Nanodiamonds Give Imaging Technology a Boost

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- Quantitative Imaging Protocols Approach Clinical Practice
- Latin American Radiologists Harness the Power of Collaboration
- Newly Redesigned RSNA Services Area Stays on the Cutting Edge

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RSNA Encourages Members to Join Print Journal Reduction Efforts

In an effort to further reduce the Society’s carbon footprint and to encourage members to take advantage of the myriad features and extra content in the online versions of its journals, RSNA members will be asked to make a choice between receiving Radiology and RadioGraphics in print or online only.

To choose only the online versions of RSNA journals, log in at myRSNA.org, go to MyProfile and select “Print Journal Opt-Out,” or contact the Membership Department at 1-877-RSNA-MEM (776-2636) or members@rsna.org.

Read more about the online-only option on Page 18.

2010 INTERNATIONAL YOUNG ACADEMICS NAMED

The RSNA Committee on International Relations and Education (CIRE) received more than 50 applications for the 2010 Introduction to Research for International Young Academicians (IRIYA) Program. Selected participants will attend a specially designed four-day program, held during the RSNA annual meeting, that encourages them to pursue careers in academic radiology. The RSNA Board of Directors approved recommendations from the CIRE to invite the following candidates to participate in this year’s IRIYA Program:

NAME
Salvatierra, M.D. Mexico
Jesus Pablo Gil Muro, M.D. Mexico
Mariana Diaz-Zamudio, M.D. Mexico
Elcin Zan, M.D. Turkey
Youkyung Lee, M.D. Korea
Giedre Kavaliauskiene, M.D. Lithuania
Ana Hrkac Pustahija, M.D. Croatia
Ankur Gadodia, M.D., D.N.B. India
Dan Gabriel Duma, M.D. Romania
Hyun Seok Choi, M.D. South Korea

NUMBER COUNTRY
1 South Korea
2 Romania
3 Thailand
4 Latvia
5 Italy
6 Indonesia
7 China
8 Australia
9 Brazil
10 India
11 Germany

RSNA Names Officers, Bestows Awards

Domínique Delbeke, M.D., Ph.D., was named SNM’s 2010-11 president at the society’s recent annual meeting, George Segall, M.D., was named president-elect and Frederic H. Fahey, D.Sc., was named vice-president-elect.

Chaster A. Mathis, Ph.D., director of PET in the Department of Radiology at the University of Pittsburgh, received SNM’s Paul C. Adlersberg Award for his research in molecular imaging and Alzheimer’s disease research. SNM awarded Bengt Roland Långström, Ph.D., a professor in the departments of biochemistry and organic chemistry and director of the PET Center at Uppsala University in Sweden, the George Charles De Hevesy Nuclear Pioneer Award. A pioneer in developing PET and CT scanners, Song-Chong (Henry) Huang, D.Sc., director of the Image Analysis Center at the David Geffen School of Medicine at the University of California Los Angeles, received the 2010 Benedict Cassen Prize, awarded to a living scientist or physician/scientist whose work has led to a major advance in basic or clinical nuclear medicine science.

Carlson Honored with Two Awards

Richard A. Carlson, M.D., a partner with Suburban Radiologic Consultants in Minneapolis, Minn., was recently honored with two awards. Dr. Carlson received the 2010 Charles Bolles Bolles-Rogers Award from the Twin Cities West Metro Physicians Foundation for his outstanding contributions in medical research, achievement and leadership. Dr. Carlson is the first radiologist to receive this award since its inception in 1992.

Dr. Carlson, a radiologist at Fairview Southdale Hospital in Edina, Minn., was also recently named the hospital’s 2010 Physician of the Year for exemplifying the highest standards of professionalism, knowledge, competency and compassion in caring for patients. Dr. Carlson has frequently contributed to Radiology.

Numbers in the News

4.5
Percentage growth in the Latin American economy in 2010, as predicted by the World Bank. (Read “Latin American Radiologists Harness the Power of Collaboration,” Page 11)

8
Percentage growth in the total number of biopsies performed by radiologists, according to a study of biopsy trends in Medicare claims data from 1997 through 2008. Radiologists’ share of all biopsies increased from 35 percent to 56 percent, researchers found. (Read “Radiology in Public Focus,” Page 17)

54
Percentage of imaging requests initiated by clinicians logging into the computerized radiology order entry system at Massachusetts General Hospital, after the system was introduced. Clinician staff from scheduling examinations with low-yield decision support system began building clinician staff from scheduling examinations with low-yield decision support scores. According to the study recently published in Radiology, clinicians directly made just 26 percent of examination requests before the radiology was implemented. (Read “Decision Support Tools Cut Unnecessary Scans,” Page 5)

780
The number of media outlets that carried RSNA-related news stories in July 2010. (Read “Radiology in Public Focus,” Page 17)
2011-2012 R&E GRANT APPLICATION PROCESS OPENS NEXT MONTH

People interested in obtaining RSNA Research & Education (R&E) Foundation grants for 2011-2012 can begin submitting their applications starting in October. For more information, go to RSNA.org/Foundation or contact Scott A. Walter, M.S., Assistant Director, Grant Administration at 1-630-571-7816 or swalter@rsna.org.

Grant Programs

The R&E Foundation offers funding opportunities for medical students, trainees and faculty, with grants up to $150,000. Research and education grants cover a virtually limitless spectrum of projects, from traditional hypothesis-driven basic science and clinical investigations to topics such as drug, therapy and device development, informatics, comparative effectiveness and cost-effectiveness, quality improvement, ethics and professionalism, and evidence-based radiology.

EDUCATION GRANTS

Deadline—Jan 10

Education Scholar Grant: For individuals with an active interest in any area of radiologic education. Salary support and educational expenses for up to two years. Open to international applicants. RSNA/AUR/APDR/SCARD Radiology Education Research Development Grant: Provides one-year project opportunities for individuals seeking to advance the science of radiologic education. Open to international applicants.

RESEARCH GRANTS

Deadline—Jan 15

Research Scholar Grant: For junior faculty members who have completed conventional resident/fellowship training programs but have not yet been recognized as independent investigators. Provides salary support for two years.

Research Seed Grant: Enables investigators throughout the world to gain experience in defining objectives and testing hypotheses in preparation for major grant applications and corporate, foundation and governmental agencies. Supports the preliminary or pilot phase of scientific projects. Open to international applicants.

Research Resident/Fellow Grant: Gives young investigators who are not yet professionally established in the radiologic sciences an opportunity to develop competence in research techniques and methods. To be used for salary and/or non-personnel research expenses.

