of 1.59 percent, while residents at other levels had rates ranging from 0.39 to 0.56 percent. Of 54 patients with follow-up imaging, the abnormality identified by staff persisted in 22 cases.

“We acknowledge that the error rate among the first-year residents was higher than that of the more senior residents, and

that difference was statistically significant,” Dr. Strub and colleagues wrote. “However, we ultimately observed that identifying what was a true abnormality was not associated with level of resident training.

“We are not advocating that first-year residents should continue to take call so the senior-level residents can have more time to study for boards but suggest that drastic changes to the current system do not need to be made,” the authors concluded.

■ The abstract for “First Year Radiology Residents Not Taking Call: Will There Be a Difference?” can be viewed online at [www.springerlink.com/content/p72045w2h21857x7/?p=19aa530a3a324b9798ba7ea8e6f3c5f4&pi=1](http://www.springerlink.com/content/p72045w2h21857x7/?p=19aa530a3a324b9798ba7ea8e6f3c5f4&pi=1).

# Brains Respond Better to Name Brands, fMRI Shows

**S**HOPPERS' brains may be more involved than they think when they choose a name-brand pain reliever for a headache, rather than the store variety, according to a new study.

Using the concept of "brain branding," an interdisciplinary approach to understanding how the mind perceives and processes brands, German researchers used functional MR imaging (fMRI) to measure the brain's response to particular brands.

"We found that well-known brands activate certain areas of the brain, independent of product categories," said Christine Born, M.D., a radiologist at University Hospital, Ludwig-Maximilians University in Munich. Dr. Born explained the study findings in a scientific paper presentation at RSNA 2006.

"Brain imaging technologies may complement methods normally used in the developing area of neuroeconomics," Dr. Born added.

Marketing experts believe brain branding involves perception, memory and emotional processing. Dr. Born and her team tested perceptions of well-known brands and lesser-known ones in 10 men and 10 women. Presented with pictures of the brands combined



**Christine Born, M.D., said the vision of her research is to better understand the needs of people and create markets oriented toward satisfying those needs.**

with the appropriate logo, subjects were asked to respond to perception-testing questions on a four-point scale ranging from "disagree" to "agree strongly." Functional MR images were acquired during this process, showing brain areas activated in response to the different stimuli.

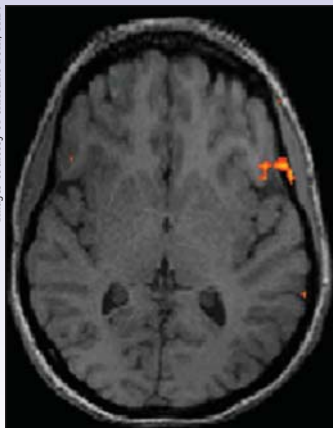
When subjects were presented with

a well-known brand, said Dr. Born, fMRI showed a significant increase of left-hemispheric activation in the anterior insula and the anterior cingulate gyrus. A smaller focus of activation was discovered predominantly in the left-hemisphere in the precuneus, she said.

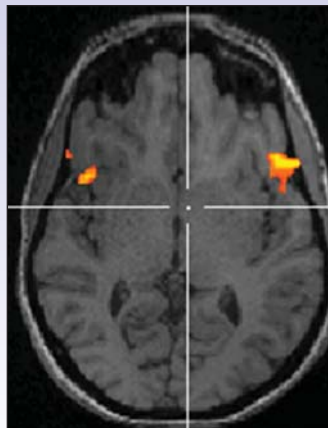
In contrast, fMRI indicated that presentation of a lesser known brand

caused activations in the anterior insula and in the precuneus, bilaterally. In general, researchers found that clusters of activations were significantly larger when subjects were presented with lesser known brands. Dr. Born said the study indicated that well-known brands activated a network of cortical

Images courtesy of Christine Born, M.D.



**Significant activations were found in the left-hemispheric anterior insula in well-known brands, e.g., car manufacturers. This brain area is associated with processing of positive emotional stimuli.**



**With weaker brands, the activations in the anterior insula were bilateral. The right anterior insula is a brain area associated with processing more negative emotional stimuli.**

areas and regions involved in positive emotional processing and associated with self-identification and rewards.

Additionally, well-known brands were processed with less effort from the brain, while lesser-known brands showed higher levels of activation in areas of working memory and negative emotional response.

*Brain imaging technologies may complement methods normally used in the developing area of neuroeconomics.*

**Christine Born, M.D.**

These results, said Dr. Born, support the hypothesis that perception of different brands follows an all-or-none effect. She added that she believes the research will be used as a form of benchmark-test and to improve the understanding of processing of brand-related information.

“The vision of this research is to better understand the needs of people and to create markets that are more oriented towards satisfaction of those needs,” she said. “Research aimed at finding ways to address individual needs may contribute to a better quality of life.” □

■ Note: These articles were adapted from stories that appeared in the RSNA 2006 *Daily Bulletin*. The daily newspapers from the annual meeting are available online at [RSNA.org/bulletin](http://RSNA.org/bulletin).

**Daily Bulletin**

■ To read the abstract of Dr. Born's presentation, “Brand Perception—Evaluation of Cortical Activation Using fMRI,” go to the RSNA Meeting Program at [rsna2006.rsna.org](http://rsna2006.rsna.org). The direct link is [rsna2006.rsna.org/rsna2006/V2006/conference/event\\_display.cfm?em\\_id=4429416](http://rsna2006.rsna.org/rsna2006/V2006/conference/event_display.cfm?em_id=4429416).

## Brain, Memory Preserved by Cognitive Exercise

FINDINGS FROM another neuroimaging study presented at RSNA 2006 indicated that a prolonged period of rote learning, followed by an equally long rest period, can improve verbal and episodic memory.

Jonathan McNulty, B.Sc., from the School of Medicine & Medical Science at the University College Dublin, and colleagues used proton MR spectroscopy (MRS) to measure whether prolonged activation of memory structures leads to post-learning neurometabolic changes in those structures. MRS reveals age-related alterations in neural N-acetylaspartate, creatine and choline.

The team studied 24 participants ranging from 55 to 70 years of age, divided into two groups. Each group engaged in six weeks of intensive rote learning, learning 500 new words every week. As part of a crossover design, Group A spent six weeks learning while the others rested; the groups then reversed. An extensive battery of learning and memory tests was administered on four occasions, each six weeks apart. In addition, MRS was used to measure metabolite levels in seven 2 cm<sup>3</sup> voxels before and after learning.

Facilitation of new learning was evident six weeks after rote learning ended for Group A. This occurred for verbal and episodic material only and was mirrored by metabolic changes in the left posterior hippocampus.

