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CELEBRATING 20 YEARS



RSNA News proudly celebrates 20 years of providing high-quality, timely coverage of radiology research and education and critical issues in private and academic practice, along with comprehensive information about RSNA programs, products and other member benefits.

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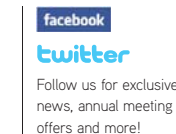
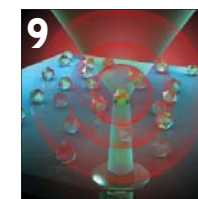
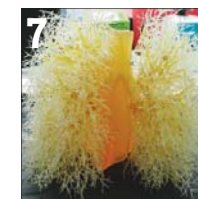
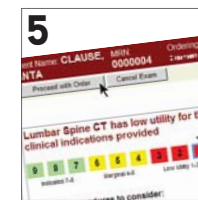
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RSNA Encourages Members to Join Print Journal Reduction Efforts

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 to receive the online-only 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 membership@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 Academics (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	COUNTRY
Hyun Seok Choi, M.D.	South Korea
Dan Gabriel Duma, M.D.	Romania
Ankur Gadodia, M.D., D.N.B.	India
Ana Hrkac Pustahija, M.D.	Croatia
Giedre Kavaliauskiene, M.D.	Lithuania
Inga Koerte, M.D.	Germany
Youkyung Lee, M.D.	Korea
Anna Linda, M.D.	Italy
Nicholas Morley, M.B., Ch.B., M.R.C.S.Ed.	Scotland
Marco Moschetta, M.D.	Italy
Nutchawan Sittiphaet, M.D.	Thailand
Cher Heng Tan, M.B.B.S., F.R.C.R.	Singapore
Matthias K. Werner, M.D.	Germany
Elcin Zan, M.D.	Turkey
Mariana Diaz-Zamudio, M.D.	Mexico
Jesus Pablo Gil Muro, M.D.	Mexico FMRI (Selected by the Mexican Federation of Radiology and Imaging)

Byanka Lorena Pozzo
Salvatierra, M.D.

Mexico SMRI
(Selected by the Mexican Society of Radiology and Imaging)



Zelefsky Receives Lifetime Achievement Award

The Lifetime Achievement Award for Excellence in Teaching was recently presented to Melvin N. Zelefsky, M.D., at the Albert Einstein College of Medicine of Yeshiva University's 2010 commencement ceremony. Along with serving as professor of radiology at the college, Dr. Zelefsky is chair of the Department of Radiology at Jacobi Medical Center and North Central Bronx Hospital in New York. Dr. Zelefsky has been with the Jacobi Medical Center for more than 45 years and has received numerous awards and accolades.

President Bill Clinton to Give Special Address at RSNA 2010

President Bill Clinton is a powerful voice for progress around the world. At RSNA 2010, President Clinton will address an international audience of radiology professionals and medical researchers who are engaged in shaping the practice of radiology across the globe.

Tickets are required for general admission seating at President Clinton's address. Tickets will be available online to professional registrants on a first-come, first-served basis, beginning September 1.

To obtain a ticket, log in at RSNA2010.RSNA.org/attendees.cfm. Registrants may search and enroll in the course the same way as with other RSNA 2010 courses.

Arie Crown Theater
Tuesday, November 30
1:30 pm
Course # PS30

Tickets will be distributed with attendees' registration packets. During the meeting, professional registrants without tickets, as well as registrants in other categories, can view the address via simulcast in one of 10 overflow rooms at McCormick Place.

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 or leadership. Dr. Carlson is the first radiologist to receive this award since its inception in 1952.

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*.



Runge Named Radiology Chair at UTMB

Val M. Runge, M.D., has been named chair of the Department of Radiology at the University of Texas Medical Branch (UTMB) at Galveston. Dr. Runge came to UTMB from Scott and White Clinic and Hospital, Texas A&M University Health Science Center, in Temple, where he was the Robert and Alma Moreton Centennial Chair in Radiology. Dr. Runge is editor-in-chief of the *Investigative Radiology* journal and an editorial board member for the *Journal of Magnetic Resonance Imaging* and *Topics in Magnetic Resonance Imaging*. Dr. Runge also contributes to *Radiology* and *RadioGraphics*.

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

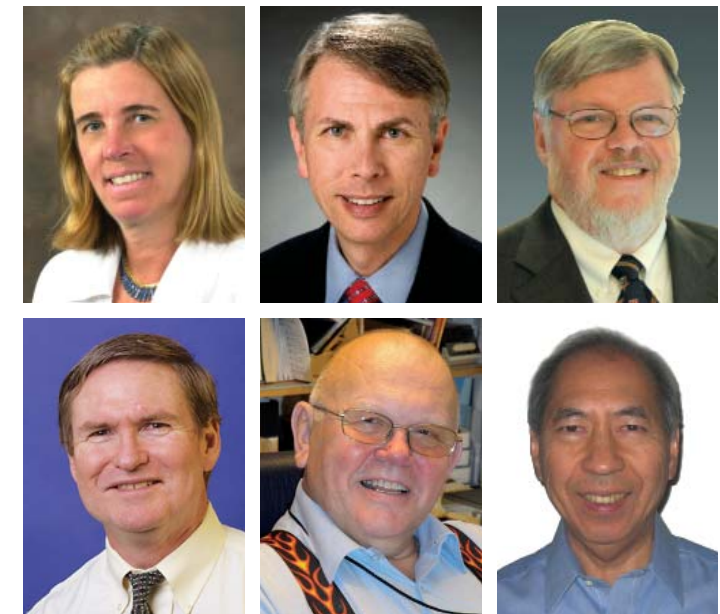
Percentage growth in the total number of biopsies performed by radiologists, according to a study of biopsy trends in Medicare claims data from 1997 through 2008. Radiologists' share of all biopsies increased from 35 percent to 56 percent, researchers found. (Read "Radiology in Public Focus," Page 17.)

54

Percentage of imaging requests initiated by clinicians logging into the computerized radiology order entry system at Massachusetts General Hospital, after the system began banning nonclinician 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 rule 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.)



(top, l-r) Delbeke, Segall, Fahey (bottom, l-r) Mathis, Långström, Huang

SNM Names Officers, Bestows Awards

Dominique 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.

Chester A. Mathis, Ph.D., director of PET in the Department of Radiology at the University of Pittsburgh, received SNM's Paul C. Aebersold Award for his research in molecular imaging and Alzheimer disease research. SNM awarded **Bengt Roland Långström, Ph.D.**, a professor in the departments of biochemistry and organic chemistry and director of the PET Centre at Uppsala University in Sweden, the Georg Charles de Hevesy Nuclear Pioneer Award.

A pioneer in developing PET and CT scanners, **Sung-Cheng (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.

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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 to corporations, foundations 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.



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.

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 grant programs, our trainees and faculty have had the opportunity to learn 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 programs have helped our department launch the careers of several internationally recognized academic leaders in the field of radiology.

Specifically, since 1988, 46 R&E grants

have been awarded to 23 members of our department and 19 Penn medical students. Totalling 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 radiology worldwide. We hope that the radiology community will join us in thanking the RSNA R&E Foundation and continue to support its mission.



R. Nick Bryan, M.D., Ph.D., is the Eugene P. Pendergrass Professor and chair of the Department of Radiology at the University of Pennsylvania School of Medicine in Philadelphia. He served as 2002 RSNA President and 2005 chair of the RSNA Research & Education Foundation Board of Trustees. He received the RSNA Gold Medal in 2007.



Vasanaawala Receives ISMRM Thought Leader Award

Shreyas Vasanaawala, M.D., an assistant professor of radiology at Stanford University, received the GE Healthcare 2010 Thought Leader Award for innovation in pediatric MR imaging at the International Society for Magnetic Resonance in Medicine (ISMRM) annual meeting in Stockholm, Sweden. Dr. Vasanaawala joined Stanford's Department of Radiology in 2007 and is researching improvements in MR imaging techniques for evaluating pediatric diseases.