RESEARCH MEDICAL STUDENT GRANT

Deadline—Feb. 1

Makes radiology research opportunities possible for medical students and encourages them early in their medical careers to consider academic radiology as an option for their future. Provides stipend for students to complete three-month research projects.

Aviv Awarded CAR Young Investigator Award

The Canadian Association of Radiologists (CAR) has awarded Richard Aviv, M.D., M.B.Ch.B., its Young Investigator Award. Dr. Aviv, a neuroradiologist at Sunnybrook Health Sciences Center in Toronto and an associate scientist in the Sunnybrook Research Institute, also runs a research program primarily in stroke imaging and supervises graduate students. His research includes discovering the CT angiography hematoma “spot sign,” which revolutionized management of brain hemorrhage.

At the University of Pennsylvania, the impact of R&E funding on the educational and research missions of our department cannot be overstated. One of our primary missions is to teach all our members, from trainees to faculty, how to perform clinical and basic research in imaging science.

Through the generosity of the RSNA R&E grants, our trainees and faculty have had the opportunity to learn and develop these skills, and to use the new imaging methodologies, develop image processing and 3D visualization tools, participate in image-centric clinical and basic science research projects and to mentor others in the research process. The R&E grants have helped our department launch the careers of several internationally recognized academic leaders in the field of radiologic science.

Specifically, since 1988, 46 R&E grants have been awarded to 23 members of our department and 19 Penn medical students. Totaling more than $1.7 million, these grants include support from nine R&E Vanguard corporate donors. The recipients have gone on to garner nearly $30 million in NIH grants. Twenty of the 23 resident, fellow, and faculty awardees are currently academic faculty either at Penn or elsewhere, and at least 10 of the medical students so far have gone on to residency training in radiology.

R&E grants were a source of funding that came at a crucial time in the development of many research careers at Penn and many of the recipients continue to be major contributors to the field of radiologic science worldwide. We hope that the radiology community will join us in thanking the RSNA R&E Foundation and continue to support its mission.

R&E Education Grants Spotlighted in RadioGraphics

An article in the September-October issue of RadioGraphics (RSNA.org/radiographics) emphasizes the importance of radiologic education and chronicles the 10-year history of RSNA Research & Education (R&E) Foundation education grant programs. Foundation-funded education projects and recipients of the RSNA Outstanding Educator award are also showcased in the article by Richard B. Gurnaderman, M.D., Ph.D., and Imran Hafeez, B.S., of the Department of Radiology at the Indiana University School of Medicine in Indianapolis.

Since 2001, the R&E Foundation has funded 57 education grant projects, with awards totaling more than $5 million. Project recipients have included a radiology clerkship companion for medical students and a two-year program for leadership development in education.

As the only large program to support innovation and career development in radiology education, the RSNA R&E Foundation grants play a crucial role in helping to promote the future of radiology education, the authors conclude. “At a time when the clinical pressures on academic radiologists have perhaps never been greater, the education grants program highlights our mission as a mission worth funding,” helps provide a pathway for career advancement to academic radiologists and has informed a number of useful products and programs that have enriched and continue to enhance radiology education throughout North America and around the world.”

My Turn

Measurable Impact: R&E Donations are Foundation of Radiologic Innovation

For the past quarter century, hundreds of researchers have been the beneficiaries of funding from the RSNA Research & Education (R&E) Foundation. As many who embark on academic careers know, getting funded early on for fledgling projects is often challenging, especially through traditional National Institutes of Health (NIH) funding mechanisms. The R&E Foundation fills an important gap in research funding by focusing resources on trainees and junior faculty that are often the encouragement needed to boost a career in radiology research.

R&E Education Grants

The Consistency, Acceptability, Responsibility and Excellence in Medical Imaging and Radiation Therapy (CARE) bill, which aims to ensure that basic minimum education and certification standards are established as part of the Medicare program for all medical imaging and radiation therapy personnel, has been introduced in the U.S. Senate. S. 3737 was introduced last month by Sen. Mike Enzi, R-Wyo., and Sen. Tom Harkin, D-Iowa, and cosponsored by Sens. Richard Burr, R-N.C., and Sen. Al Franken, D-Minn. It has been referred to the Senate Health, Education, Labor and Pensions Committee.

The American Society for Radiologic Technologists (ASRT) has stated that the bill is the best way to address concerns about healthcare quality, radiation safety and safe equipment operation. According to ASRT, basic educational standards for medical imaging and radiation therapy professionals are currently voluntary in many states, allowing some individuals to perform radiologic procedures without any formal education. Five states, along with the District of Columbia, are without any regulations regarding the qualifications of personnel performing medical imaging examinations.

The U.S. House CARE bill (H.R. 3652) was introduced in September 2009 by Rep. John Barrow, D-Ga., and now has 117 bipartisan cosponsors.

Keep track of progress of the CARE bills at www.arrt.org/CARE.
Researchers at Massachusetts General Hospital (MGH) in Boston found that an electronic system that prevents nurses or office assistants from ordering low-yield CT, nuclear medicine scans or MR imaging drastically reduced the rate of such exams and markedly increased the percentage of tests personally ordered by physicians, according to a study published in the June issue of Radiology.

Similarly, an analysis of the appropriateness of outpatient CT and MR imaging referred from primary care clinics showed that approximately 26 percent of exams do not meet appropriateness criteria and subsequently yield negative results, according to researchers at the University of Washington’s Harborview Medical Center in Seattle. Results show the advantage for referring physicians to adopt newly emerging clinical decision support systems, according to the research published in the March 2010 issue of the Journal of the American College of Radiology.

The Centers for Medicare & Medicaid Services (CMS) launched a study of its own earlier this year. The two-year Medicare Imaging Demonstration (MID) will assess the impact that decision support systems used by physician practices have on the appropriateness and utilization of advanced medical imaging services ordered for Medicare fee-for-service patients. Included in the project are SPECT myocardial perfusion imaging, MR imaging of the lumbar spine, brain and knee and CT of the lumbar spine, brain, sinus, thorax, abdomen and pelvis. CMS said it selected those tests based on high expenditures and utilization in the Medicare fee-for-service population and the availability of relevant medical specialty appropriateness guidelines.

“Hard Stop” Software Proves Effective

In 2004, MGH began using a nine-point scoring system for outpatient electronic order entry, based on American College of Radiology (ACR) appropriateness criteria ranking imaging exams for diagnostic usefulness. Three years later, the facility modified the system to include the hard stop on red (HSOR) function, an electronic ordering system that requires on-call physicians to authorize advanced imaging function, an electronic ordering system that requires the system to include the hard stop on red (HSOR) on American College of Radiology (ACR) appropriateness criteria.