That significant correlations between behavioral measures and MRS findings were clustered in two regions—left prefrontal cortex and left hippocampus—may reveal the health implications of



**Jonathan McNulty, B.Sc., presented research during RSNA 2006 that showed rote learning can lead to memory improvements.**

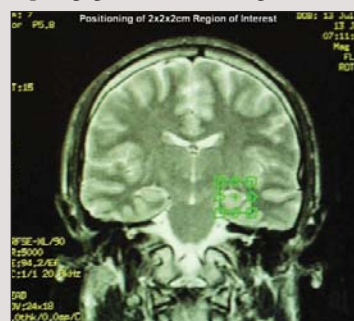
repetitive activation and regular usage for key brain structures. No coherent pattern of behavioral or metabolic change was evident for Group B, in which compliance was low.

Researchers were surprised to find no changes in Group A at the sixth week.

“Our results were counterintuitive,” McNulty said. “It was only at week 12, after a six-week rest period, that we saw these changes.”

The team concluded that prolonged rote learning can promote changes in brain chemistry that reflect increased cell health in key memory structures—something that may delay the onset of

Alzheimer disease or dementia. “Even easy exercises like crossword or number puzzles, card games and reading may all benefit brain health,” said McNulty.



**This image shows a coronal slice through the brain and the positioning of one of the seven regions of interest used to produce spectra. Each region or voxel is 2 cm<sup>3</sup>.**

■ To read the abstract of McNulty's presentation, “The Identification of Neurometabolic Sequelae Post-learning Using Proton Magnetic Resonance Spectroscopy,” go to the RSNA Meeting Program at [rsna2006.rsna.org](http://rsna2006.rsna.org). The direct link is [rsna2006.rsna.org/rsna2006/V2006/conference/event\\_display.cfm?id=6601&em\\_id=4440884](http://rsna2006.rsna.org/rsna2006/V2006/conference/event_display.cfm?id=6601&em_id=4440884).

# RSNA Scholar Uses PET Key to Unlock Mysteries of Elderly Brains

**Q**UINTESSENTIAL beginners luck” is how Carolyn Meltzer, M.D., modestly describes the funding of her 1996 RSNA Research Scholar topic by the National Institutes of Health (NIH)—on her first try.

Considering how Americans are living longer, it’s easy to see how Dr. Meltzer’s study of late-life depression and Alzheimer disease (AD) using cutting-edge imaging techniques presented an irresistible opportunity for NIH.

Today, Dr. Meltzer is interim chair of radiology as well as part-time associate dean of research at Emory University School of Medicine, where she also oversees the development of a neuroscience imaging research center.

A lifelong interest in the brain inspired Dr. Meltzer to focus her undergraduate work at Cornell University, as well as her medical and postgraduate training at Johns Hopkins University, on basic and clinical neuroscience. “Given that scientific interest in applying functional and anatomic imaging techniques to the study of the living human brain spans several imaging disciplines, I pursued fellowship training in neuroradiology, nuclear medicine

and PET imaging,” she said.

All this study equipped her well to undertake her 1996 RSNA Research Scholar project, “Positron Emission Tomography (PET) Imaging of Central Serotonin Markers in Aging and Alzheimer’s Disease.” Within the first year of the RSNA project, Dr. Meltzer received a K08 Mentored Career Development Award from NIH.

“The Research Scholar award lasts just one year, but it allowed me to get a foothold in my research in order to apply for the K08,” said Dr. Meltzer. “The grants were complementary. I was very lucky.”

Dr. Meltzer’s work was cutting-edge—most of the existing research on the serotonin system had been gleaned from postmortem brains and animal models, which offered limited ability to assess dynamic human biochemical-behavior relationships or accurately model the human condition. PET changed all that, offering a noninvasive means to study the neuroreceptor system and evaluate brain-behavior relationships in vivo.

Specifically, Dr. Meltzer’s research used PET to assess the affects of age on

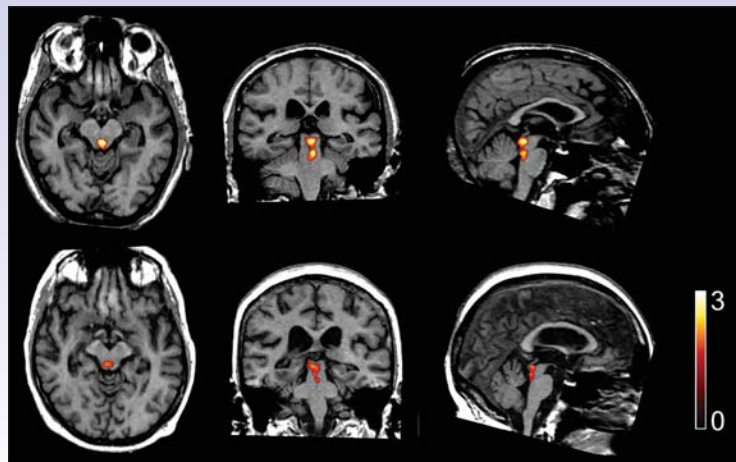


**Carolyn Meltzer, M.D.**

the serotonin 5-hydroxytryptamine (5-HT) receptor in the brain. These neuroreceptors are widespread throughout the cerebral cortex, and serotonergic neuronal losses in aging had been associated with both cognitive and behavioral changes commonly observed in the elderly.

In addition to characterizing age-related alterations in serotonin, Dr.

*Continued on page 16*



## ON THE COVER

Overlay of parametric binding potential values, calculated from [ $^{11}\text{C}$ ]WAY 100635 PET imaging of 5-HT $_{1A}$  receptors in the brainstem onto MR images from an unmedicated elderly depressed subject (below) and healthy age-matched control (above). The figure visually depicts significantly reduced 5-HT $_{1A}$  receptor binding in the dorsal raphe nucleus in late-life depression.

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# Journal Highlights

The following are highlights from the current issues of RSNA's two peer-reviewed journals.

## Choosing a Radiology Workstation: Technical and Clinical Considerations

**T**HERE IS NO "one-size-fits-all" radiology workstation, which means users must consider a variety of factors when choosing the one that will best meet their needs and preferences.

In a Special Review in the March issue of *Radiology* ([RSNA.org/radiologyjnl](http://RSNA.org/radiologyjnl)), Elizabeth A. Krupinski,

Ph.D., of the University of Arizona, and Maria Kallergi, Ph.D., of the H. Lee Moffitt Cancer Center and Research Institute, summarize the critical elements of a radiology workstation. Drs. Krupinski and Kallergi give particular attention to features of the user interface, including:

- Hanging protocol and default display
- Image processing and analysis tools
- Reporting options



Screenshot showing scanning pattern of a radiologist viewing a bone radiograph with a nonoptimized software interface.

Information such as scanning patterns can be helpful when considering software and hardware options in a radiology workstation.

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- Speed
- Service and upgrade issues
- Compatibility and integration

Drs. Krupinski and Kallergi also address human factors and ergonomics, noting, "As with any new tool, the user needs to accept the fact that there will be a learning curve associated with its use, so workflow may initially slow down but will hopefully improve."

