Annual Meeting Preview and Restaurant Guide

ALSO INSIDE:
- Newest CT Scanners Increase Resolution, Reduce Dosage
- HIFU Offers Promising Outcomes as Prostate Cancer Treatment
- Spike in MR Imaging Accidents Underscores Need for Regulation
- RAs’ Quickly Evolving Role Hits Roadblocks

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RSNA NEWS • OCTOBER 2010

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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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or call 1-877-MEM-RSNA
1-630-571-7873 outside the U.S. and Canada
RSNA AWARDED $2.4 MILLION NIBIB GRANT FOR QUANTITATIVE IMAGING

RSNA has been awarded a two-year, $2.4 million contract from the National Institute of Biomedical Imaging and Bioengineering (NIBIB) to support RSNA’s quantitative imaging and biomarkers programs—specifically the Quantitative Imaging Biomarkers Alliance (QIBA), formed in 2008 to advance quantitative imaging and the use of imaging biomarkers in clinical trials and practices.

“All of us involved in QIBA are very excited and gratified to receive this award from NIBIB,” said Daniel Sullivan, M.D., RSNA Science Advisor and principal investigator for the award. “It is an affirmation of the importance of quantitative imaging and provides an invaluable opportunity for accelerating RSNA’s activities related to quantitative imaging.”

The contract provides $1 million each year to support a coordinated effort to establish an infrastructure for the collection and analysis of imaging biomarker data. The long-term objective is to establish processes and profiles leading to acceptance by the imaging community, clinical trial industry and regulatory agencies of quantitative imaging biomarkers as proof of biology, changes in pathophysiology and surrogate endpoints for changes in the health status of patients.

Residents and Fellows Tell RSNA Their Needs, Challenges

Radiology residents and fellows look to RSNA not only for tools to make their learning experiences richer, but also for ways to easily share their favorite resources with each other, according to members of RSNA’s new Resident and Fellow Committee.

The newly formed committee met for the first time in September at RSNA Headquarters in Oak Brook, Ill. Overseen by RSNA Board Liaison for Science N. Reed Drummond, M.D., the committee is charged with advising the Society on the effectiveness of its resident and fellow program, providing input on the RSNA website, publications and career resources and encouraging free RSNA membership among radiologists in training.

Committee members—21 residents and fellows from programs across the country—said they appreciate RSNA resources such as the personalized Web portal myRSNA. They added that when they find useful articles, images or other information, they want to be able to easily flag it for other users and easily pass it on to an interested colleague.

RSNA staff will be working to follow up on the recommendations of the committee, which will meet again during RSNA 2010.

One critical need for residents and fellows is information about fulfilling the requirements, such as credentialing, necessary to transition into practice, said Joelyn D. Chertoff, M.D. (pictured above), of Dartmouth-Hitchcock Medical Center, a faculty advisor to the committee. Duane G. Mietz, M.D., of Oakland University William Beaumont School of Medicine, also serves as a faculty advisor.

My Turn

Technology Changes Not Only What We Learn, But How

It’s no secret that the technologic nature of radiology makes it one of those areas of medicine where practice changes almost constantly. As practitioners, what we must learn in order to keep up with changing technology has accelerated, and most of us see that as a challenge.

But technology can also present us with a chance to change how we learn, and that’s a tremendous opportunity.

Since 2004, RSNA has employed an electronic audience response system (ARS) at its annual meeting. Each year, it outfits more and more lecture rooms with these handheld keypads, and encourages faculty to use them. As a teacher, what excites me most about this technology is that it is a tool that has transformed the traditional lecture.

Like so many great ideas, ARS is simple: I present information to a large audience, and then get feedback on the effectiveness of my teaching. The system is anonymous, so audience members can be frank without risk of embarrassment. The system is also immediate, as it happens in real time.

ARS gives me the chance to see what works and what doesn’t, and presents an option I never before had as a teacher—to adjust my style or content, or both, “on the fly.” Audience response technology also gives my audience an option it has never had—learners can interact with one another and with the material on the spot.

RSNA has offered its members Internet tools for learning for the better part of a decade, and most of us see those tools as timesavers, bits of convenience that are perks of membership. We can take our Radiographics texts online, report our CME credits without having to bother with snail mail, and even get CME credit for online learning right at our workstations with the Point of Care (PoC) tool.

But a hybrid of an “old-fashioned” presentation to a large group and a “new-fashioned” way for the audience to be engaged is this: The best of both worlds.

UC Davis Names Dougherty Radiology Chair

After serving as acting chair for more than two years, Raymond Dougherty, M.D., has been appointed chair of the Department of Radiology at the University of California UC Davis in Sacramento. Dr. Dougherty is also a clinical professor of radiology at UC Davis. A specialist in abdominal imaging utilizing ultrasound, CT and MR imaging, Dr. Dougherty was a residency program director at UC Davis for 10 years.