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Researchers who compared 76,000 orders taken between April 2007 and December 2007 with the new system in place against approximately 45,000 orders from the same period in 2006 uncovered dramatic results, according to Vartan M. Vartanians, M.D., lead author of the study and a clinical research associate in the Department of Radiology at MGH.

“Before we implemented this change, almost 75 percent of the exams were ordered by nonclinicians,” Dr. Vartanians said. “Afterward, about 54 percent of these were initiated by clinicians, for an increase of about 28 percent.”

Results showed a decrease from 5.43 percent to 1.92 percent in the fraction of low-yield CT, nuclear medicine exams and MR imaging performed, while the probability of cancellation of the exams increased by 3.5-fold after the policy change, Dr. Vartanians said.

The Web-based software features advantages including offering the physician suggestions for a better exam in the event of a low score or inappropriate exam. “There is still the need for the clinician to decide which exam is better, which will increase the appropriateness of the exam and provide feedback, so it also has educational value,” Dr. Vartanians said.

“Another plus is that feedback is real-time,” he continued. “And clinical judgment always prevails. If the physician thinks the exam is appropriate, he or she can order it even if the system shows a lower score.”

Physicians Need Better Decision Support Tools

Although the University of Washington (UW) study revealed a high number of inappropriate imaging exams, the results “may be more significant in higher utilization parts of the country,” said lead author Robert L. Bree, M.D.

In the study, researchers retrospectively reviewed records from 459 elective outpatient CT and MR exams from primary care physicians and used evidence-based appropriateness criteria from a radiology benefit management (RBM) program—commonly adopted by payers to control utilization—to determine criteria for approval. Results showed that 118 (or 26 percent) of those exams were inappropriate, Dr. Bree said. In addition, only 13 percent of the inappropriate studies were positive and had an effect on patient management.

Although revealing, those numbers “may be somewhat misleading. “Even though we show that about 25 percent of radiology studies are inappropriate, the actual number is lower because we don’t imply that all these exams would not be done,” said Dr. Bree, a professor of radiology at UW and attending radiologist at Harborview Medical Center in Seattle. “They may also be modified to an alternative. Examples from the study include MR imaging of the spine, which is not recommended for acute back pain prior to conservative therapy. Similarly, CT scans of the brain to evaluate headaches are also not recommended. In some cases an MR might be a better choice than a CT scan at the outset, avoiding duplication.”

The study also validates the evidence-based guidelines, since there were statistically significant outcome differences between appropriate and inappropriate examinations with 58 percent of the appropriate group having positive results that affected patient management.

“Some doctors know they are overutilizing imaging exams—something they attribute to legal risks,” Dr. Bree continued. “On the other hand, sometimes they truly don’t know when to request an exam or which test to order. We designed this tool to be the hidden message in our paper—that there’s a really high need for education among primary care doctors. We need better tools to help them.”

Although reducing the number of requested exams stands to impact the role of radiologists, there is a way to offset that factor, according to Dr. Bree. “Currently, our payment systems are set up so that the treating physician decides what exam was done,” said Dr. Bree. “Radiologists should be more involved in making that decision. In the past, radiologists have been the doctor’s doctor. We should strive to become one of the patient’s doctors and be compensated for our consultative expertise.”

**Decision Support Tools Cut Unnecessary Scans**

Clinical decision support tools such as computerized order entry systems could significantly reduce the number of inappropriate scans ordered by referring physicians, new research shows.
In coming months, radiologists—especially those involved in clinical trials—are likely to be beta testing drafts of acquisition protocols for quantitative imaging. The goal is to improve reproducibility of numerical data from scans across patients, scanners and timepoints.

**Quantitative Imaging Protocols Approach Clinical Practice**

In a collaborative effort between QIBA and UPICt to provide a library of recommended protocols currently underway, said Kevin O'Donnell, M.A.Sc., a senior manager of research and development at Toshiba Medical Research Institute and co-chair of the QIBA Steering Committee.

"Clinical trials may not be image specialists and may want to leverage the experience of others," O'Donnell said. "Clinical trials are designed around the particular issue being explored, but researchers would love to take advantage of other data. By converging on these standards protocols, there is much greater opportunity to share results and compare them.

"While some draft protocols are already on the UPICt site, more will be available in the next six to eight months. The goal is to develop a sizeable library, according to O'Donnell.

"QIBA is going to rewrite some of the UPICt language, not saying, 'Tailor it as you will,' but rather, 'Based on our experiments, we believe you can achieve an accuracy level of X if you follow these instructions,'" O'Donnell said, comparing the process of drafting normative requirements and testing conformance to the RSNA-sponsored Integrating the Healthcare Enterprise (IHE) North American Connectorn. O'Donnell is involved in numerous IHE committees as a co-chair and member.

"At the QIBA Connectorn, developers will bring in their equipment and run it through the process, and say, yes, this system can follow this lung tumor response profile to a level where you could say whether the disease is progressing or not within six months with 70 percent confidence," O'Donnell said.

"We found that it is not only scanner variability, but also the way it has to be used is an important part of the variability," O'Donnell explained. "Even the most standardized equipment can be used in a variety of ways," Dr. Sullivan added. "Getting technologists and technologists to understand how it has to be used is an important part of the solution. There are also third-party workstations and software that can be used in conjunction with major devices, which introduce additional sources of variability.

"For example, a recent Johns Hopkins University School of Medicine study demonstrated that the same data processed by four different software companies resulted in four different answers for ejection fraction," Dr. Sullivan said.

"We found that it is not only scanner variability, but also how the data is processed afterward that combine to influence the final results," Dr. Sullivan said.

At the Quantitative Imaging Reading Room at RSNA 2010, developers will have the opportunity to showcase commercial products and test algorithms and software that can extract quantitative data from images. Four of the products also incorporate the structured reporting templates developed by the RSNA Structured Reporting Committee. The templates are available at RSNA's reglification.

Alas, a radiologist's eye is unmatched for processing shape, textures, context and other important information, "you can't get precise numbers from a person's eye," O'Donnell said. "Imagine looking at a river and then trying to estimate how much water just flowed past you in the last 30 seconds. You can't. It's the same when you try to estimate the amount of fluid that flowed through a blood vessel on a scan you're reading. That's where the tools of quantitative imaging have their value."