New issues in workstation selection

will continue to emerge, particularly as radiology practices become entirely digital and modalities fuse and integrate, the authors conclude. "No matter what the future brings, however, the keys to successfully choosing a workstation are being an informed consumer and having a clear understanding of the applications for which the workstation will be used and the environment into which it will be placed," they write.

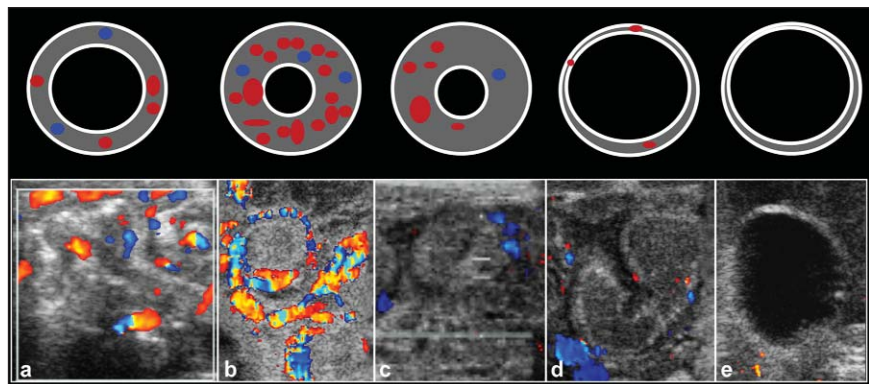
## Necrotizing Enterocolitis: Review of State-of-the-Art Imaging Findings with Pathologic Correlation

**E**ARLY DIAGNOSIS of necrotizing enterocolitis (NEC) relies on imaging findings and facilitates the prompt treatment essential to limit morbidity and mortality.

Reviewed in the March-April issue of *RadioGraphics* ([RSNA.org/radiographics](http://RSNA.org/radiographics))

are current concepts in the role of imaging in neonates with NEC. Author Monica Epelman, M.D., and colleagues at the Hospital for Sick Children in Toronto

*Continued on next page*



**Summary of the authors' concept of the sequence of changes in bowel wall thickness and perfusion in necrotizing enterocolitis (NEC).**

Sequence is depicted with simplified diagrams of a transverse section of a bowel loop (*top*) and color Doppler sonograms (*bottom*). (a) There is normal flow to normal bowel. (b) The changes of NEC are shown with bowel wall thickening and hyperemia. (c) The bowel wall thickening persists, but the perfusion has diminished. (d) As the process progresses in more severely affected neonates, the mucosa starts to slough and the bowel wall becomes much thinner, although some perfusion persists. (e) Sloughing continues, the bowel wall becomes asymmetrically thinned and blood flow ceases.

Continued from previous page

reaffirm the importance of plain abdominal radiography as the current standard imaging for NEC while also emphasizing the potential of abdominal sonography.

“The radiologist plays an important role at the time of diagnosis, during evaluation of progress in the acute phases and for detection of complications,” Dr. Epelman and colleagues write. “The radiologic signs may precede the clinical signs, and the radiolo-

gist is thus in a position to not only be the first to suspect or diagnose the condition but may, even more importantly, be the first to predict or detect the presence of complications that require surgery.”

This article meets the criteria for 1.0 AMA PRA Category 1 Credit.

Specifically, the authors:

- Describe the pathophysiology and clinical features of NEC
- Discuss the imaging approach to diagnosis and follow-up of NEC
- Identify the imaging features of NEC

“Plain abdominal radiography

remains the current modality of choice ... but this modality is not without its limitations,” the authors conclude. “Further large prospective studies are

required to better define the role that abdominal US should play and to establish whether abdominal US should be used routinely in all neonates with NEC or in selected patients at the time of diagnosis or follow-up.”

(RadioGraphics 2007;27:285–305) © RSNA, 2007. All rights reserved. Printed with permission.

## RSNA Scholar Uses PET Key to Unlock Mysteries of Elderly Brains

Continued from page 12

Meltzer also investigated possible links to late-life depression and AD.

“I was looking at the effects of age on the system, which I thought had implications in depression, since depression is very much tied to the serotonin system,” she said. “I also had a hypothesis about a link between late-life depression and AD because a significant proportion of individuals who present with depression late in life go on to develop AD in the next several years. So I was studying the serotonin system to look at the neurobiological origin of that link, as well as to look at normal aging. It was an ambitious project.”

Dr. Meltzer’s research identified a “profound” age effect on the serotonin system in a particular receptor subtype, 5-HT2A, which led to a large R01 grant-funded study of age and gender interactions of the serotonin system. She still oversees that project at the University of Pittsburgh School of Medicine, where she conducted her initial RSNA research in 1996.

Noting the 14 subtypes of receptors in the serotonin system, Dr. Meltzer said she and her team are looking at

multiple receptors to determine if aging changes are different for men and women. “We have some preliminary data to suggest that men and women age differently with respect to that system, which can have significant implications for many behaviors that are

*An important role for academic radiologists will be to lead research into pathophysiological mechanisms of disease.*

Carolyn Meltzer, M.D.

affected by the serotonin system—eating, sleeping and mood,” she said.

As for a possible link between age-related serotonin changes and depression, her initial research did uncover a significant difference in one serotonin receptor type between elderly depressed subjects and healthy controls. The research also indicated some degeneration in the serotonin system in patients with Alzheimer disease.

With ongoing research, the medical community will continue to uncover the intricate biological basis for brain-behavior relationships, which will allow for better identification and treatment of patients, said Dr. Meltzer.

“We are trying to understand the biology so we can understand how to manage patients better,” she said. “We want to know which clinical features of individuals suggest an underlying biology that makes them different or simi-

lar, so that we can predict treatment response and determine who is more likely, among those depressed, to develop dementia.

“I firmly believe an important role for academic radiologists will be to lead research into pathophysiological mechanisms of disease by uniting investigative imaging techniques with the clinical and research resources of other medical disciplines.” Dr. Meltzer said. □

Additional information about RSNA R&E Foundation research grant programs and other past recipients is available at [RSNA.org/foundation](http://RSNA.org/foundation).

### Radiology Research Funding Important, Members Say

More than half of RSNA members recently surveyed consider financial support for radiology research “important,” while another 30 percent consider financial support “very important.”

#### Importance of Financial Support for Research

Very important . . . . .	31.2%
Important . . . . .	51.5
Not important . . . . .	9.6
No opinion . . . . .	7.7

Source: 2006 RSNA Member Needs Assessment Survey

# Radiology in Public Focus

A press release has been sent to the medical news media for the following article appearing in the March issue of *Radiology* ([RSNA.org/radiologyjnl](http://RSNA.org/radiologyjnl)):

## Measurement of Total and Intraabdominal Fat Distribution in Adolescents by Magnetic Resonance Imaging

MR imaging can be used to more precisely assess abdominal fat composition in adolescents than traditional clinical methods and without the radiation exposure risks of CT, researchers have found.