While serving as acting chair, Dr. Dougherty secured funding for and facilitated construction of the Breast Imaging Research Lab and spearheaded the construction and opening of UC Davis’ first off-campus, state-of-the-art imaging center at the Placer Center for Health in Rocklin, Calif.

UC Davis Names Dougherty Radiology Chair

Rubin Named Radiology Chair at Duke

Geoffrey Rubin, M.D., a pioneer in the development and application of CT angiography for diagnosis of cardiovascular diseases, is the new chair of the Department of Radiology at Duke University School of Medicine. Previously, Dr. Rubin served as chief of cardiovascular imaging and medical director of the 3D laboratory at Stanford University. Dr. Rubin is a member of the RSNA Education and Exhibits Committee’s Vascular/Interventional Subcommittee, the Public Information Advisers Network and is a reviewer for Radiographics.

Sign Up for RadiologyInfo.org Updates

Keep up with the latest information on RadiologyInfo.org, the RSNA-American College of Radiology public information website, by signing up to receive periodic e-mails, text messages or updates through your RSS reader.

You’ll be notified about new procedures, site features, press releases, articles about new developments, updated safety information and more. Go to RadiologyInfo.org/en/updates to sign up.
New Templates from RSNA Help Meet PQI Requirements
Fulfilling practice quality improvement (PQI) requirements (Part IV) of the American Board of Radiology (ABR) maintenance of certification (MOC) process is made easier with new ABR-approved PQI project templates created by RSNA. Go to RSNA.org/Quality/PQI.cfm to get started.

Each template:
• Describes the purpose and rationale of the project
• Lists needed resources, such as journal articles and applicable institutional policies
• Spells out what exactly is to be measured
• Provides protocols for baseline data collection and data analysis
• Describes factors that could potentially influence performance
• Provides a plan for post-intervention data collection

Project Templates are available for:
• Appropriate Management of Indeterminate Pulmonary Nodules Found on CT
• Appropriateness of Ordering Head CT for Trauma Patients
• Cadaver-Related Bloodstream Infection Reduction Program
• Communication of Significant Changes in Interpretation
• A Patient and Staff Training Program to Reduce Medical Device-Related Infections

Numbers in the News

90
Percent of patients with 7-year survival following high-intensity focused ultrasound (HIFU) treatment for prostate cancer, according to a recently published study. (Read “HIFU Offers Promising Outcomes for Prostate Cancer,” Page 9)

310
Percent increase in MR imaging-related incidents since 2004, according to a U.S. Food & Drug Administration report. Patient safety experts are calling on radiologists to address the increase in accidents and a lack of federal regulations for MR imaging procedures. (Read “Spikes in MR Imaging Accidents Underscore Need for Regulation,” Page 5)

1,915
Number of education exhibits to be presented in the Lakeside Learning Center at RSNA 2010. In addition, 1,918 scientific posters will be presented. (See RSNA.org on Page 21 to learn how you can quickly search the online RSNA Meeting Program to find presentations in your area of interest.)

Letter to the Editor

Issues with the “Department Chair”

The feature article in the August 2010 issue of RSNA News, “The Big Hurt: Ergonomics Linked to Radiologists’ Pain,” and the research it references are very important for all radiologists. The subject of work-related health problems in imaging departments has received far too little attention from our societies and in our literature.

Focusing on the ergonomic challenges facing radiologists working in digital departments, the article references a survey revealing a very high percentage of related musculoskeletal complaints and headaches. This is not surprising given that most imaging facilities were not designed and built with the human factors implications of our technologies in mind. Moreover, it is equally important to point out another long-term health risk posed by our specialty, barely alluded to in this article—our work as diagnostic radiologists has become even more sedentary than it used to be in the pre-digital era. Current technology makes it possible to sit in a chair for an entire workday without ever needing to stand up or walk anywhere. Although not unique to imaging professionals, over the long term, this poses an even greater risk to our health.

To be sure, more attention needs to be focused on these problems in the form of research and education, as well as forums conducted by our societies and at our national meetings. Workplace reengineering, smarter furniture and appliances and adaptive lighting should help. Taking a few breaks throughout the day to stretch and take a walk should be on everyone’s short list and should be encouraged by every department chair, pan in mind.

JASON L. PORT, M.D.
RSNA Member
Long Island, Mass.

IN MEMORIAM
Robert L. Bree, M.D.

Robert L. Bree, M.D., an internationally respected physician and professor of radiology at the University of Washington’s Harborview Medical Center in Seattle, died on Sept. 1. He was 67.

Well known for his innovation and expertise in ultrasound, Dr. Bree earned his medical degree from the University of Michigan in 1946. After spending a decade at Beaumont Hospital in Detroit, Dr. Bree joined the University of Michigan Hospital as a professor and director of ultrasound. Many of the articles authored by Dr. Bree during this time are still considered landmarks in ultrasound research. Dr. Bree served as chair of radiology at the University of Missouri before moving to Seattle to be closer to his family.