**After Measurable Results Come FDA Trials**

Once QIBA and UPICt have achieved demonstrable results, the next step is to bring the information to the FDA for potential trials, O'Donnell explained. "Pharmaceutical manufacturers see the value in quantitative imaging because it has the potential to provide quick feedback on patients' responses to [drug] treatment. It makes sense that if quantitative imaging could demonstrate that the volume of a tumor is shrinking, that could be a positive indicator," O'Donnell continued. "The reason we have the FDA and these clinical trials is to ensure that we don't do a clinical practice on something that amounts to a hunch. We have to really prove it with science."

For more information on RSNA quantitative imaging and biomarkers initiatives including QIBA, CTSA and UPICt, visit RSNA.org/science.

**LEARN MORE ABOUT RSNA 2010 AREA, BIOMARKERS SESSION**

Learn more about quantitative imaging and the ongoing work of the Quantitative Imaging Biomarkers Alliance (QIBA) committees at the QIBA area adjacent to the Quantitative Imaging Reading Room at RSNA 2010.

A special interest session, Imaging Biomarkers for Clinical Care and Research, will also address how quantitative imaging will impact the practice of radiology. The session is scheduled for Monday, Nov. 29, from 4:30 to 6:00 p.m.
Nanodiamonds Give Imaging Technology a Boost

New research shows that coupling an MR imaging contrast agent with nanodiamonds can enhance signal intensity and produce vivid image contrast, resulting in what the study’s lead author describes as “an imaging agent on steroids.”

Conducted at Northwestern University (NU) in Evanston, Ill., the research published in January in the online journal Nano Letters paves the way for using nanodiamonds in delivering therapeutics and remotely tracking the activity and location of the drugs, according to lead author, Thomas J. Meade, M.D., the Eileen M. Foell Professor of Cancer Research and a professor of chemistry, biochemistry and molecular and cell biology, neurobiology and physiology and radiology at NU. Dr. Meade has been a pioneer in the design and synthesis of chemical compounds for applications in cancer detection, cellular signaling and gene regulation.

“The results are a leap and not a small one,” said Dr. Meade, who partnered on the research with NU colleague Dean Ho, Ph.D., who has been a groundbreaking developer of nanodiamond technology and has demonstrated their efficiency in drug delivery. “This complex is far more sensitive than anything I have seen.” Although nanodiamonds—carbon-based materials approximately four to six nanometers in diameter—have demonstrated biocompatibility and the potential for drug delivery, the new research takes that application a step farther. Harnessing the unique attributes of nanodiamonds may result in novel co-imaging and therapeutic vehicles that could combine imaging and treatment enhancements into a single platform, according to the researchers.

“Combined optimization studies for efficacy as well as shedding new insights into material safety will serve as a foundation for the potential translation of nanodiamonds towards clinical applications,” said Dr. Ho, an assistant professor of biomedical and mechanical engineering at the university’s McCormick School of Engineering and Applied Science.

Nanodiamonds Act as “Cargo Ship”

Among its advantages, each nanodiamond has a surface possessing carbonyl groups that allow for the attachment of a wide spectrum of compounds. “Nanodiamonds are unique among nanoparticles,” Dr. Meade said. “A nanodiamond is like a cargo ship. It gives us a nontoxic platform upon which to put different types of drugs and imaging agents.”

Because nanodiamond processing can be scaled up, the potential for changing therapeutics and imaging/diagnostics is significant, according to Dr. Meade. By attaching nanodiamonds to molecules containing gadolinium—the material most commonly used as an MR imaging contrast agent—researchers yielded relaxivity values that are among the highest ever reported, Dr. Meade said.

“The combination of the two materials has yielded an exciting integrated platform that may serve as a high-relaxivity, low-toxicity imaging technology,” Dr. Meade said. “This represents an important advance in the efficiency of MR imaging contrast agents.”

Researchers are in the early stages of testing the gadolinium-complex nanodiamonds through animal studies. “Continued work will evaluate material efficacy in vivo,” Dr. Meade said. “This study, along with other research we have performed, has yielded promising results with regard to nanodiamond safety, positioning the complex as a clinically significant nanomaterial,” Dr. Ho said.

Potential downstream studies include pursuing nanodiamond-based imaging agents that integrate optimized relaxivity and preserve biocompatibility towards translational applications, Dr. Ho said.

“Blinking” Offers Critical Clue

Previously, the phenomenon of luminescence has only been exhibited in diamonds 10 or more nanometers in size. Researchers have been on a quest to produce smaller diamonds that still maintain their luminescence properties as they explore new avenues in nanodiamond-based imaging. Recently, a group in Australia has shown that individual nanosized diamonds only 5 nanometers in size can still fluoresce brightly. The light from these smaller diamonds, however, switches on and off, or “blinks.”

Discovering that nanodiamonds blink is an important clue about how light is related to the size of the crystal, according to James Rabeau, Ph.D., associate professor in the Department of Physics at Macquarie University in Sydney and lead author of the research that was published in the May 2010 issue of Nature Nanotechnology.

The research represents a step forward in developing existing ideas on using nanodiamonds for bioimaging and fine-tuning an approach toward fabrication with greater reliability. The optical behavior in very small diamonds may itself herald new sensing techniques, Dr. Rabeau said.

“Nanodiamonds are an appealing new material for use in fluorescence imaging,” according to Dr. Rabeau. “By functionalizing the nanodiamond surface and attaching it to molecules of interest in a biological environment, it is possible to use the bright fluorescence to track movement of otherwise invisible objects.”

“The use of nanodiamonds in bioimaging still has a few challenges and a number of researchers around the world are working on the issue right now,” Dr. Rabeau said. “The advantage of nanodiamonds over existing fluorescent tags may be in the non-toxicity, the biocompatibility, the ability to carry out relatively straightforward surface attachment, and the ability to dope the diamond with fluorescence centers.”

“A nanodiamond is like a cargo ship. It gives us a nontoxic platform upon which to put different types of drugs and imaging agents.”

Thomas J. Meade, M.D.
Latin American Radiologists
Harness the Power of Collaboration

The future of Latin American radiology looks bright, thanks to economic growth throughout much of the region and the power of collaboration.

RSNA 2010 attendees can learn about these developments during “Latin America Process,” scheduled for Tuesday, November 30, 10:30 a.m.–12:00 p.m. The session will begin with an overview of Latin American radiology and endorsing collaborations with RSNA and the role of imaging in diseases endemic to the region, and conclude with presentations of Latin American radiologic innovations currently being developed (see sidebar Page 14).