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.*

R&E Education Grants Spotlited 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. Gunderman, 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. Projects 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's 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 education as a mission worth funding, helps provide a pathway for career advancement for radiology educators and has spawned a number of useful programs and products that have enriched and continue to enhance radiology education throughout North America and around the world."

CARE Bill Introduced in U.S. Senate

The Consistency, Accuracy, 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 Sen. 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.asrt.org/CARE.

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.

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*.

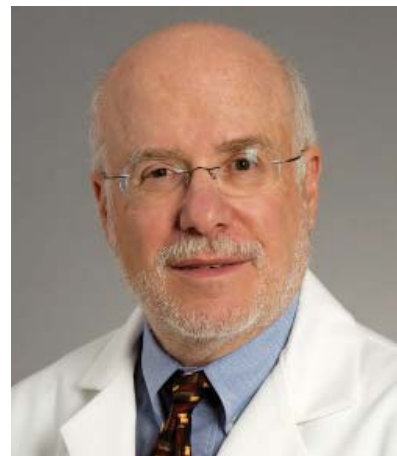
The Centers for Medicare & Medicaid Services (CMS) launched a study of its own earlier this year. The two-year Medicare Imaging Demonstration (MID) will assess the impact that decision support systems used by physician practices have on the appropriateness and utilization of advanced medical imaging services ordered for the Medicare fee-for-service population. 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 studies that scored 1-3 points on the ACR scale.



Vartan M. Vartanians, M.D.
Massachusetts General Hospital



Robert L. Bree, M.D.
University of Washington

Researchers who compared 76,000 orders taken between April 2007 and December 2007 with the new system in place against approximately 43,000 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."

“Some doctors know they are overutilizing imaging exams—something they attribute to legal risks.”

Robert L. Bree, M.D.

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 exam 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."

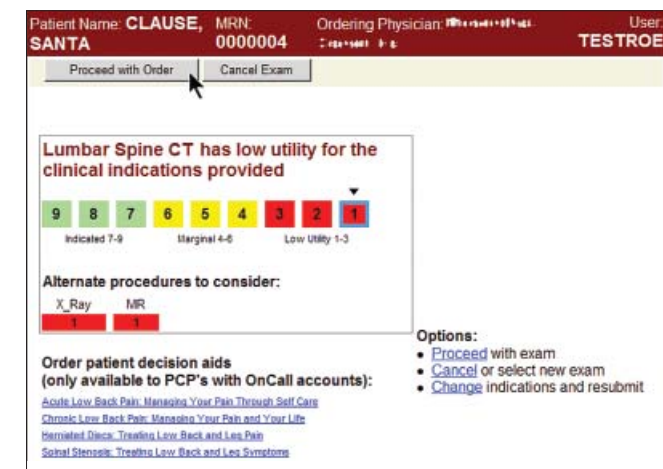
Physicians Need Better Decision Support Tools

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 could 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.



Decision support tools—such as the software adopted by Massachusetts General Hospital in Boston (above)—can significantly reduce the number of inappropriate scans ordered by referring physicians. The decision support feedback screen shows a low utility score. After hard stop on red intervention, nonclinician support staff users who click on "Proceed With Exam" are taken to the screen indicating the examination has been locked. MRN = medical record number, PCP = primary care physician.

"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. That was 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 is done," Dr. Bree said. "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." □

SpeakUp

Do clinical decision support tools decrease inappropriate scans? Vote in this month's *RSNA News* reader poll at rsnanews.org.

APPROPRIATENESS CRITERIA FOCUS OF RSNA SESSION

The Special Interest Session: "The ACR Appropriateness Criteria—Are You Trying to Tell Me What to Do?" will be offered Monday, Nov. 29 at RSNA 2010. Registration for RSNA 2010 is under way at RSNA.org/register.



LEARN MORE

For more information on the studies cited in this article, go to rsnanews.org.

Quantitative Imaging Protocols Approach Clinical Practice

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.

PROTOCOLS ARE BASED ON promising best practice results from ongoing groundwork by RSNA's Quantitative Imaging Biomarkers Alliance (QIBA), Imaging Biomarkers Roundtable, Clinical and Translational Science Awards (CTSA) working group, and the Uniform Protocols for Imaging in Clinical Trials (UPICT) initiative.

"Some of the groundwork involves collecting data from phantom studies on scanners from various manufacturers to understand the sources of technical variation," said RSNA Science Advisor Daniel C. Sullivan, M.D., a professor in the Department of Radiology at Duke University in Durham, N.C., and director of the Imaging Program at Duke Cancer Center.

Formed in 2008 and chaired by Dr. Sullivan, QIBA now comprises five committees: CT, PET and MR (focusing primarily on oncology biomarkers); functional MR imaging (fMRI), specifically of a biomarker for epilepsy surgery; and asthma and chronic obstructive pulmonary disease (COPD), as part of an existing genomic and imaging study. Dr. Sullivan said he is hopeful the PET and CT profiles and protocols will be used increasingly in clinical trials and perhaps in clinical practice in coming months.

"Quantitative MR imaging is a little more complicated, so those protocols probably won't be ready this year," Dr. Sullivan explained. "The COPD Profile is currently focused on what's happening within a National Heart, Lung and Blood Institute-funded study and fMRI probably has more than a year before it is ready because there is still a lot of variability in how fMRI is performed across various institutions. Ultimately, the results from the fMRI committee would be more applicable to clinical practice than to clinical trials."

Standards for fluorodeoxyglucose (FDG)/PET will likely be most quickly applicable to clinical practice because FDG/PET is already widely used in monitoring cancer response and is reimbursed by the Center for Medicare and Medicaid Services (CMS) for many indications, Dr. Sullivan said.



(top) Sullivan, O'Donnell

A collaborative effort between QIBA and UPICT to provide a library of recommended protocols is currently under way, 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.

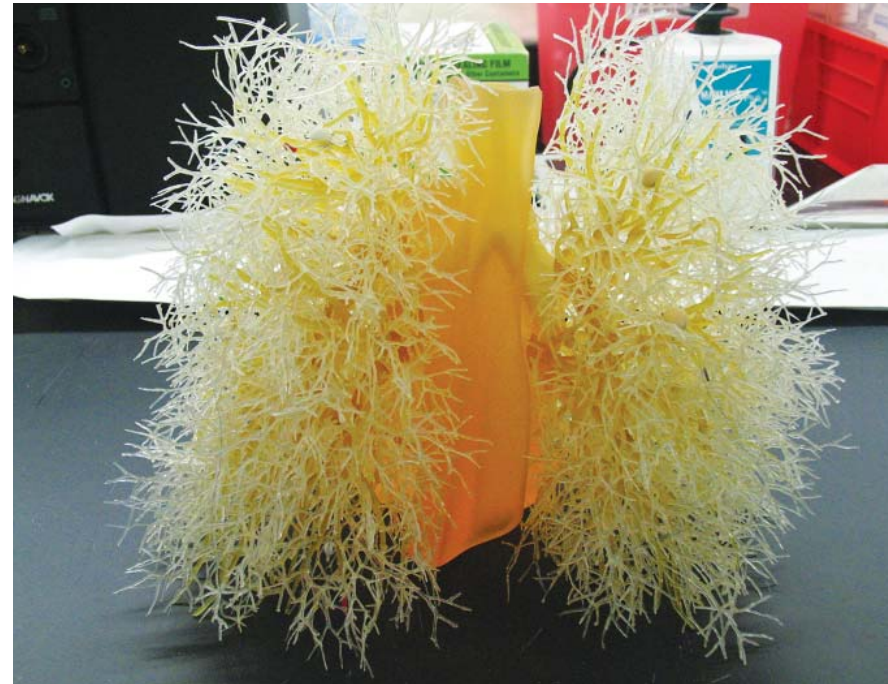
"Clinical trialists may not be imaging specialists and may want to leverage the experience of others," O'Donnell said. "Clinical trials are designed around the particular area being explored, but researchers would love to take advantage of other datasets. By converging on these standard protocols, there is a much greater opportunity to share data."