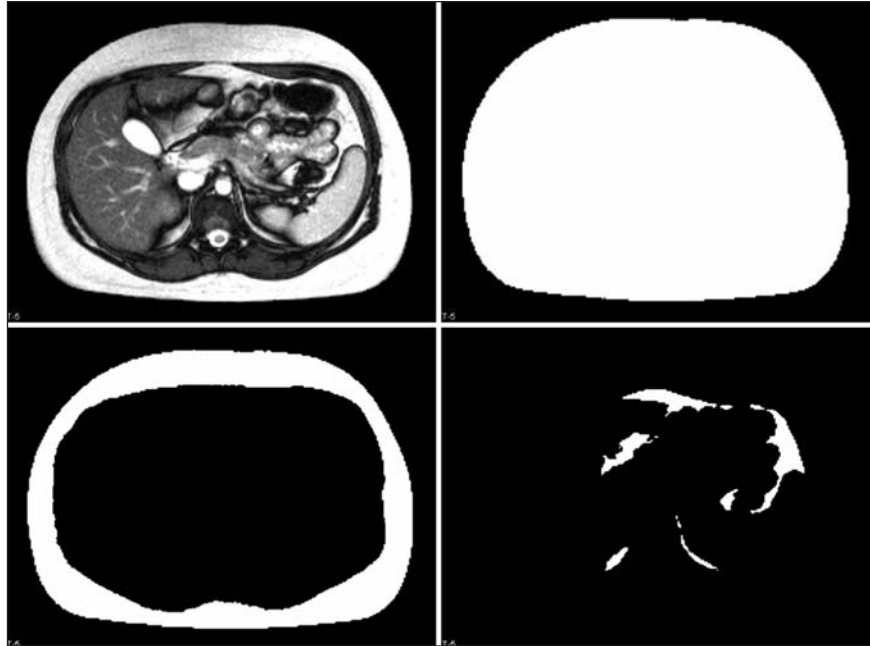
Marilyn J. Siegel, M.D., of the Mallinckrodt Institute of Radiology, and colleagues found in a study of 30 adolescents that abdominal adipose tissue volumes determined by single and multislice MR imaging correlated closely with measurements obtained by anthropometry and dual energy-X-ray absorptiometry.

Abdominal fat in adolescents is associated with metabolic disturbances, including glucose intolerance, insulin resistance, hyperlipidemia, metabolic syndrome and diabetes mellitus, as well as cardiovascular disease and nonalcoholic fatty liver disease.

Among overweight-diabetic, overweight and control subjects, overweight-diabetic subjects had the most fat overall and controls had the least. Significant differences in visceral fat existed between the control and other subject groups, but not between the overweight-diabetic and overweight subjects.

The study also indicated the probability that subjects would have diabetes increased with increasing fat volume based on MR imaging measurements.

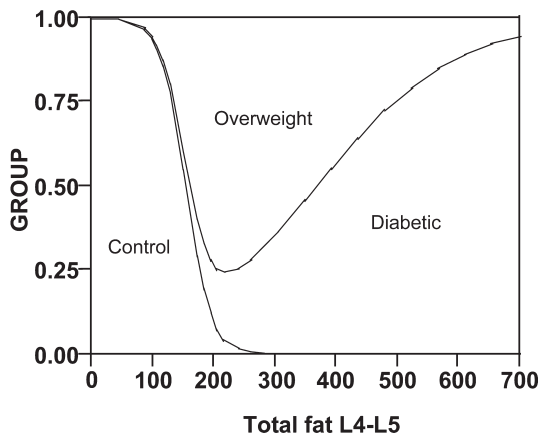
“This technique for adipose tissue estimation has the potential to be useful in many clinical and research applications including planning patient management, monitoring interventions and implementing multicenter clinical trials or epidemiologic studies,” the authors write.



### MR images in 10-year-old overweight girl.

(upper left) Transverse true steady-state free precession (FISP) abdominal MR image acquired as part of standard MR examination. From this image, a pixel was selected within subcutaneous or visceral fat region. (lower left) Subcutaneous fat region. Fat regions were segmented separately with region-based thresholding segmentation method, and areas were measured. (upper right) Total abdominal fat was calculated (not directly measured) as the sum of measured subcutaneous fat and measured intraabdominal fat. Entire abdomen was measured to have a denominator for the computation of percentage of abdominal fat (total abdominal fat/entire abdomen), which was compared with dual energy-X-ray absorptiometry (DXA) measurement

(*Radiology* 2007;242:846-856) © RSNA, 2007. All rights reserved. Printed with permission.



### Cumulative probability plot of association between MR total fat measurements (cubic centimeters) for intervertebral L4-L5 space and patient group membership.

Lines of fit partition whole probability into response categories. Probability of a participant being a control subject can be read directly from y axis. Probability of patient having diabetes is distance between curves, as read on y axis. Probability of patient being overweight is the distance on y axis from second curve to top of graph (1 minus the axis reading).

**Media Coverage of Radiology**

In January, 767 media outlets carried news stories generated by press conferences at the RSNA annual meeting and articles appearing in *Radiology*. These stories reached an estimated 271 million people.

News coverage included findings from a *Radiology* study on the comparison of current and prior mammograms in breast cancer screening (*Radiology* 2007;242:70-77).

Coverage highlights include print

stories in *Reader's Digest*, *Financial Times*, *Washington Post*, *The Daily Telegraph* (London), *Chicago Tribune*, *Boston Globe*, *Baltimore Sun*, *Sacramento Bee*, *Cincinnati Enquirer* and *South Florida Sun-Sentinel*. Stories also appeared in *Columbus Dispatch*, *Des Moines Register*, *Hartford Courant*, *Milwaukee Journal-Sentinel*, *St. Paul Pio-*



*neer Press*, *Virginian-Pilot*, *Star Tribune* (Minneapolis) *Star-Ledger* (Newark, N.J.), *Plain Dealer* (Cleveland), *Daily Herald* (Arlington Heights, Ill.), *Diagnostic Imaging*, *Radiology Today* and *Family Practice News*. Stories also appeared on broadcast outlets including Voice of America, CNBC, WFLD-TV (Chicago) and WCBS Radio (New York) as well as online at *Forbes.com* and Yahoo! News.

RSNA MEMBER BENEFITS

**Working For You**

**RSNA Committees**

This month *RSNA News* continues its series highlighting the work of RSNA's volunteer committees with a look at the new Continuous Quality Improvement Initiative (CQII) Committee.

**Continuous Quality Improvement Initiative (CQII) Committee**

**T**HIS NEW committee is charged with implementing a Continuous Quality Improvement Initiative that will advance the science of quality to radiologists through RSNA-led education and research.

Formed in 2006, the committee produced an opening session and focus sessions on quality at RSNA 2006 and is helping organize a quality-focused refresher course series at RSNA 2007. The committee is also assisting in the development of a new quality section in *RadioGraphics* beginning this year and oversaw the creation of a

new section on *RSNA.org* listing various quality improvement resources.