“This is a great opportunity to learn about Latin American radiology research and clinical and educational activities, as well as the region’s evolving relationship with RSNA,” said Ricardo Garcia Monaco, M.D., a past-president of the Inter-American College of Radiology (IACR). Dr. Garcia Monaco is a member of the RSNA International Advisory Committee and participates in the annual international trends rounds table during the RSNA annual meeting.

“Latin America is vast, diverse and unique—the future of the region holds both exciting and challenging,” said 2010 RSNA President Hedvig Hricak, M.D., Ph.D., Dr. h.c. “Building on their significant historic and ongoing contributions to the field, Latin American radiologists are ensuring that regional growth translates into increasing investment in major public health issues, including training of healthcare professionals and implementation of cost-effective technologies. I am delighted that the RSNA 2010 annual meeting is honoring the achievements of Latin American radiologists.”

Economic Forecasts are Positive

While much of Latin America has been wacked by economic stress in recent years, there is cause for optimism. The New York Times reported on June 30 that strong demand in Asia for iron ore, tin, gold and other commodities, combined with deficit-controlling, inflation-boosting policies in several Latin American economies, is fueling regional growth at what the World Bank predicts will be a 4.5 percent rate this year.

With this modest economic boom radiologists anticipate being able to afford the advanced technology they need to provide optimal care.

“Radiology is so influenced by technology and with such tremendous advances in recent years, there is a need for updates that are affordable only with a rational economy,” Dr. Garcia Monaco noted.

Endemic Diseases, Natural Disasters are Challenges

Defined as both by the Americas where romance languages are spoken, Latin America comprises 20 countries (see info boxes) with significant geographic, economic, demographic and climatic differences.

While most Latin American physicians deal frequently with illnesses familiar to their U.S. colleagues, such as cancers and cardiovascular disease, some are also managing patients with endemic vector-borne diseases like dengue and malaria as well as tuberculosis and measles. Acute diarrheal and respiratory infections pose a significant threat in some countries.

“Embracing cultural diversity and sharing experiences and resources may be the key to dealing with some of the common health threats in the region,” Dr. Hricak said. Natural disasters are also an economic and health strain—Hurricane Mitch caused fewer than 40 deaths but $29 billion in damage, while Hurricane Wilma just seven years later caused fewer than 40 deaths but $29 billion in damage.

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<thead>
<tr>
<th>LATIN AMERICA BOASTS VERSUS RADIOLOGIC INNOVATIONS</th>
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<tbody>
<tr>
<td>• Home to Latin America’s very first described radiologic apparatus—X-ray machine—in 1897</td>
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<tr>
<td>• Abruography, used to screen for occupational diseases and tuberculosis</td>
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<tr>
<td>• Anatomical and radiologic studies of the fourth ventricle (Mario Corrales, M.D.)</td>
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<td>• Radiologic diagnosis of congenital hip dysplasia (Omarindo Diberti, M.D.)</td>
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Continued on Page 14
Newly Redesigned RSNA Services Area Stays on the Cutting Edge

Anchored by the all-new RSNA Plaza, the newly redesigned RSNA Services area at RSNA 2010 reflects the Society’s cutting-edge vision while maintaining the familiar services attendees have come to expect.

Up-to-the-second annual meeting information will scroll on both sides of the RSNA Services sign, while information specific to each service area will be broadcast on communication towers equipped with flat-screen monitors.

Also new this year: Attendees can take home a small piece of the annual meeting by purchasing RSNA-branded merchandise and apparel at the RSNA Store.

As always, RSNA staff will demonstrate Society resources, provide information and answer questions. The newly designed RSNA Services will stay on the cutting edge.

RSNA Plaza. The hub of the RSNA Services area, the plaza offers a central location for meeting, connecting and regrouping. Attendees can catch up on e-mail at the Internet-ready area featuring counters and bar-style stools.

Journals, News & RadiologyInfo.org. Check out RSNA’s print and online publications including RSNA News, Radiographics, Radiology and the Radiology Legacy Collection. RSNA staff will be on hand to demonstrate the online publications as well as RadiologyInfo.org (the RSNA-American College of Radiology public information website). Visitors will have the chance to meet the editors of these publications.

Career Connect. A valuable resource for employee and employer, visitors can search for available positions or post a resume, while employers can post job openings or search for candidates. While resume postings are always free, the opportunity to post jobs onsite is offered to employers for free—a $375 value. A monitor will continuously feature job openings.

Research & Education (R&E) Foundation/Donor Lounge. Learn about the R&E grant process in this booth featuring current grant and award recipients as well as individuals, private practice and corporate donors. A Donor Wall lists all individuals who have contributed to the Foundation during the giving year. Donations are accepted onsite. The R&E Donor Lounge provides computers, coat racks, refreshments and comfortable seating for those who have received a donor ribbon as well as those who have contributed at least $250 onsite. Contributors to the R&E Foundation wear distinctive ribbons.

Membership. Questions about membership, RSNA journal subscriptions, dues payment or other membership inquiries are handled here. Attendees who join RSNA onsite will receive free admittance to RSNA 2011.

Professional Registration. The check-in point for full conference professional registrants to pick up badges or registers for the first time.

RSNA Plaza. Shop for the latest in educational offerings and, new for 2010, RSNA-branded merchandise and apparel. As always, the store features select referee course CDs, bundled education CD collections, Radiographics special issues, syllabi and CME courses; for purchase. RSNA staff will be on hand to answer questions about products and demonstrate online CME programs and self-assessment modules (RAMS) and other offerings.

Help Center. Along with general information, the Help Center offers information on air travel, badge replacement/correction, hotels and Chicago tourism, among other services.

Performance Solutions. Kissoa offers RSNA’s free informatics technology-based tools that attendees can use to achieve unsurpassed performance in research, education and clinical care.

Latin American Radiologists Harness the Power of Collaboration

Community Page 11

Monaco said, “Equipment, Staffing Levels Vary Ultrasonound and X-ray are the most common types of radiology equipment in the region, while some countries also have CT and MR. Some countries are incorporating digital images, RIS and PACS and teleradiology systems, with private clinics being more likely than public clinics to have sophisticated equipment.”

“In Latin America, there are typically big economic gaps among different geographical areas even within the same countries,” Dr. Garcia Monaco said. “For example, Buenos Aires (Argentina) and Santiago (Chile) have high-tech facilities, as opposed to rural zones or peripheral cities, which have no MR machines or even CT scanners. In most countries, the high-tech facilities are mainly in private institutions or university hospitals and not so much in public institutions.”

Radiologist shortages exist. Nicaragua, a nation of six million people, once had fewer than two dozen radiologists—this after the country was devastated by multiple hurricanes and an earthquake and less than three-quarters of its hospital-based radiology equipment was working.