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.

"UPICT is trying to make it an open collaboration process so radiologists and medical physicists who consider themselves good protocol designers are invited to submit protocols and ideas," O'Donnell said.

“The reason we have the FDA and these clinical trials is to ensure that we don't base clinical practice on something that amounts to a hunch. We have to really prove it with science.”

Kevin O'Donnell, M.A.Sc.



In collaboration with the FDA and National Institute of Standards and Technology, QIBA working groups analyzed imaging protocols for tumor models in varying shapes placed inside an anthropomorphic lung phantom (above).

QIBA Library Promises Instructive Format

Focusing on clinical practice as well as clinical trials, the QIBA library will be similar to that of UPICT but with a more normative format, O'Donnell explained.

"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 Connectathon. O'Donnell is involved in numerous IHE committees as a co-chair and member.

"At the QIBA Connectathon, developers will bring in their equipment and run it through the paces, 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.

And testing radiologists themselves? "Well, we've left it on the table and nobody has run away from it yet," O'Donnell said. "The performance we've seen in our first experiments hasn't shown that reader variability is too much of a problem, so far. If it turns out for some tasks that it is, we might consider putting together a set of data that could help radiologists validate their performance."

"Even the most standardized equipment can be used in a variety of ways," Dr. Sullivan added. "Getting technologists and radiologists 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 are 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 commercially available, ready-to-use 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.org/Informatics.

Although 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 base 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. □

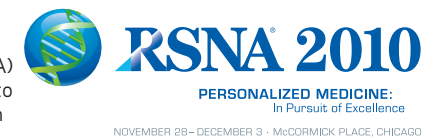
QUANTITATIVE IMAGING READING ROOM SPOTLIGHTS PRODUCTS

The Quantitative Imaging Reading Room at RSNA 2010 will showcase products that integrate quantitative analysis into the image interpretation process. Attendees will be able to learn about these applications through hands-on exhibits featuring informational posters, computer-based demonstrations, and "Meet the Experts" presentations scheduled through the week. For more information, visit RSNA2010.RSNA.org.

LEARN MORE AT QIBA 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, the researchers claim.

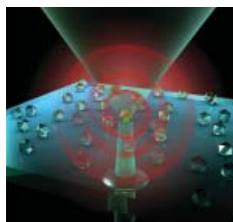
"Continued optimization studies for efficacy as well as shedding new insights into material safety will serve as a foundation for the potential translation of nanodiamonds towards clinical applications," said Dr. Ho, an assistant professor of biomedical and mechanical engineering in the university's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

Nanodiamonds Act as "Cargo Ship"

Among its advantages, each nanodiamond has a surface possessing carboxyl groups that allow for

ON THE COVER

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 researchers.



(l-r)
Thomas J. Meade, M.D.,
Dean Ho, Ph.D., both of
Northwestern University

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."

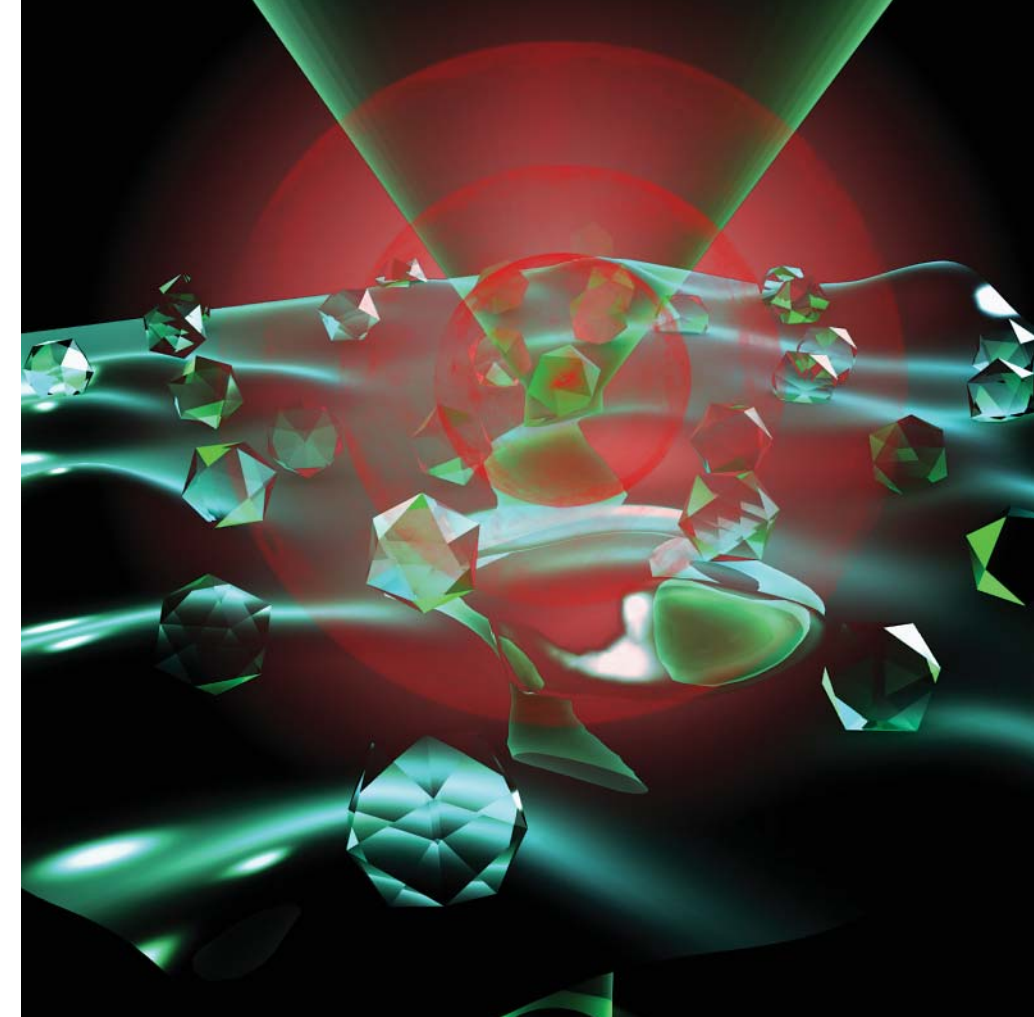
Because nanodiamond processing can be scaled up, the potential for changing therapeutics and imaging/diagnostics is significant, according to Dr. Meade.

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

“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.



New research paves the way for using nanodiamonds in delivering therapeutics and remotely tracking the activity and location of the drugs.

(left) Fluorescing diamond nanoparticles on a glass substrate. Excited by a pump laser, the centers hosted in the diamond crystals emit light at characteristic wavelengths. Luminescent diamond crystals can be effectively used for unintrusive bioimaging and biotracking applications due to the complete non-cytotoxicity and bio-compatibility of the particles and to their reduced nanometric size.

(Image courtesy of Carlo Bradac, Macquarie University)

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 efficiency 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 nontoxicity, the biocompatibility, the ability to carry out relatively straightforward surface attachment, and the ability to dope the diamond with fluorescence centers." □

LEARN MORE

To access the studies cited in this article, go to rsnanews.org.

IMAGE-GUIDED DRUG DELIVERY FOCUS OF RSNA 2010 SESSION

The Hot Topic session, "Image-guided Drug Delivery," will be offered on Monday, Nov. 29, at RSNA 2010. Registration for RSNA 2010 is under way at RSNA.org/register.