Dr. Bree was instrumental in passing the landmark 2009 Washington State legislation, Advanced Imaging Management, designed to ensure appropriate utilization of imaging procedures and ultimately reduce medical costs. A member of the executive council of the Society of Radiologists in Ultrasound, Dr. Bree was a longtime RSNA member and served as a manuscript reviewer for Radiology.

IN MEMORIAM
Igor Laufer, M.D.

A former president of the Society of Gastrointestinal Radiologists (SGR) and radiology professor at the University of Pennsylvania (Penn) in Philadelphia, Igor Laufer, M.D., died of complications from cancer on Sept. 14. He was 66.

Born in what is now Slovakia, Dr. Laufer received his medical degree from the University of Toronto in 1967 and completed his radiology residency in 1972 at Beth Israel Hospital in Boston. Dr. Laufer served as Penn’s chief of gastrointestinal radiology from 1976 to 1995, as residency training program director for the radiology department from 1993 to 2000 and as residency selection director from 1999 to 2004. Dr. Laufer is credited with pioneering techniques for performing double-contrast gastrointestinal barium studies and double-contrast upper gastrointestinal examinations and double-contrast barium enemas. Serving as SGR president from 1984-86, Dr. Laufer was awarded the society’s Walter B. Cannon Medal in 1986 and received the Philadelphia Roentgen Ray Society’s Outstanding Educator Award in 2005.

A longtime RSNA member who served on the gastrointestinal subcommittee of RSNA’s Scientific Program Committee, Dr. Laufer was also a frequent contributor to Radiology.

ABII Announces New Officers

The ABII Announces New Officers

The American Board of Imaging Informatics (ABII) Board of Trustees announced its slate of officers for 2010-11.

J. Anthony Seibert, Ph.D., is secretary and Paul G. Nagy, Ph.D., is 2010-11 chair and director for the radiology department from 1993 to 2000 and as residency selection director from 1999 to 2004. Dr. Laufer is credited with pioneering techniques for performing double-contrast gastrointestinal barium studies and double-contrast upper gastrointestinal examinations and double-contrast barium enemas. Serving as SGR president from 1984-86, Dr. Laufer was awarded the society’s Walter B. Cannon Medal in 1986 and received the Philadelphia Roentgen Ray Society’s Outstanding Educator Award in 2005.

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Spike in MR Imaging Accidents Underscores Need for Regulation

A nurse entering an MR imaging system room watches helplessly as scissors fly from her hand, hitting a nearby patient in the head. A patient placed in the magnet bore in an MR imaging unit is struck by an oxygen tank. After being wheeled into the scan room on a ferromagnetic gurney, a patient is pinned to the MR imaging system along the gurney.

Through none of these patients was seriously injured, the outcome of these MR-related accidents highlights the need for increased vigilance in adopting MR imaging safety procedures and protocols. “At the moment, we have something of a perfect storm,” said Tobias Glik, an architect with the firm RADIOLOGY-Planning based in Kansas City, Mo., president and MRI Safety Director for Mednovus, Inc., based in Lexacuda, Calif., and a former member of the American College of Radiology’s (ACR) MRI Safety Committee. “The increasing number of MR procedures performed each year with increasingly strong MR magnets combined with reduced restraints, staff cuts, a shortage of experienced MR technicians and the lack of federal standards, add up to increased risk for MRI accidents.”

The 2008 FDA accident report data show a 300 percent increase in MRI imaging-related incidents since 2004, the last year in which a decline in the number of accidents was reported. In that time period, 482 MR imaging-related incidents were reported to the FDA.

While the number of reported incidents pales in comparison to the estimated 30 million MR imaging studies performed annually in the U.S., experts say the FDA statistics don’t tell the whole story and that the spike in accidents—combined with a lack of federal standards, add up to increased risk for MRI accidents.

“It gets back to who is ultimately responsible for patient safety, and that is the radiologist,” said Frank Shellock, Ph.D., founder of the Institute for Magnetic Resonance Safety, Education and Research (IMRSER), a clinical professor of radiology and medicine and director of MRI studies of Biomimetic Micro/Electronic Systems Implants at the University of Southern California in Los Angeles, and author of numerous books on MRI imaging safety. “If radiologists are not even aware that some of these issues exist, that could be a huge problem.”

“Projectiles” are Common Accident Cause

Among the most common MR imaging-related accidents are “projectile” injuries, in which ferromagnetic objects—anything from oxygen canisters and wheelchairs to buckets, cribs and desk drawers—are pulled toward the MR imaging system room at a high speed, creating a “muzzle” effect. “The most widely publicized incident of this type occurred when a 6-year-old boy was killed after an oxygen tank brought into the MR imaging scanner room became magnetized and flew through the air at 20 to 30 feet per second, fracturing the boy’s skull.”