Collaboration Gives Disparate Countries Power in Numbers

Latin American radiologists are finding solutions to workforce shortages, equipment inequities and training gaps as they renew their commitment to collaboration.

CIR brought together Latin American radiologists for the first Interamerican Congress of Radiology in Buenos Aires in 1943. By the 1980s, however, the organization had dwindled in numbers and held only occasional congresses. On the eve of its 50th anniversary, facing new challenges in clinical practice and education, CIR experienced a renaissance. Commissions now focus on education, publications, international relationships, awards, statutes and regulations and ethics and the organization promotes biannual congresses with greater numbers of invited professionals and scientific presentations. The next meeting is its 50th, October 29–31, 2010, in Santiago.

“CIR grew tremendously in the last decade, due to better organization and management encouraging teamwork among Latin American countries, with a focus on education,” Dr. Garcia Monaco said. “The first Virtual Congress in Spanish gave all Latin American radiologists the opportunity to learn from renowned faculty who, living potentially far away, could actually participate, for just a few who could travel long distances to attend an international congress.”

In 1988 CIR established an annual visiting professor program enabling staff from more advanced countries to reach out to others in need. To further aid with training, the organization created several years ago a permanent education portal, radiologistvirtual.org, including refresher courses, interactive clinical cases and a residency program.

Continuing Education Key to Future Success

“The success of Latin American radiology rides on this collaboration, along with equipment availability and access to continuing education—something in which RSNA plays a significant role,” Dr. Garcia Monaco said. “The Latin America Presents session is an excellent example of the RSNA’s international outreach and willingness to improve healthcare by means of radiology worldwide,” he said.

LAPTOP AMERICA PRESENTS—A JOURNEY THROUGH LATIN AMERICAN RADIOLOGY: PAST, PRESENT AND FUTURE

Tuesday, Nov. 30, 10:30 a.m.–12:00 p.m.

• Latin American-RSNA collaborations: Back to the Future
• Endemic diseases in Latin America: Role of Imaging
• Technology in Latin American Contributions to Imaging Science
• Innovations in imaging originating in Latin America: Works in Progress
  • TI-RADS: An US classification of thyroid nodules related to cancer risk (Chile)
  • Virtual MDCT Pleuropneumoscopy (Argentinia)
  • Virtual MDCT Hysteroscopy (Argentina)
  • Embolization of Prostatic Adenoma (Brazil)
  • Angiogram (Brazil)
• Functional MR to replace Wada Test in epilepsy (Dominican Republic)

This is a great opportunity to learn about Latin American radiology research and clinical and educational activities, as well the region’s evolving relationship with RSNA.”

Ricardo Garcia Monaco, M.D.
Lung Cancer Staging Essentials: The New TNM Staging System and Potential Imaging Pitfalls

ACCURACY IN STAGING lung cancer remains a challenging task for many radiologists. For that reason, they must understand the tumor-node-metastasis (TNM) classification system—a vital guide for determining treatment prognosis—and be familiar with the changes in the much anticipated 7th edition, which attempts to better correlate disease with prognostic value and treatment strategy.

In a review article in the September-October issue of Radiology (RSNA.org/radiology), Stacy J. Ulybico, M.D., of the University of California at Los Angeles, and colleagues review the 7th edition of the TNM staging system, discuss and illustrate common pitfalls, consider the relative merits of various imaging modalities and discuss staging-based treatment regimens. Specifically, the authors discuss:

• Nodal metastatic drainage patterns
• Incidental pulmonary nodules
• Mediastinal adenopathy
• Metastatic disease, chest wall and pleural invasion
• Pleural-pericardial metastasis

Authors also discuss the relative merits of 2-[fluorine-18]fluoro-2-deoxy-d-glucose (FDG) PET, MR imaging and CT in this setting.

By recognizing the relevant radiologic appearances of lung cancer, understanding the appropriateness of staging disease with the TNM classification system and being familiar with potential imaging pitfalls, radiologists can make a significant contribution to treatment and outcome in patients with lung cancer,” the authors write.
Effect of Advanced Imaging Technology on How Biopsies Are Done and Who Does Them

Because biopsies have evolved from invasive and non-imaging-guided percutaneous approaches in favor of percutaneous needle biopsy (PNB) and imaging-guided percutaneous biopsy, radiologists are performing an increasing share of biopsies relative to other physicians. In a study of national levels and trends in utilizing biopsy procedures during the past decade and the roles of biopsy approaches and physician specialties, Sharon W. Kwan, M.D., of the University of California at San Francisco, and colleagues examined biopsy trends in Medicare claims data from 1997 through 2008 for 10 anatomical regions. Results showed that biopsy procedures with all approaches increased from 1,380 to 1,995 per 100,000 Medicare enrollees between 1997 and 2008, for a compound annual growth rate (CAGR) of 5 percent. In 2008, 67 percent of all biopsies were performed percutaneously, compared to 59 percent in 1997, results showed.

Radiology is the leading specialty providing biopsy services, the study showed. The total number of biopsies performed by radiologists increased at an 8 percent CAGR and radiologists’ share of all biopsies increased from 35 percent to 56 percent, researchers found.

“Because PNB techniques were established well over a half-century ago, we might have expected that the distribution of biopsy approach would have stabilized prior to our study period,” the authors wrote. “A likely explanation is that the relatively recent proliferation of CT, MR imaging, and ultrasound had an effect on the overall approach used for performing biopsies, because more lesions can be efficiently and safely targeted with a percutaneously inserted needle now that imaging guidance is more readily available.

Media Coverage of RSNA

In July 2010, media outlets carried 780 RSNA-related news stories. These stories reached an estimated 393 million people.

July print and wire coverage included Reuters, US Fed News, Chicago Tribune, Online Health, Society of FMX, The Reporter, Modesto Bee, South Florida Sun Times, Columbus Ledger-Enquirer, Columbus Dispatch, Sun Times, and ABC News Online. Online coverage included RealAge, performing biopsies, because more lesions can be efficiently and safely targeted with a percutaneously inserted needle now that imaging guidance is more readily available.

September Public Information Activities Focus on Ovarian, Prostate Cancers

In recognition of Ovarian Cancer Awareness Month and Prostate Cancer Awareness Month in September, RSNA will distribute public service announcements (PSAs) focusing on:

• Symptoms of ovarian and prostate cancers
• Risk factors
• Screening methods
• Possible treatment options

In addition to the PSAs, RSNA will distribute the “60-Second Checkup” audio program to radio stations. The “60-Second Checkup” will focus on prostate cancer screening.