EDITOR'S NOTE: *This is the second installment in a two-part RSNA News series focusing on the regions featured in "Presents" sessions at RSNA 2010. A story about China's radiology climate appeared in the August 2010 issue.*

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 Presents," scheduled for Tuesday, November 30, 10:30 a.m.–12:00 p.m. The session will begin with an overview of Latin American radiology, exploring 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 García Monaco, M.D., a past-president of the Interamerican College of Radiology (CIR). Dr. García Monaco is a member of the RSNA International Advisory Committee and participates in the annual international trends roundtable during the RSNA annual meeting.

"Latin America is vast, diverse and unique—the future of the region looks 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 wracked 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-lowering 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. García Monaco noted.

Endemic Diseases, Natural Disasters are Challenges

Defined as a region of 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 more than 19,000 deaths and \$6 billion in damage in the Atlantic basin in 1998 while Hurricane Wilma just seven years later caused fewer than 40 deaths but \$29 billion in damage.

"This is a good example of the gaps between the more- and less-developed areas of Latin America, with diseases distributed in direct relationship with local health policies and economies," Dr. García

Continued on Page 14

LATIN AMERICA BOASTS DIVERSE RADIOLOGIC INNOVATIONS

As radiologists in Latin America look to the future, they are also proud of the contributions the region already has made to the specialty:

BRAZIL

- Home to Latin America's very first documented radiologic equipment—an X-ray machine—in 1897
- Abreugraphy, used to screen for occupational diseases and tuberculosis

CHILE

- Anatomic and radiologic studies of the fourth ventricle (Mario Corrales, M.D.)
- Radiologic diagnosis of congenital hip dysplasia (Armando Doberti, M.D.)

ARGENTINA

- Operative cholangiography (Pablo Mirizi, M.D.)
- Hysterosalpingography with lipiodol (Carlos Heuser, M.D.)
- Iodoventriculography (Manuel Balado, M.D.)



All populations are estimates based on latest information available. RSNA Membership numbers are as of December 2009. RSNA Annual Meeting Attendance numbers are 2005–2009 total.

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 area will feature:

- 1 RSNA Plaza.** The hub of the RSNA Services area, the plaza offers visitors a central meeting point to gather, connect and regroup. Attendees can catch up on e-mail at the Internet-ready area featuring counters and bar-style stools.
- 2 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 *Radiology Info.org* (the RSNA-American College of Radiology public information website). Visitors will have the chance to meet the editors of these publications.
- 3 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 free of charge—a \$375 value. A monitor will continuously feature job openings.



- 4 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 individual, 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 furniture 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.
- 5 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.
- 6 Professional Registration.** The check-in point for full conference professional registrants to pick up badges or register for the first time.

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

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

- 9 myRSNA®.** Interactive demonstrations of RSNA's customizable collection of online radiology resources—including enhanced searching, file sharing, bookmarking and CME management—are offered throughout the week.

- 10 Performance Solutions.** Kiosks offer 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

Continued from Page 11
Monaco said.

Equipment, Staffing Levels Vary
Ultrasound 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

“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.

now focus on education, publications, international relationships, awards, statutes and regulations and ethics and the organization promotes biannual congresses with greater numbers of invited professors and scientific presentations. The next meeting is 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, something previously possible 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,

radiologiavirtual.org, including refresher courses, interactive clinical cases and a resident 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. □

RSNA HONOREES FROM LATIN AMERICA

- GOLD MEDAL**
- 1931 Carlos Heuser, M.D. (Buenos Aires, Argentina)
 - 2000 José Luis Ramirez-Arias, M.D. (Mexico City)
- HONORARY MEMBERSHIP**
- 1972 J. M. Sanchez-Perez, M.D. (Mexico City)
 - 2000 Sidney de Souza Almeida, M.D. (Americana, Brazil)
 - 2007 Francisco A. Arredondo, M.D. (Guatemala City)
- SPECIAL PRESIDENTIAL AWARD**
- 1996 José Luis Ramirez-Arias, M.D. (Mexico City)
 - 1996 Miguel E. Stopen, M.D. (Mexico City)

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

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

- Latin America-RSNA collaborations: Back to the Future
- Endemic diseases in Latin America: Role of Imaging
- Radiology in Latin America: 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 Pneumoesophagoscopy (Argentina)
 - Virtual MDCT Hysteroscopy (Argentina)
 - Embolization of Prostatic Adenoma (Brazil)
 - Angiomovil (Brazil)
 - Functional MR to replace Wada Test in epilepsy (Dominican Republic)



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With an RSNA R&E Foundation grant, Hersh Chandarana, M.D., will study liver metastasis using dual-energy CT to assess and predict the response of patients undergoing chemotherapy.



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Journal Highlights

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

Thin-Section CT of the Lungs: The Hinterland of Normal

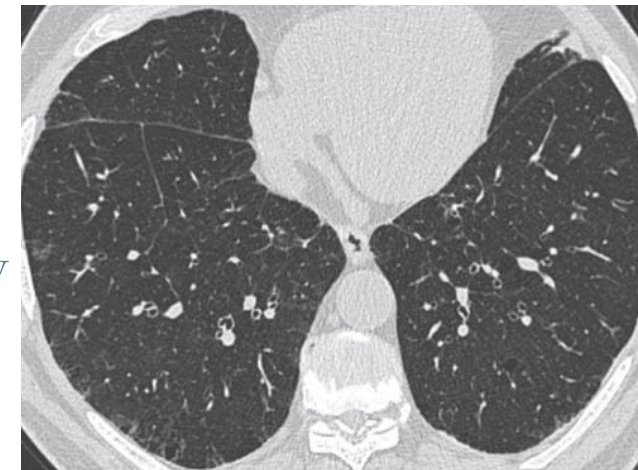
INTRODUCED MORE THAN 20 years ago, thin-section CT of the lungs has an established role in assessing patients known to have, or are suspected of having, diffuse lung disease. Nevertheless, there is little published work documenting thin-section CT of the lung parenchyma and airways that lie "within the normal range."

In a State-of-the-Art review

in the September issue of *Radiology* (RSNA.org/radiology), David M. Hansell, M.D., of the Department of Radiology at Royal Brompton Hospital in London, examines thin-section CT findings that occupy the gray area between unequivocal health and definite disease, with a particular focus on the effects of cigarette smoking and aging.

In the absence of a databank of "normal" thin-section CT scans from which to learn, an appreciation of the range of appearances of healthy lungs must come from experience, Dr. Hansell writes.

"Only with this apprenticeship can the overused phrase 'within normal limits' be confidently used to place a thin-section CT finding correctly in the continuum between normality and abnormality," Dr. Hansell concludes.



An example of interstitial and airways disease caused by cigarette smoking. The thin-section CT scan in a 49-year-old heavy cigarette smoker shows a subpleural reticular pattern with superimposed areas of paraseptal emphysema (e.g., in the posterobasal segment of the right lower lobe). There is also widespread thickening of the bronchial walls. (Radiology 2010;256:3:695-711) ©RSNA, 2010. All rights reserved. Printed with permission.

Lung Cancer Staging Essentials: The New TNM Staging System and Potential Imaging Pitfalls

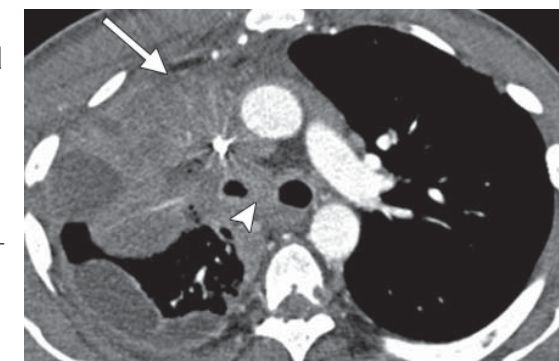
ACCURACY IN STAGING lung cancer remains a challenging task for many radiologists. For that reason, they must understand the tumor-node-metastasis (TNM) classification system—a vital guide for determining treatment and prognosis—and be familiar with the changes in the much anticipated 7th edition, which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

In a review article in the September-October issue of *RadioGraphics* (RSNA.org/radiographics), Stacy J. UyBico, 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.