Speaking during the RSNA 2006 opening session, Committee Chair Stephen J. Swensen, M.D., explained his vision for the kind of quality initiative that will truly advance the specialty. "We need an approach that is evidence based, industry tested, industry validated and time tested—a systems approach," he said.

To learn about all of RSNA's committees and opportunities to volunteer, go to [RSNA.org/About/volunteer.cfm](http://RSNA.org/About/volunteer.cfm).



Stephen J. Swensen, M.D.

*Working for you*  
COMMITTEE PROFILE

**Statistical SAMs Coming This Month**

New self-assessment modules (SAMs) focusing on statistical methods will be available online at [RSNA.org/education](http://RSNA.org/education) at the end of March. These SAMs are qualified by the American Board of Radiology (ABR) in meeting the crite-

ria for self-assessment toward the purpose of fulfilling requirements in the ABR Maintenance of Certification Program. Each SAM qualifies for 1 SAM credit, in addition



to 2.5 AMA PRA Category 1 Credits™. For more information, call the RSNA Education center at 1-800-381-6660 x 3733.

# Working For You

## Making MIRC™ Work

RSNA News continues its profiles of real-world users of RSNA's Medical Imaging Resource Center (MIRC™).

This month's user, **William Weadock, M.D.**, an associate professor of radiology at the University of Michigan, shows an enthusiasm not unlike that of a new sports car owner—he's expanding MIRC's limits with a "let's see what this thing can do" attitude.

*Making* **MIRC**™ *Work*

**RSNA.ORG/MIRC**  
RSNA'S FREE ONLINE RESEARCH  
AND EDUCATION TOOLS

**W**E HAVE created nearly 3,000 cases in our system," said Dr. Weadock, who began working with a MIRC server about four years ago. "The amount of text in cases is variable—some contain only the diagnosis, while others have findings, discussion, pathology, quiz questions and differential diagnoses."

Dr. Weadock also uses MIRC for a "Case of the Day" project launched in February 2005. Nearly 190 people in the radiology department, including residents, fellows, faculty and medical assistants and researchers, receive a daily e-mail with a link to a case residing on the MIRC server.

Cases on the Michigan system span every subspecialty in radiology, giving users access to ultrasound video clips, volume-rendered CT angiograms, even pediatric radiographs from the 1930s.

"The MIRC system is a great way to disseminate knowledge to everyone

in a group—a case with text and annotations can be published within minutes," said Dr. Weadock, himself the creator of RadPix®, a software program that facilitates creation of MIRC electronic teaching files.

"For example, when a new aortic stent graft is released, we can post CT and MR images of the device in place, so radiologists can become familiar with the appearance," he said.

Dr. Weadock particularly appreciates being able to use MIRC to teach, no matter where the class is being held. "If I'm discussing MR artifacts with fellows, I can do a search and quickly show them several examples," he said.

While singing the praises of MIRC's perks—user control over whether to display annotations on an image, intuitive interface, ability to add



**William Weadock, M.D.**

video clips and other documents to a case—Dr. Weadock also has some suggestions for improvement.

"I'd like the server to track cases a user has already viewed, so residents studying for oral boards can choose only cases they have not already seen, he said. "I would also

like the ability to scroll through a stack of images, like in a PACS." Ever enthusiastic, he has been working with fellow MIRC users and developers to implement these enhancements to the system.

The RSNA Medical Imaging Resource Center (MIRC) can be accessed at [RSNA.org/MIRC](http://RSNA.org/MIRC).



## 10<sup>th</sup> Connectathon Draws More Than 400

Having outgrown its space at RSNA Headquarters, the 2007 Integrating the Healthcare Enterprise (IHE) Connectathon was held at the Hyatt Regency Chicago. In addition to the opportunity to test their equipment for interoperability with other systems, Connectathon attendees also heard from information technology leaders from the Office of the National Coordinator for Health Information Technology and other organizations. In all, 430 engineers from more than 80 organizations participated in the 2007 Connectathon, testing the interoperability of more than 160 systems and applications. Detailed data, including previous years' test results, are available online at [www.ihe.net/Connectathon/results](http://www.ihe.net/Connectathon/results). The first Connectathon was held in 1998.

## Second Clinical Trials Workshop Yields New Study Protocols



RSNA's second Clinical Trials Methodology Workshop was held January 6–12 in Phoenix. James Tatum, M.D. (left), and Nancy Kass, Sc.D. (top right), were among the faculty who helped students develop study protocols. (below) Students and faculty pose for a photo. A total of 24 students attended this year's workshop to learn about study design, statistical methods and other critical elements of clinical trials. In addition to attending lectures and participating in small group discussions and one-on-one mentoring, students spend many hours during the workshop refining protocols. The application deadline for the 2008 workshop is June 4, 2007. For more information, go to [RSNA.org/research/educational\\_courses.cfm](http://RSNA.org/research/educational_courses.cfm) or contact Fiona Miller at 1-630-590-7741 or [fmiller@rsna.org](mailto:fmiller@rsna.org).



## RSNA Visits Mexico

Mellie V. Pouwels, M.A. (center), director of the RSNA Education Center, speaks with attendees at the annual meeting of the Sociedad Mexicana de Radiología e Imagen (SMRI) in Mexico City in early February. RSNA will debut its new booth at the European Congress of Radiology in Vienna, Austria, this month.

If you have a colleague who would like to become an RSNA member, you can download an application at [RSNA.org/mbrapp](http://RSNA.org/mbrapp) or contact the RSNA Membership and Subscriptions Department at 1-877-RSNA-MEM [776-2636] (U.S. and Canada), 1-630-571-7873 or [membership@rsna.org](mailto:membership@rsna.org).

# Program and Grant Announcements

## Revitalizing the Radiology Research Enterprise

Applications Accepted Through March 23

RSNA is accepting applications for the Revitalizing the Radiology Research Enterprise (RRRE) program site visits to evaluate the departmental and institutional research environment. The RRRE program is designed to help academic radiology and radiation oncology departments improve their ability to support and conduct radiologic

research. Six departments will be selected from applications made by departments of radiology, radiation oncology and nuclear medicine.

In addition, an RRRE 1½ day workshop planned for October 19–20 at RSNA Headquarters in Oak Brook, Ill., will focus on challenges to and strate-



gies for conducting research in radiology and radiation oncology departments. To obtain an application or information about the site visits or workshop, please contact Tracy Schmidt, M.S., at [tschmidt@rsna.org](mailto:tschmidt@rsna.org) or 1-630-368-3751.

# Program and Grant Announcements

## World Conference on Interventional Oncology and Society of Thermal Medicine Joint Annual Meeting

May 14–18, 2007 • Washington Hilton Hotel

Looking globally at the role of image-guided interventions in cancer treatment, this conference will also take advantage of its proximity to federal agencies like the National Institutes of Health and the U.S. Food and Drug Administration. RSNA is co-sponsor of this conference. More information is available at [www.wcio2007.com](http://www.wcio2007.com).