Online-Only Journals Aid RSNA’s Green Initiative

Readers who wish to receive the online-only versions of RSNA’s print journals for 2011 will not only be freeing up spaces in their libraries, but helping RSNA achieve its eco-friendly efforts. According to an environmental consulting group, resources used to produce and distribute the print versions of Radiology and RadioGraphics have an impact equivalent to:

• Emission from 3,546 barrels of oil consumed
• Energy use of 136 homes for a year
• Carbon absorbed annually by 343 acres of pine forest

All RSNA members have access to RSNA journals online. The journals’ vast offering of features includes published-ahead-of-print articles, online-only articles, interactive image datasets, discussion forums, instant CME credit and the Radiology Legacy Collection, a searchable archive of historic Radiology issues from 1923 to 1998. Members can read the online journals from anywhere they have an Internet connection, as well as instantly search for relevant articles, bookmark favorites and share them with colleagues.

For more information, go to rsna.org/education or contact the RSNA Education Center at 1-800-272-2920.

For Your Benefit

MOC, SAMs Offered at RSNA 2010

Along with the chance to fulfill Maintenance of Certification (MOC) requirements and earn AMA PRA Category 1 CME credit, RSNA 2010 attendees will have the opportunity to enroll in self-assessment modules (SAMs), a key requirement of MOC’s lifelong learning component.

At least 30 SAMs will be offered through a variety of RSNA 2010 refresh courses. Online registrants are informed of courses that qualify for SAM credits by the American Board of Radiology, while on-site attendees can still earn credit by registering for courses identified by SAM signage outside the course rooms. Attendees should check-in with RSNA staff at the door and arrange to earn SAM credit on the spot.

SAMs are held throughout the week in a wide range of subspecialty topic areas in both an interactive and standard paper-and-pencil format. All SAM participants receive feedback after the meeting through test questions and answers, a score report and a detailed list of outside references provided by the faculty.

For more information, go to RSNA.org/Education or contact the RSNA Education Center at 1-800-272-2920.
RSNA 2010 Registration

How to Register

There are four ways to register for RSNA 2010.

1 INTERNET
Go to RSNA.org/register

2 FAX (24 hours)
1-800-521-6017
(24 hours)
1-847-996-5401

3 TELEPHONE
Monday–Friday, 8 a.m.–5 p.m. PT
1-800-521-6017
1-847-996-5876

4 MAIL
Send your completed Registration form to:
Experient/RSNA 2010
568 Atrium Drive
Vernon Hills, IL 60061 USA.

Registration Fees.

$ 9 9500 RSNA/AAPM Member
$ 0 9500 RSNA/AAPM Member Presenter
$ 0 9500 RSNA Member–In-Training, RSNA Student Member and Non-Member Student
$ 0 9500 Non-Member Presenter
$ 150 9500 Non-Member Resident/Trainee
$ 150 7500 Radiology Support Personnel
$ 680 780 Non-Member Radiologist, Physician or Physician
$ 680 780 Hospital or Facility Executive, Commercial Research and Development Personnel, Healthcare Consultant and Industry Personnel
$ 300 300 One-day registration to view only the Technical Exhibits

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Real Estate, Retirement are Focus of RSNA 2010 Financial Seminars

Navigating challenging economic times requires an evolving financial strategy and updated tools to stay ahead of the curve, according to two experts scheduled to present financial seminars at RSNA 2010.

“Effective Real Estate Investment Strategies,” will be presented by J. Michael Moody, M.B.A., an investor and commercial real estate developer for more than 15 years, on Saturday, Nov. 27 at McCormick Place. The course is designed to provide a strong foundation and working knowledge of real estate, including finding, evaluating, financing, acquiring and selling investment property.

“The Role of the Retirement Professional” presented by Professor Peter McCormack, M.D., M.P.H., at the University of North Carolina Chapel Hill, will teach attendees how to properly educate the investor and commercial real estate developer for more than 15 years, on Saturday, Nov. 27 at McCormick Place. The course is designed to provide a strong foundation and working knowledge of real estate, including finding, evaluating, financing, acquiring and selling investment property.

The FDA has approved VeraLook™, the iCAD computer-aided detection product used in the interpretation of virtual colonoscopy exams. VeraLook uses sophisticated interpretive technology to automatically identify polyps in images produced from CT colonography. Studies show VeraLook improved reader sensitivity to all colon polyps 6 mm or larger in size in a statistically significant manner and particularly for smaller, more easily missed polyps and pre-cancerous polyps which can develop into malignancies over time.

Member Question of the Month
What’s the biggest challenge you’ve faced in hiring more personnel?

E-mail us your answer at telius@rsna.org. Respondents featured in an upcoming issue of RSNA News will receive a small gift featuring the new RSNA logo.

Previous question: What do you consider the most influential figure in radiology, past or present?

Professor Hermann Franck (Pitié-Salpêtrière Hospital, Paris) was probably the most influential figure in radiology in France. He was the founder of the French school of neuroradiology. I am proud to be one of his last students.

Albert Kujas, M.D.
Paris

My most influential figure in radiology has been Benigno Montes, M.D. In his practice at the University of Alabama in Birmingham, he teaches the way to practice the complex field of radiology with love, dedication and friendship. He has been the “bridge” between English and Hispanic doctors and families.

Dolores M. Latorre-Valencia, M.D.
La Bañeza, Spain

In my opinion, it’s Dr. Richard C. Semelka, from the University of North Carolina Chapel Hill.

Mauricio Supparola, M.D.
Curitiba, Brazil

Education and Funding Opportunities

Writing a Competitive Grant Proposal

Registrations are being accepted for the 2011 RSNA Writing a Competitive Grant Proposal program, a grant writing session for researchers in radiology, radiation oncology, nuclear medicine, and related sciences who are interested in actively pursuing federal funding.

A limited number of slots are available for this 1½-day intermediate-level course that combines didactic and small group interactive sessions and is designed to help radiologic researchers understand and apply the key components of writing a competitive grant proposal. Topics to be covered are the NIH grant review process, developing specific aims, and funding opportunities.

Guided by a faculty of leading researchers with extensive experience in all aspects of grant applications and funding, the program will focus on developing realistic expectations of and tools for getting started on the grant process. Faculty includes Laszlo Toth, M.D., M.B.A., M.P.H., Massachusetts General Hospital in Boston, Robert Nordstrom, Ph.D., of the National Cancer Institute, Ruth Carlos, M.D., of the University of Michigan Health System in Ann Arbor, and Elizabeth Buimide, M.D., M.P.H., of the University of Wisconsin in Madison.