Stage 4 tumors. Chest CT scan shows a right upper lobe mass (arrow) with mediastinal and carinal invasion, ipsilateral loculated pleural effusion and thickening and enhancement of the pleura. Note the tumor encasement and resultant narrowing of the right mainstem bronchus (arrowhead). The pleural thickening and enhancement, although nonspecific, are suggestive of metastatic pleural disease. In the 7th edition of the TNM staging system, proved pleural carcinomatosis is considered stage M1a disease (stage T4 in the 6th edition).

(RadioGraphics 2010;30:1163-118) ©RSNA, 2010. All rights reserved. Printed with permission.

RadioGraphics

Radiology in Public Focus

A press release was sent to the medical news media for the following article appearing in the latest issue of *Radiology*.

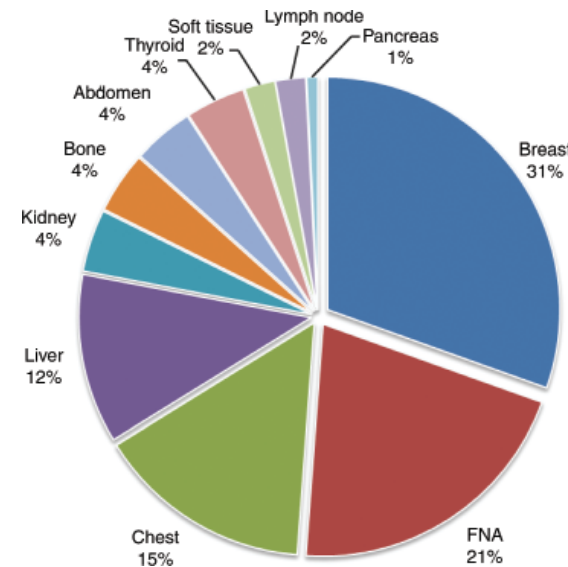
Effect of Advanced Imaging Technology on How Biopsies Are Done and Who Does Them

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 1,945 per 100,000 Medicare enrollees between 1997 and 2008, for a compound annual growth rate (CAGR) of 3 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."



A pie chart shows biopsies according to anatomic region as a percentage of all biopsies performed by radiologists in 2008. **Lymph node = superficial lymph nodes, Soft tissue = soft tissue of the musculoskeletal system.**

(*Radiology* 2010;256:3:751-758) ©RSNA, 2010. All rights reserved. Printed with permission.

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*, *Orlando Sentinel*, *Health*, *Health News*, *The Reporter*, *Modesto Bee*, *South Florida Sun Times* (Miami-Ft. Lauderdale), *Citrus County Chronicle* (Tampa), *El Paso Times*, *Columbus Ledger-Enquirer* (Columbus, Ga.), *Herald-Sun* (Raleigh-Durham, N.C.), *Times Herald-Record* (New York, N.Y.), *Daily Pilot* (Los Angeles) and *Press-Telegram* (Los Angeles).

Broadcast coverage included The Doctors (Nationally syndicated TV), WABC-TV (New York, N.Y.), WLS-TV (Chicago), WMAQ-TV (Chicago), KCBS-TV (Los Angeles), WCVB-TV (Boston), WMUR-TV (Boston), WPVI-TV (Philadelphia), WJLA-TV (Washington, D.C.), WCCO-TV (Minneapolis), KSTP-TV

(Saint Paul), WPLG-TV (Miami), WFAA-TV (Dallas), WTVF-TV (Nashville), KGO-TV (San Francisco), KXLY-TV (Spokane), KOMO-TV (Seattle), KGTV-TV (San Diego), KNXV-TV (Phoenix), WCPO-TV (Cincinnati), KMGH-TV (Denver), WLMT-TV (Memphis), WTAE-TV (Pittsburgh), KGMB-TV (Honolulu), WTNH-TV (New Haven), KMBC-TV (Kansas City, Mo.) and KFMB-AM (San Diego).

Online coverage included RealAge, Yahoo! News, AOL News, MSN Health, ABC News Online, WebMD, iVillage, HealthDay, Medscape, *Drugs.com*, *Businessweek.com*, *ChicagoTribune.com*, *AZCentral.com*, *Healthcentral.com*, *USNews.com*, and *MedicineNet.com*.

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.

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 refresher courses. Online registrants are informed of courses that qualify for SAMs credit by the American Board of Radiology, while on-site attendees can still earn credit by registering for courses identified by SAMs signage outside the course rooms. Attendees should check-in with RSNA staff at the door and arrange to earn SAMs 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's Online Journal Features Invaluable for Residents

I have been accessing *RadioGraphics* and *Radiology* journals online regularly since I began my residency three years ago, and each plays a different role in my education.

While most of the articles are too advanced to read cover-to-cover, *Radiology* online—which I access several times a month—is invaluable for my research projects and for finding answers to pertinent clinical questions.

RadioGraphics, which I access online several times a week, is as helpful as any textbook when it comes to radiology education. Issues are covered in enough detail to be comprehensive and clinically relevant without overwhelming the reader with minutiae or clinically superfluous issues. Being able to access archives by topic is particularly helpful because residents move to different sections from month to month.

Getting monthly e-mail alerts with the table of contents for the next month's issue sent directly to my inbox is especially helpful. After quickly skimming the contents for topics of interest, I simply hit the link and go directly to the issue. Another online advantage is having access to PDFs with high-quality images—a key feature in this specialty.

For me, the most useful online feature is simply having 24/7 access to the journals. The search function offers easy access to archives whether I am home reading, in the research office pulling up manuscripts, or on the PACs side, when I am trying to answer a clinical question.

Additionally, online access to *Radiology* and *RadioGraphics* allows me to read research papers without wasting paper!



Alex Ding, M.D., is a third-year resident in the Department of Radiology at Massachusetts General Hospital in Boston.

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, podcasts, videos, 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.

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



Readers who choose to receive the print journals as well will continue to receive them as long as their membership is up-to-date. Beginning in February, 2011, back issues will no longer be provided after a lapse in membership. To avoid missing issues, members are encouraged to keep their dues current.

RSNA is creating a new Users' Guide that demonstrates how to search and navigate the pages of *Radiology* and *RadioGraphics* online and introduces members to the exclusive features that only the online versions offer.

For more information about RSNA's sustainable publishing initiative, to renew membership dues, learn more about the Users' Guide and/or update your journal preferences, go to RSNA.org/Options.

Annual Meeting Watch

Enroll Now for Courses

North Americans who register for RSNA 2010 by November 5 will have their registration materials mailed to them in advance of the annual meeting. International attendees will have their materials mailed to them if their registration forms are received by October 22. Registration will be accepted after these dates but will be processed at the increased onsite rate. Attendees must obtain badges, tickets and other conference materials at the McCormick Place Convention Center.

Registration materials include:

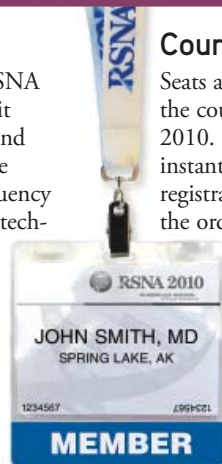
- Name badge and holder
- Attendance vouchers for CME credit (if applicable)
- Course and tour tickets (as requested)
- ExpoCard™ — Use this electronically personalized business card at the technical exhibition to request exhibitor information
- *Pocket Guide* — The *RSNA 2010 Pocket Guide* is an easy-to-use reference to everything meeting related
- Airport shuttle discount coupon
- Free pass for the Chicago Metra Electric Line



CME UPDATE: Earn up to 92.75 AMA PRA Category 1 CME Credits at RSNA 2010

Name Badge

A name badge is required to attend RSNA courses or events or to enter the exhibit halls. A name badge is required to attend RSNA courses or events or to enter the exhibit halls. RSNA will use radiofrequency identification (RFID) badge scanning technology within the Technical Exhibit Halls. No personal information is stored in the RFID badge, only an ID number. Should you wish to “opt out” of this program, please visit either Help Center onsite located in the Grand Concourse or Lakeside Center Ballroom on Level 3.