## RSNA Introduction to Research for International Young Academics

Deadline for Nominations – April 15

The RSNA Introduction to Research for International Young Academics program encourages young radiologists from countries outside North America to pursue careers in academic radiology. The program consists of a special seminar held during the RSNA annual meeting.

Eligible candidates are residents and fellows currently in radiology training programs or radiologists not more than two years out of training who are beginning or considering an academic career. Nominations must be made by the candidate's department chairperson or training director. Fluency in English is required. Nomination forms can be found at [RSNA.org/IRIYA](http://RSNA.org/IRIYA).

## Tools for Success in the Practice of Radiology

June 29–30, 2007 • RSNA Headquarters, Oak Brook, Ill.

**D**IRECTED BY Claire E. Bender, M.D., of the Mayo Clinic College of Medicine, this course is designed for current and future leaders in radiology. This customized seminar will link the vital components of effective leadership with the established techniques that create and sustain success in radiology practice. Sessions on leadership, planning, staff development and quality and safety will help participants confidently manage day-to-day issues on the job.

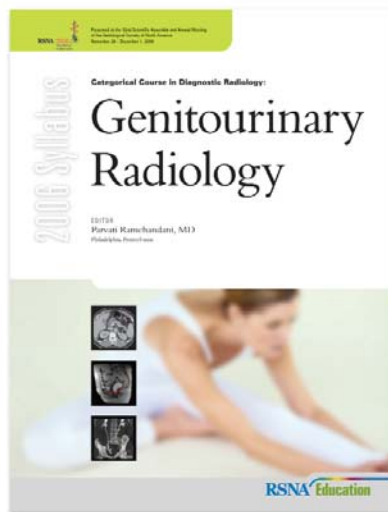
Registration is now available online at [RSNA.org/education](http://RSNA.org/education). Early registration is encouraged, as participation in this personalized interactive course will be limited. More information is also available by calling the RSNA Education Center at 1-800-381-6660 x7772.

**RSNA Education**

Online Registration Now Open

## Annual Meeting Syllabi Available

Syllabi from categorical courses taught at RSNA annual meetings are among the products sold in the RSNA Education Center Store at [RSNA.org/education](http://RSNA.org/education). Syllabi are available for purchase in print (with companion CD), as a CD-ROM only or online and include these courses from RSNA 2006:



Categorical Course in Diagnostic Radiology: Genitourinary Radiology

22 AMA PRA Category 1 CME Credits available.



Categorical Course in Diagnostic Radiology Physics: From Invisible to the Visible—The Science and Practice of X-ray Imaging and Radiation Dose Optimization.

To order, call 1-800-272-2920 or go to [RSNA.org/education](http://RSNA.org/education).

# News about RSNA 2007

## Abstracts Due April 15

**A**BSTRACTS are now being accepted for RSNA 2007. Abstracts are required for scientific papers, scientific posters and education exhibits. To submit an abstract, go to [RSNA.org/abstracts](http://RSNA.org/abstracts).

**The deadline for abstract submission is April 15, 2007. Please note that the deadline has been changed to NOON Central Standard Time, 12 hours earlier than in previous years.**

More information can be obtained by contacting RSNA at 1-877-776-2227 within the U.S. or 1-630-590-7774 outside the U.S.

### Translations of Abstract Submission Article Available

A February 2006 *RSNA News* article offering guidance on abstract submission is available in multiple languages at [RSNA.org](http://RSNA.org):

- English: [RSNA.org/Publications/rsnanews/upload/abstracttips.pdf](http://RSNA.org/Publications/rsnanews/upload/abstracttips.pdf)
- Spanish: [RSNA.org/Publications/rsnanews/upload/abstracttipsesp.pdf](http://RSNA.org/Publications/rsnanews/upload/abstracttipsesp.pdf)
- Chinese: [RSNA.org/Publications/rsnanews/upload/abstracttipsch.pdf](http://RSNA.org/Publications/rsnanews/upload/abstracttipsch.pdf)

## Important Dates for RSNA 2007

<b>April 15</b>	Deadline for abstract submission
<b>April 23</b>	Registration and housing opens for RSNA and AAPM members
<b>May 21</b>	General registration and housing opens
<b>June 18</b>	Course enrollment opens
<b>Oct. 26</b>	International deadline to have full-conference materials mailed in advance
<b>Nov. 5</b>	Final advance registration, housing and course enrollment deadline
<b>Nov. 25–30</b>	RSNA 93rd Scientific Assembly and Annual Meeting

## Registration Fees

BY 11/5	ONSITE	
\$0	\$100	RSNA Member, AAPM Member
\$0	\$0	Member Presenter
\$0	\$0	RSNA Member-in-Training, RSNA Student Member and Technical Student
\$0	\$0	Non-Member Presenter
\$130	\$230	Non-Member Resident/Trainee
\$130	\$230	Radiology Support Personnel
\$620	\$720	Non-Member Radiologist, Physicist or Physician
\$620	\$720	Hospital or Facility Executive, Commercial Research and Development Personnel, Healthcare Consultant, Industry Personnel
\$300	\$300	One-day registration to view only the Technical Exhibits area

For more information about registration at RSNA 2007, visit [RSNA.org](http://RSNA.org), e-mail [reginfo@rsna.org](mailto:reginfo@rsna.org) or call 1-800-381-6660 x7862.

## International Visitors

### Personalized Invitation Letters Available Online

Obtain a personalized invitation letter by going to the International Visitors section of the RSNA 2007 Web site at [RSNA2007.RSNA.org](http://RSNA2007.RSNA.org). This section of the Web site also includes important information about visa applications. Visa applicants are advised to apply as soon as they decide to travel to the U.S. and at least **three to four months** in advance of their travel date. For more information, go to:

- [www.unitedstatesvisas.gov](http://www.unitedstatesvisas.gov)
- [travel.state.gov/visa](http://travel.state.gov/visa)
- [nationalacademies.org/visas](http://nationalacademies.org/visas)

In addition, under the **Western Hemisphere Travel Initiative (WHTI)**, the U.S. government is now enforcing new passport requirements for all air travelers entering or re-entering the U.S. from Canada, Mexico, Central and South America, the Caribbean and Bermuda. Information is available at:

- [www.dhs.gov](http://www.dhs.gov)
- [travel.state.gov/travel/cbpmc/cbpmc\\_2223.html](http://travel.state.gov/travel/cbpmc/cbpmc_2223.html)
- [www.getapassportnow.com](http://www.getapassportnow.com)

# News About RSNA Highlights

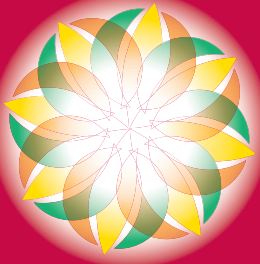
## Save the Date

The next RSNA Highlights will be held February 18–20, 2008, at the Ritz-Carlton/J.W. Marriott Orlando, Grande Lakes in Florida. Watch for more information in future issues

of *RSNA News* and at [RSNA.org](http://RSNA.org).