The course fee is $175. Registration forms can be found at RSNA.org/GCP. Contact Fiona Miller at 1-630-590-7741 or ffmiller@rsna.org for further information.

Medical Meetings

October 2010 – February 2011

OCTOBER 3-5

OCTOBER 16-18
VISIT THE RSNA BOOTH
Chinese Society of Radiology, 17th Annual Meeting, Jinan, Shandong
www.rsna.ca/csr

OCTOBER 18-20
Korean Society of Radiology (KSR), 56th Annual Korean Congress of Radiology, Grand Hilton Hotel, Seoul • www.ksr.org

OCTOBER 22-24
Society of Radiologists in Ultrasound (SRU), 20th Annual Meeting, the Wynn Hotel, Las Vegas • www.sru.org

OCTOBER 22-25
Société Française de Radiologie (SFR), Les Journées Françaises de Radiologie (JFR) 2010, Palais des Congrès de Paris
www.sfr.org

OCTOBER 30-31
Hong Kong College of Radiologists, 18th Annual Meeting, Hong Kong Academy of Medicine
www.hkcr.org

NOVEMBER 3-7
American Society for Radiation Oncology (ASTRO), 52nd Annual Meeting, San Diego Convention Center • www.astro.org

NOVEMBER 15-17, 2010
Integrating the Healthcare Enterprise (IHE) North American Workshop, Hyatt Regency Chicago
www.ihe.net

OCTOBER 31–NOVEMBER 4
American Society for Radiation Oncology (ASTRO), 52nd Annual Meeting, San Diego Convention Center • www.astro.org

JANUARY 12-17
Integrating the Healthcare Enterprise (IHE) North American Workshop, Hyatt Regency Chicago
www.ihe.net/Connection

Product News

Computer-aided Detection for Virtual Colonoscopy

The FDA has approved VeraLook™, the iCAD computer-aided detection product used in the interpretation of virtual colonoscopy exams. VeraLook uses sophisticated interpretive technology to automatically identify polyps in images produced from CT colonography. Studies show VeraLook improved reader sensitivity to all colon polyps 6 mm or larger in size in a statistically significant manner and particularly for smaller, more easily missed polyps and pre-cancerous polyps which can develop into malignancies over time.

FDA CLEARANCE

AMBISEA Technology (www.ambisea.com) introduces Comboscan® HD, which embeds a scanner and a PC as one conveniently transportable unit. The PC and scanner are built entirely within the dimensions of a wide-high resolution computer. The scanner has immediate delivery.

NEW PRODUCT
MR Imaging System Provides Real-time Intra-operative Imaging

Medtronic (www.medtronic.com) announced the launch of its PolaStar™ N30 Surgical MR imaging system which can be integrated into a standard operating room without extensive construction. The system provides seamless integration of real-time, 3D visualization imaging with navigated surgery, enabling neurosurgeons to improve patient outcomes for brain tumor resections. Clinical benefits include the elimination of uncertainties resulting from brain shift during the surgery and helping preserve healthy tissue by verifying the extent of resection.

NEW PRODUCT
PACS Application Adds Progressive Features

PACSHealth (www.pacshealth.com), has released version 2.3 of its PACSHealth™ application that allows advanced monitoring and reporting tools to improve PACS workflow and throughput. The new version adds features such as long-term storage trend analysis with predictive consumption modeling, relative value unit reporting that provides physician productivity information at an exam level; updated PACSHealthScore algorithm and support for MS Windows 2008 and SQL 2008. Version 2.3 is available for immediate delivery.

Information for Product News comes from the manufacturers. Inclusion in this publication should not be construed as product endorsement by RSNA. To submit product news, send your information and a high-resolution color photo to RSNA News, 820 Jorie Blvd., Oak Brook, IL 60523 or by e-mail to rsnanews@rsna.org. Information may be edited for purposes of clarity and space.
Renew Your 2011 RSNA Membership Online

RSNA membership renewal for 2011 is now open at RSNA.org/renew and at myRSNA.

To use myRSNA to pay your membership dues, click "myRSNA" at the top of the RSNA.org homepage or go to myRSNA.org.
• Enter your username and password and then click Membership Renewal in the My Profile section. Before beginning the renewal process, take a moment to update your profile with current contact information.
• To update specialty information, click Specialties in the My Profile section and select your primary specialty and subspecialty. After entering this information, click Update Specialties to save these changes to your file.

All RSNA members have access to RSNA journals online. Because online access to Radiology and RadiologyOnline is tied to membership status, if your payment has not been received by Dec. 31, 2010, your online subscriptions will be automatically inactivated.

Practices can take advantage of RSNA’s group billing option. For more information on the option and/or to renew membership by phone, contact the RSNA Membership Department toll free at 1-877-RSNA-MEM or at 1-630-571-7873, or send an e-mail to membership@rsna.org.

Site Features CME Links, Activity Stay on top of CME opportunities at the Annotated List of Online CME, www.cme-list.com/list.htm, which now offers links to and descriptions of more than 300 online CME sites offering more than 16,000 CME activities and more than 23,000 hours of AMA PRA Category 1 Credit*. The site is updated regularly to assure that CME activities are valid and accredited.

COMING NEXT MONTH

RSNA members gearing up for the annual meeting will want to check out the RSNA 2010 meeting preview and restaurant guide in next month’s issue of RSNA News. The newly revamped preview section will offer an overview of science and education sessions, features on this year’s honorees and highlights of many other RSNA 2010 offerings. RSNA’s restaurant guide offers a full menu of Chicago dining options sure to please every palate.

RSNA.org

Crossword

Test your knowledge of radiology history and the press, politics and pop culture of the last 20 years. Answers will appear in the October issue of RSNA News.

Challenge Yourself

An interactive version of this puzzle at rsnanews.org includes a time and optional hints.
The ACR advantage

- Image quality review by radiologists
- Accredit your facility in 90 days or less after image submission
- Multi-site, multi-unit pricing
- Dedicated team of technologists on call

“I trust ACR accreditation. We share the same commitment to quality and safety.”
— Vaden Padgett, MD, board-certified radiologist

Your colleagues at ACR are the imaging experts—and the only CMS-approved partner you’ll need to meet the 2012 accreditation deadline.

That’s peace of mind for you and your practice.

Apply for ACR accreditation today at acr.org or 800-770-0145.

acr.org | 1-800-770-0145 | 🌐facebook

Choose the Gold Standard. Choose ACR.