Course Enrollment

Seats are still available in many of the courses to be offered at RSNA 2010. Online registration occurs instantly, while faxed or mailed registration forms are processed in the order of receipt. The Advance Registration, Housing and Course Enrollment brochure and online registration is available at RSNA.org/register. You must be registered for RSNA 2010 in order to enroll in courses.

Guarantee Your Seat!

NEW AT RSNA 2010: Tickets are required for various meeting components, including refresher, multisession and financial courses, informatics workshops and RSNA tours and events. Onsite refresher course ticketing has been eliminated. All ticketed courses must be confirmed prior to November 24 to guarantee a seat. RSNA ticketed courses fill up fast, so ensure you get the courses you need by enrolling at RSNA.org/register. Registrants without tickets will be allowed entrance into a course after all ticketed registrants have been seated.

Enter to Win Next Year's Airfare While Saving This Year

RSNA attendees who book air travel through Gant Travel by October 1 will be entered into a drawing to receive a \$500 (USD) travel credit good toward their RSNA 2011 airfare on United Airlines. Benefits of using Gant Travel for RSNA 2010 include:

- Up to a 15 percent discount on available fares on United Airlines
- Fare-checker technology (checking for lower fares until your return flight home)
- Seat-checker technology (checking for best available seats per your preference)
- Emergency assistance available by phone

For more information, contact Gant Travel at 1-877-613-1192, international +1 011 630-227-3873 or RSNA@ganttravel.com.

Housing Deals Available

New Hotels Added, Rates Reduced

RSNA 2010 attendees can take advantage of economic incentives offered by many Chicago hotels. Of the 79 hotels participating in the RSNA block, a majority are offering reduced rates while the rest have frozen their rates from 2009. RSNA has added more rooms to the list of hotels in Downtown Chicago. Bonus — most hotels have reduced their room rates.

Skip Long Lines With Advance Bistro RSNA Tickets

Relax and recharge at Bistro RSNA, a comfortable setting to eat, meet, and network. The price of lunch has been reduced from \$22 to \$19 per guest and includes soup and salad options, a selection of entrees, seasonal vegetables, side items, dessert and beverages. By purchasing your Bistro ticket in advance, you can skip the long lunch lines and proceed directly to the Bistro Host for immediate seating.

Visit www.bistrorsna.com for complete details and to purchase your Bistro tickets.

Eye on Chicago

Cultural Center Schedule is Full, Free Stop by the Chicago Cultural Center anytime, any day to find free art exhibitions, concerts, lectures, film and more. The Cultural Center is located across from Millennium Park at Michigan Avenue and Washington Street. Learn more at www.chicagoculturalcenter.org.



Bulls Game Added to RSNA Tours & Events

Make your way to the house that Michael Jordan built. Newly added to the RSNA-sponsored Tours and Events, the Chicago Bulls will take on the Orlando Magic on Wednesday, Dec. 1, at the United Center, a state-of-the-art sports facility on Chicago's West Side. The current Bulls roster is full of young, talented players who play a fast-paced, aggressive game. Regardless of the season's record or the night's final score, you will leave with a smile on your face.



Game time is 7 p.m.; price per ticket is \$70. Tickets must be picked up at the Palmer House tour desk; transportation to the United Center is not included. The RSNA Tours & Events Brochure is available at RSNA2010.RSNA.org. Enroll for tours and events online when registering for the annual meeting or while adding courses. Look for RSNA Tour EV42.

Annual Meeting on the Web

Search Engine Simplifies RSNA Meeting Program Online

FINDING PRESENTATIONS to fit your schedule at RSNA 2010 is easier than ever using RSNA's online program and user-friendly search engine. The *RSNA Meeting Program* online is now enhanced as the big, 1,200-page printed program has been replaced with a “mini program.” Abstracts and learning objectives will not be published in the printed program but will instead be available online only.

The complete roster of special interest/controversies/hot topic sessions, multisession and refresher/informatics courses and vendor computer workshops are available in RSNA's online meeting program. Along with searching for courses by title and name of presenter, users can search the online program by day, area and subspecialty, and sort findings from earliest to latest.

To view the online meeting program, go to RSNA2010.RSNA.org.

Jazz Concerts Benefit R&E Foundation

Enjoy world-class Latin jazz performances in one of the city's finest jazz clubs while benefitting RSNA's Research & Education (R&E) Foundation. Both performances are among the RSNA-sponsored tours and events at RSNA 2010.

The Craig Russo Latin Jazz Project will perform at 8 p.m. and 10 p.m., Monday, Nov. 29, at the Jazz Showcase at Dearborn Station, 806 S. Plymouth Ct. Craig Russo, M.D., a neuroradiologist and RSNA member, and his group, will treat you to a rich listening experience in one of the country's most renowned acoustic jazz listening rooms. A portion of the proceeds will benefit the R&E Foundation.

The price is \$25 person, which includes the R&E Foundation donation. Enroll for tours and events online when registering for the annual meeting or adding courses at RSNA.org/register. The RSNA Tours & Events brochure is available at RSNA2010.RSNA.org.

RSNA 2010 Registration

How to Register

There are four ways to register for RSNA 2010:

Fastest way to register!

1 INTERNET
Go to RSNA.org/register

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

3 TELEPHONE
(Mon.-Fri. 8:00 a.m. – 5:00 p.m. ct)
1-800-650-7018
1-847-996-5876

4 MAIL
Experient/RSNA 2010
568 Atrium Drive
Vernon Hills, IL 60061 USA

Registration Fees

BY NOV. 5	ONSITE	
\$ 0	\$100	RSNA/AAPM Member
0	0	RSNA/AAPM Member Presenter
0	0	RSNA Member-in-Training, RSNA Student Member and Non-Member Student
0	0	Non-Member Presenter
150	250	Non-Member Resident/Trainee
150	250	Radiology Support Personnel
680	780	Non-Member Radiologist, Physicist 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

Important Dates

October 22	International deadline to have full-conference materials mailed in advance
November 5	Final discounted advance registration, housing and course enrollment deadline to have full-conference materials mailed in advance
Nov. 28 – Dec. 3	RSNA 96th Scientific Assembly & Annual Meeting

For more information about registering for RSNA 2010, visit RSNA2010.RSNA.org, e-mail reginfo@rsna.org or call 1-800-381-6660 x7862.

Education and Funding Opportunities

Writing a Competitive Grant Proposal

February 11-12, 2011
RSNA Headquarters,
Oak Brook, Ill.
Registration Dead-
line—January 5

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: G. Scott Gazelle, M.D., Ph.D., 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 Burnside, 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/CGP. Contact Fiona Miller at 1-630-590-7741 or fmiller@rsna.org for further information.

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 second seminar, "Asset Protection and Retirement Planning in the New Era," offering information on dealing with retirement and real estate plans and protecting assets from creditors, will be presented on Monday, Nov. 29, by Barry Rubenstein, B.S., J.D., L.L.M., a practicing attorney and former adjunct professor of taxation at the College of Business of the University of Oregon.

These seminars do not qualify for *AMA PRA Category 1 Credit*™. Additional fees apply and you must be registered for RSNA 2010 to enroll.

To register, go to RSNA.org/register. For more information, contact the RSNA Education Center at 1-800-381-6660 x7772 or e-mail jcomerford@rsna.org.

Member Question of the Month

What's the biggest challenge you've faced in hiring more personnel?