Coverage of RSNA Highlights: Clinical Issues for 2007, held February 26–28 in Phoenix, will appear in the April issue of *RSNA News*.





# RSNA HIGHLIGHTS 2008

February 18–20 ▶ Ritz Carlton & JW Marriott Grande Lakes ▶ Orlando



## Topics include:

- ▶ Cardiac Imaging
- ▶ Thoracic Imaging
- ▶ Neuroradiology
- ▶ Breast Imaging

[RSNA.org/highlights](http://RSNA.org/highlights)



RSNA Education

# Product News

## NEW PRODUCT

### Redesigned Handheld Recorder

**R**OYAL PHILIPS ELECTRONICS ([www.philips.com](http://www.philips.com)) has introduced the new Digital Pocket Memo, its redesigned handheld recorder. In addition to the voice activation and mandatory keyword command functions of earlier versions, the new recorder also offers the largest display available and three smart buttons similar to those on a mobile phone. An optional docking station allows dictation to be automatically uploaded to a local area network without a PC connection, making it convenient outside libraries, conference rooms or patient care areas. The Digital Pocket Memo automatically encrypts dictation as it is being recorded, features two levels of security and minimizes background noise.



## NEW PRODUCT

### Pre-Amps for Multichannel MRI

IXYS Corporation ([www.ixys.com](http://www.ixys.com)) has introduced the MPM pre-amp series, miniature pre-amplifiers with lower power consumption specifically developed for multichannel coil applications of 1.0, 1.5 and 3.0 Tesla MR imaging systems. The very small footprint makes MPM ideal for MR imaging coil applications having high numbers of channels. The typical DC current of 15 mA is about half of that of conventional pre-amplifiers, resulting in low overall heat dissipation for the multiple-channel coil applications. The MPM pre-amp series has a frequency range of 43 to 127 MHz and utilizes special low noise devices fabricated to achieve 0.4 dB in 1.0, 1.5 and 3.0 Tesla MR imaging.

## NEW PRODUCT

### Pocket-Sized Dosimeters

RAE Systems Inc. ([www.raesystems.com](http://www.raesystems.com)) and Science Applications International Corporation ([www.saic.com](http://www.saic.com)) have introduced two small Geiger-Mueller tube-based, electronic gamma radiation dosimeters. The dosimeters will be marketed internationally as the DoseRAE and DoseRAE-P and in the U.S. as PD-3i and PD-10i. Each about the size of a mobile phone, the dosimeters are designed to be sturdy and lightweight while providing dose readings with a resolution of less than 0.02 microSieverts. The dosimeters alert users with alarms and flashing LEDs and track the amount of time remaining before the dose alarm level will be reached.



## NEW PRODUCT

### Pre-Moistened Bleach Wipe

PDI® ([www.pdipdi.com](http://www.pdipdi.com)) has added the Sani-Cloth® Bleach Wipe to its Sani-Surface™ product line. The new wipe is a ready-to-use stabilized bleach solution. Equivalent to a 1:10 dilution, the wipe cleans and deodorizes non-porous surfaces such as countertops, tables, carts and equipment with a durable low-lint design for sensitive surfaces. The wipe is available in large 5" x 7" and extra large 11.5" x 11.75" cloths. Both sizes come in a self-dispensing box for quick access with 50 easy, tear-open packets.



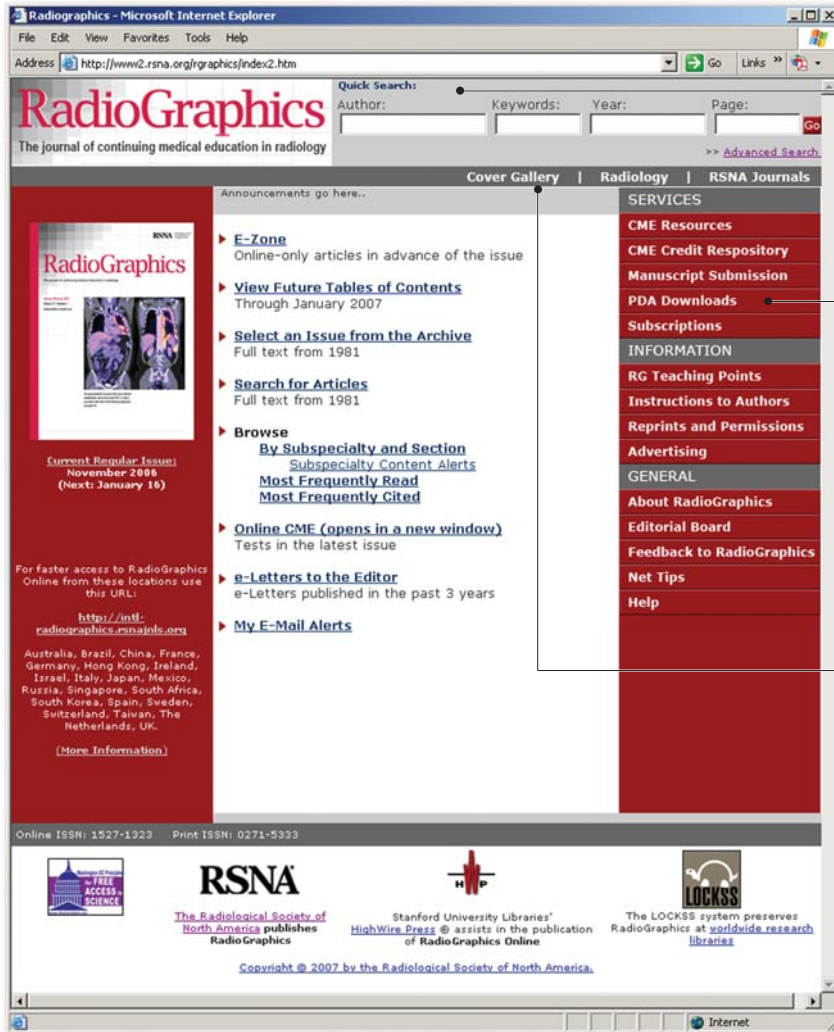
## CORRECTION

The company Medis medical imaging systems was mentioned incorrectly in the Product News section of the January issue of *RSNA News*.

# RSNA.org

## Redesigned RadioGraphics Home Page

Changes made to the *RadioGraphics* home on the Web, [RSNA.org/radiographics](http://RSNA.org/radiographics) combine aesthetics with accessibility.



Quick Search boxes now appear at the top of the page.

Informational links are organized in a new red sidebar on the right-hand side of the page. New links include CME Resources and CME Credit Repository.

Also new to the page is a link to the new **RadioGraphics Cover Gallery**. Cover images, first used with the January–February 2007 edition, promote the content included in each issue.