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

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

Professor Hermann Fishgold (Pitié-Salpêtrière Hospital, Paris) was probably the most influential figure in radiology in France. He was the father 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 Soto, M.D. In his practice at the University of Alabama in Birmingham, he teaches the way to practice the complex cardiac 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 Zapparoli, M.D.
Curitiba, Brazil

Medical Meetings

October 2010 – February 2011

OCTOBER 3-5

North American Society for Cardiac Imaging (NASCI), 38th Annual Meeting, The Westin Seattle Hotel • www.nasci.org

OCTOBER 14-18

VISIT THE RSNA BOOTH
Chinese Society of Radiology, 17th Annual Meeting, Jinan, Shandong
• www.chinaradiology.org/csr/en

OCTOBER 18-20

Korean Society of Radiology (KSR), 66th Annual Korean Congress of Radiology, Grand Hilton Hotel, Seoul • www.kcr4u.org

OCTOBER 22-24

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

OCTOBER 22-26

Société Française de Radiologie (SFR), Les Journées Françaises de Radiologie (JFR) 2010, Palais des Congrès de Paris
• www.jfrexpo.com

OCTOBER 30-31

Hong Kong College of Radiologists, 18th Annual Meeting, Hong Kong Academy of Medicine Jockey Club Building, Aberdeen
• www.hkcr.org

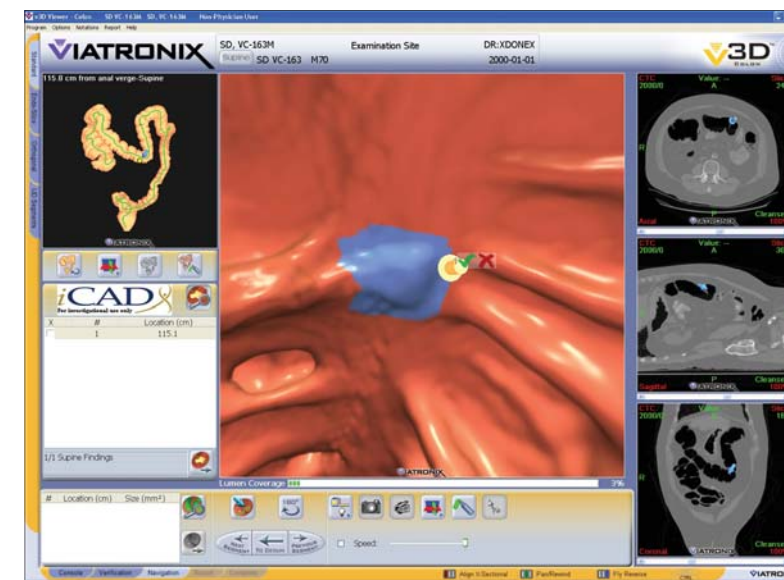
OCTOBER 31-NOVEMBER 4

American Society for Radiology Oncology (ASTRO), 52nd Annual Meeting, San Diego Convention Center • www.astro.org

JANUARY 17-21, 2011

Integrating the Healthcare Enterprise (IHE) North American Connectathon, Hyatt Regency Chicago
• www.ihe.net/Connectathon

Product News



FDA CLEARANCE

Computer-aided Detection for Virtual Colonoscopy

The FDA has approved VeraLook™, the iCAD (www.icadmed.com) 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 colonic 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.

NEW PRODUCT

MR Imaging System Provides Real-time Intra-operative Imaging

Medtronic (www.medtronic.com) announces the launch of its PoleStar® 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 uses 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.

NEW PRODUCT

Ultrasound System Integrates Scanner, PC

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 19" touch screen TFT LCD panel and integrate a fully featured power-efficient computer running Microsoft® Windows® 7 Ultimate just like a modern PC. The scanner is as simple to use and produces high-quality compound images comparable to cart or laptop-type ultrasound scanners and comes with a full suite of application-specific probes, calculation package, customizable reports and unlimited user presets.



Information for *Product News* comes from the manufacturers. Inclusion in this publication should not be construed as a product endorsement by RSNA. To submit product news, send your information and a non-returnable 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.

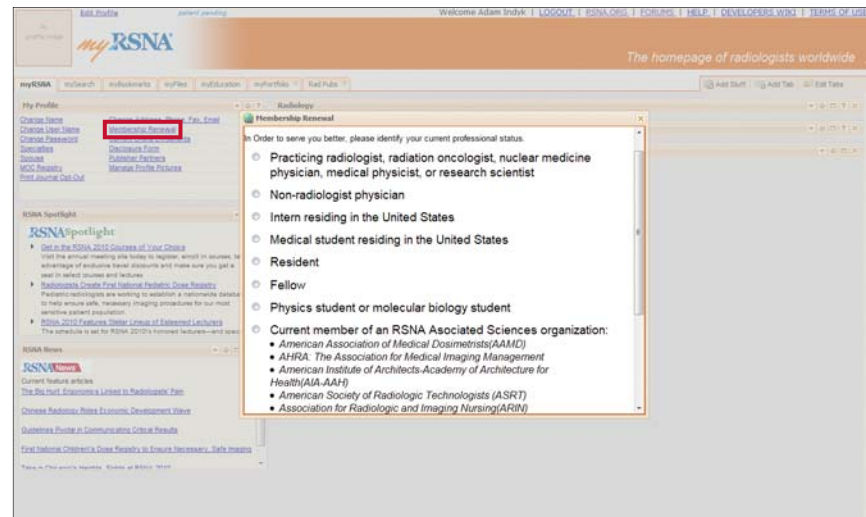
RSNA.org

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 your 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 *RadioGraphics* 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.cmelist.com/list.htm, which now offers links to and descriptions of more than 300 online CME sites. **Website-ing** 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.

20 Retrospective

Celebrating 20 Years of *RSNA News*

Headlines

Remembering radiologic topics that made the news. This month's feature: **radiology's response in times of crisis.**

December 2001: Radiologists Vain in Confirming Anthrax Infection

February 2003: MR Imaging Helps Confirm West Nile Encephalitis

A May 2003: Radiologists Help Confirm SARS

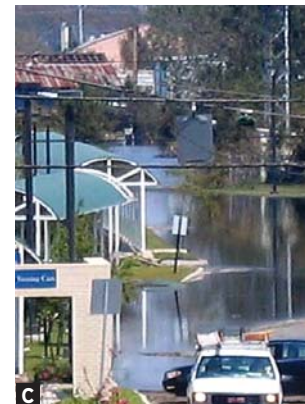
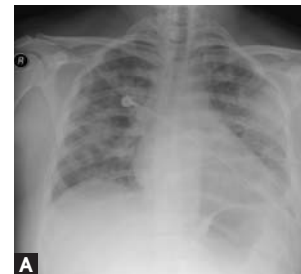
B August 2004: Radiologists Assist Colleagues in Iraq

C November 2005: Ochsner Radiologists Battle Back After Hurricane Katrina

March 2008: Algorithm Speeds Victim ID through Dental Records

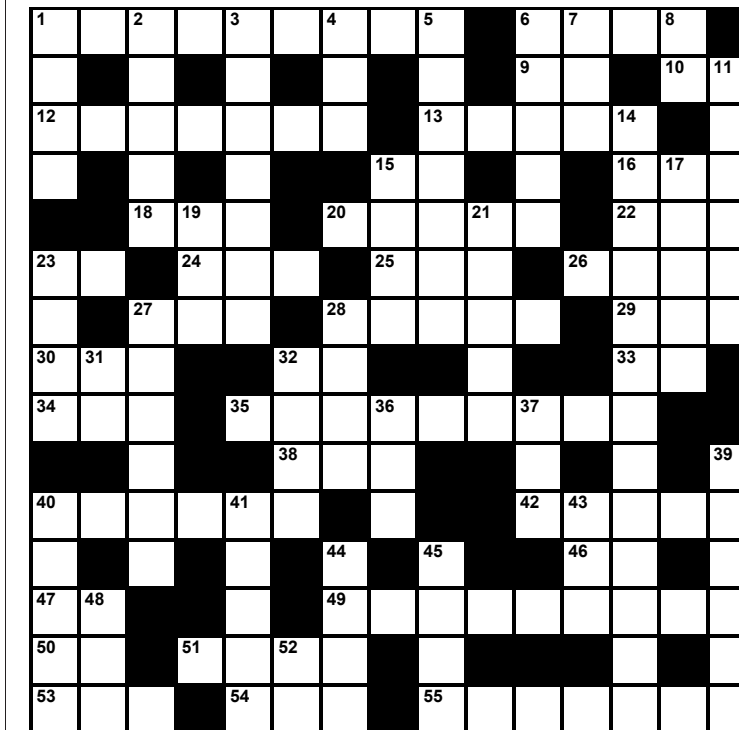
January 2009: Radiologists Prepare for Radiation Terrorism
January 2010: CT Reveals Pulmonary Embolism in Severely Ill Swine Flu Patients

D May 2010: Radiologists Respond to Seismic Need in Haiti



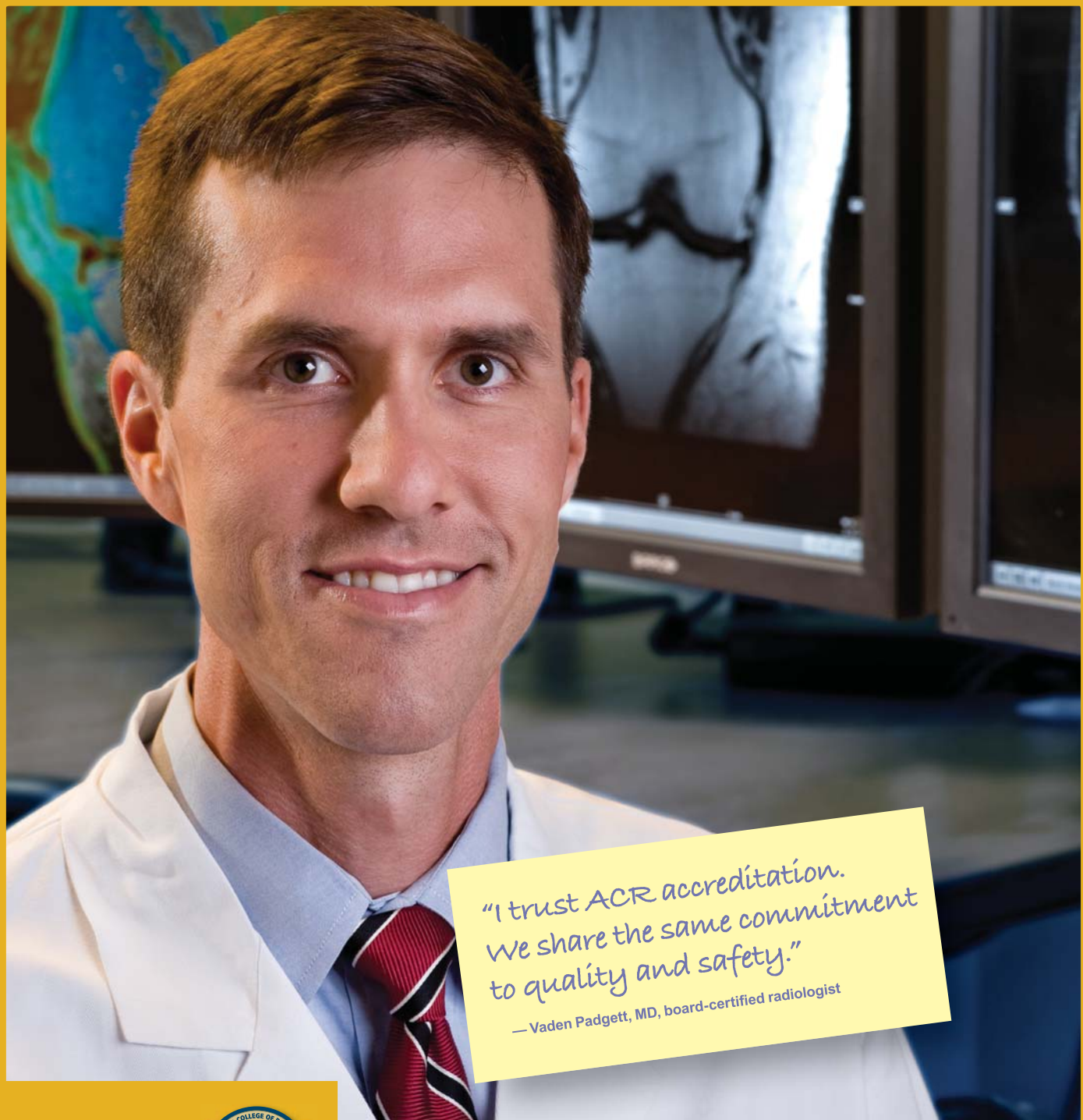
Crossword

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*.



- Across**
- 1 ____ Place: home to RSNA annual meeting since 1985
 - 6 Penn radiology chair and IR pioneer
 - 9 Infrared, abbr.
 - 10 ____ of Operations
 - 12 Area of whiteness on radiography
 - 13 *Radiology* editor, 1966-1985
 - 15 "____, I love her" Beatles lyric
 - 16 Pledge of Allegiance ending
 - 18 The Lord of the Rings good guy
 - 20 Quantities of medicine
 - 22 Not very bright
 - 23 Distance measurement, abbr.
 - 24 Big name in cosmetics: Mary ____
 - 25 Bucharest money
 - 26 Feeling
 - 27 ____ coast: described using bismuth and barium for contrast
 - 28 Remarkable sheep, died in 2003
 - 29 Hockey great Bobby
 - 30 Money to the bottom line, abbr.
 - 32 Reputation
 - 33 Atlanta's state
 - 34 Company abbr.
 - 35 Shared Nobel Prize with Mansfield for work to
 - develop MRI
 - 38 Car registration agency, abbr.
 - 40 Surpassed Spitz in total gold won in single Olympics: shares name with PET co-inventor
 - 42 1996 Act established national standards for electronic healthcare transactions, abbr.
 - 46 Grey's Anatomy's Sandra
 - 47 All nations' body
 - 49 33-year Supreme Court Justice died in 2005
 - 50 Easily usable Scrabble word
 - 51 French surgeons carried out the first transplant of this in 2005
 - 53 Giant slugger Mel
 - 54 Typing test: "The sly brown ____ jumped quickly over the lazy dog"
 - 55 Became first freely elected president of Russian republic, in 1991
- Down**
- 1 In March 1998, scientists announced evidence of water here
 - 2 2000 election came down to Florida; introduced the phenomenon of hanging ____
 - 3 Dustin Hoffman and Tom Cruise movie (2 words)
 - 4 Wrigley Field flora
 - 5 *Radiology* editor, 2008 to present
 - 6 Lost fourth of four Superbowls in 1994
 - 7 "We ____ family" Sister Sledge
 - 8 Boat with an engine title
 - 11 ____ House: RSNA outgrew this longtime Chicago annual meeting home
 - 14 RSNA education journal
 - 15 Lauren's clothing brand
 - 17 Zodiac's seventh sign
 - 19 Stage name intro
 - 21 Swiss mathematician
 - 23 Measures metabolic changes in active part of brain, abbr.
 - 27 RSNA benefactor, led one of largest X-ray manufacturers in the U.S.
 - 28 Starr instrument
 - 31 Happening!
 - 32 Notebooks
 - 36 Hotel room features
 - 37 Goes with humbug
 - 39 Founder of a company tied for largest in the world
 - 40 Lost status as planet in 2006
 - 41 Dish with seasoned rice
 - 43 Promise of a paycheck
 - 44 "Jurassic Park" menace
 - 45 People referred to
 - 48 So untrue!
 - 52 Together with prefix

CHALLENGE YOURSELF An interactive version of this puzzle at rsnanews.org includes a timer and optional hints.



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