**connections** Your online links to RSNA

### RSNA.org

- Radiology Online**  
[RSNA.org/radiologyjnl](http://RSNA.org/radiologyjnl)
- Radiology Manuscript Central**  
[RSNA.org/radiologyjnl/submit](http://RSNA.org/radiologyjnl/submit)
- RadioGraphics Online**  
[RSNA.org/radiographics](http://RSNA.org/radiographics)
- RadioGraphics RGXPress**  
[RSNA.org/rgxpress](http://RSNA.org/rgxpress)
- RSNA News**  
[rsnanews.org](http://rsnanews.org)
- Education Portal**  
[RSNA.org/education](http://RSNA.org/education)
- RSNA CME Credit Repository**  
[RSNA.org/cme](http://RSNA.org/cme)
- CME Gateway**  
[CMEgateway.org](http://CMEgateway.org)
- RSNA Medical Imaging Resource Center**  
[RSNA.org/mirc](http://RSNA.org/mirc)
- RSNA Career Connection**  
[RSNA.org/career](http://RSNA.org/career)
- RadiologyInfo™**  
RSNA-ACR patient information Web site  
[RadiologyInfo.org](http://RadiologyInfo.org)
- RSNA Press Releases**  
[RSNA.org/media](http://RSNA.org/media)
- My RSNA Profile & Benefits**  
[RSNA.org/member/services](http://RSNA.org/member/services)
- RSNA Research & Education Foundation**  
Make a Donation  
[RSNA.org/donate](http://RSNA.org/donate)
- Community of Science**  
[RSNA.org/cos](http://RSNA.org/cos)
- CQI Initiative**  
[RSNA.org/quality](http://RSNA.org/quality)
- Membership Applications**  
[RSNA.org/mbrapp](http://RSNA.org/mbrapp)
- RSNA Membership Directory**  
[RSNA.org/directory](http://RSNA.org/directory)
- Abstract Submission for RSNA 2007**  
[RSNA.org/abstracts](http://RSNA.org/abstracts)
- RSNA 2007**  
[RSNA2007.RSNA.org](http://RSNA2007.RSNA.org)
- RSNA Highlights 2008**  
[RSNA.org/Highlights](http://RSNA.org/Highlights)

## OTHER WEB NEWS

**T**HE Society for Imaging Informatics in Medicine (SIIM) has launched its new Web site at [www.siimweb.org](http://www.siimweb.org). Features include the SIIM

Expert Hotline, podcasts and streaming video of SIIM educational content and communities of practice.



# Medical Meetings

## April – June 2007

**APRIL 5-7**

International Society for Magnetic Resonance in Medicine (ISMRM)/Turkish Society of Magnetic Resonance (TSMR), International Cardiovascular MR Imaging Symposium, Maritim Pine Beach Resort, Antalya, Turkey • [www.ismrm.org/workshops/turkey07.htm](http://www.ismrm.org/workshops/turkey07.htm)

**APRIL 12-15**

São Paulo Society of Radiology and Diagnostic Imaging, 37th Meeting, Transamerica Expo Center, São Paulo, Brazil • [www.spr.org.br](http://www.spr.org.br)

**APRIL 13-15**

Japan Radiological Society (JRS), 66th Annual Meeting, Pacifico Yokohama, Japan • [www.radiology.or.jp](http://www.radiology.or.jp)

**APRIL 14-17**

Society of Breast Imaging (SBI), 8th Postgraduate Course, Westin Diplomat Resort & Spa, Hollywood, Fla. • [www.sbi-online.org](http://www.sbi-online.org)

**APRIL 15-20**

Society of Gastrointestinal Radiologists (SGR), Abdominal Radiology Course 2007, Hyatt Regency Coconut Point Resort & Spa, Naples, Fla. • [www.sgr.org](http://www.sgr.org)

**APRIL 16-17**

National Council on Radiation Protection & Measurements (NCRP), 43rd Annual Meeting, Crystal City Marriott, Arlington, Va. • [NCRPonline.org](http://NCRPonline.org)

**APRIL 17-21**

Society for Pediatric Radiology (SPR), 50th Annual Meeting and Postgraduate Course, Intercontinental Hotel, Miami • [www.pedrad.org](http://www.pedrad.org)

**APRIL 25-28**

Association of University Radiologists (AUR), Society of Chairmen of Academic Radiology Departments (SCARD) and Association of Program Directors in Radiology (APDR), Annual Meeting, Hyatt Regency Denver at Colorado Convention Center • [www.aur.org](http://www.aur.org)

**APRIL 29-MAY 1**

American Brachytherapy Society (ABS), 28th Annual Meeting, Sheraton Chicago Hotel & Towers, Chicago • [www.americanbrachytherapy.org](http://www.americanbrachytherapy.org)

**MAY 6-9**

Radiology Business Management Association (RBMA), 2007 Radiology Summit, America's Center, St. Louis • [rbma.org/conferences/radiology\\_summit/index.php](http://rbma.org/conferences/radiology_summit/index.php)

**MAY 6-11**

American Roentgen Ray Society (ARRS), 107th Annual Meeting, Grande Lakes Orlando, Fla. • [www.arrs.org](http://www.arrs.org)

**MAY 14-18**

World Conference on Interventional Oncology (WCIO) and Society of Thermal Medicine (STM), Joint Annual Meeting, Washington Hilton Hotel • [www.wcio2007.com](http://www.wcio2007.com)

**MAY 16-19**

German Radiology Society, 88th Congress, Messe Berlin • [www.roentgenkongress.de](http://www.roentgenkongress.de)

**MAY 19-23**

American College of Radiology (ACR), Annual Meeting and Chapter Leadership Conference 2007, Hilton Washington • [www.acr.org](http://www.acr.org)

**MAY 19-25**

ISMRM and European Society for Magnetic Resonance in Medicine and Biology (ESMRMB), Joint Annual Meeting, International Congress Center, Berlin • [www.ismrm.org](http://www.ismrm.org)

**MAY 25-28**

Radiology Society of Puerto Rico (SRPR), 11th Annual Meeting, Westin Rio Mar Beach Resort, Río Grande • [www.srpr.org](http://www.srpr.org)

**JUNE 1-4**

American Society of Radiologic Technologists (ASRT)/Association of Educators in Imaging and Radiologic Sciences (AEIRS), Annual Conference, Hyatt Regency Albuquerque, N.M. • [www.asrt.org/content/eventsandconferences/annualconference2007/ac07startpage.aspx](http://www.asrt.org/content/eventsandconferences/annualconference2007/ac07startpage.aspx)

**JUNE 2-6**

Society of Nuclear Medicine (SNM), Annual Meeting, Washington • [interactive.snm.org](http://interactive.snm.org)

**NOVEMBER 25-30**

RSNA 2007, 93rd Scientific Assembly and Annual Meeting, McCormick Place, Chicago • [RSNA2007.RSNA.org](http://RSNA2007.RSNA.org)

**FEBRUARY 18-20, 2008**

RSNA Highlights, Ritz Carlton Grande Lakes Orlando, Florida • [RSNA.org/Highlights](http://RSNA.org/Highlights)

**RSNA**News

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