Not only is the patient at risk, but so is anyone who happens to be in the same room,” according to Glik, who created and maintains the MRI Metal Projectiles website. “While admittedly, the number of actual safety incidents/accidents is extremely difficult to accurately quantify, it is clear that the extreme majority of MR safety incidents do not make it to the FDA MAUDE database,” said Dr. Kanal, whose extensive history with MR safety includes co-authoring a textbook with Dr. Shellock, and serving as an expert or consultant on hundreds of legal cases involving MR incidents in the past three decades and as the lead author on the ACR Guidance Document for Safe MR Imaging since 2004. “Unfortunately, the number of cases involving MR imaging-related incidents that are reported to the government is much smaller than the number that are underreported, according to Dr. Shellock, who has been involved in MR imaging safety for 25 years and created and maintains the internationally known website, MRsafety.com (see sidebar).”

CONTINUED ON PAGE 8

GUIDELINES HELP PREVENT MR IMAGING ACCIDENTS

The following links offer MR imaging safety guidelines:

- MR imaging safety resource including a comprehensive list of thousands of implants and devices as well as device and imaging safety topics (MRI-Safety.com)
- The Joint Commission Sentinel Event Alert on MRI safety issues (www.jointcommission.org)
- Institute for Magnetic Resonance, Safety, Education, and Research (IMRSER) MRI Safety Guidelines (www.imrsr.org)
- MRI safety information for patients (www.RadiologyInfo.org)
- Other MR imaging-related safety sites include:
  - The U.S. FDA Manufacturer and User Facility Device Experience (MAUDE) database (www.fda.gov)
  - The Metal Detector Blog (www.ormetaldetector.com/blog)

Detectors blog (see sidebar) featuring frequent posts and comments about MR imaging accidents.

“There is an alarming number of injuries to MR technologists and service personnel.”

Burn injuries—primarily related to radiofrequency coil, photodisrupt or electronically activated devices and external objects made from conductive materials—are also common, while implanted devices pose another potential problem. ACR recommends that implanted cardiac pacemakers and implantable cardioverter/defibrillators be considered relative contraindications for MR imaging, because they can disrupt a pacemaker’s electronic system and/or burn heart tissue that is in contact with the leads. This is likely to change with the U.S. release of MR-conditioned pacemaker/specialty designed for use in patients undergoing MR imaging exams, according to Dr. Shellock. The cardiac implants are already available in Europe.

Other MR imaging-related incidents might not ever get reported, according to Emanuel Kanal, M.D., director of Magnetic Resonance Services and professor of radiology and neuroradiology at the University of Pittsburgh Medical Center. Dr. Kanal contends that the FDA reporting system—which records information on medical devices that may have malfunctioned or caused a death or serious injury—it flawed. “While admittedly, the number of actual safety incidents/accidents is extremely difficult to accurately quantify, it is clear that the extreme majority of MR safety incidents do not make it to the FDA MAUDE database,” said Dr. Kanal, whose extensive history with MR safety includes co-authoring a textbook with Dr. Shellock, and serving as an expert or consultant on hundreds of legal cases involving MR incidents in the past three decades and as the lead author on the ACR Guidance Document for Safe MR Imaging since 2004. “Unfortunately, the number of cases involving MR imaging-related incidents that are reported to the government is much smaller than the number that are underreported, according to Dr. Shellock, who has been involved in MR imaging safety for 25 years and created and maintains the internationally known website, MRsafety.com (see sidebar).”

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Newest CT Scanners Increase Resolution, Reduce Dosage

Demand from the public and physicians is driving manufacturers to offer improvements in image quality, speed and coverage volume, while reducing exposure to radiation.

One example of advanced CT technology that offers both higher speed and reduced dose is Toshiba’s Aquilion One®, a 320-slice scanner.

"This scanner takes a 6-inch slice in one rotation, and in less time than a single heartbeat," said Phil Evans, M.D., the associate vice-president of clinical imaging services at the University of Texas-Southwestern in Dallas, the first site in Texas to launch the technology introduced in 2008. "What takes 12 to 15 seconds for an ordinary scanner takes only a third of a second for the 320-slice scanner. A perfusion brain scan can now be done with much less radiation dose, which is of course an important advantage."

"We can get the perfusion scan in about five minutes, process it within 15 or 20 minutes, and it’s ready to interpret," Dr. Evans said. "We are now better equipped to determine whether we are dealing with a hemorrhage or a stroke."

The scanner’s ability to obtain images more quickly also allows CT angiography.

"Because this scanner is capable of whole-body imaging, there should be many applications for it," Dr. Evans said. "We’re just starting to use it to assess heart function—it provides a really superb CT angiogram because you get the entire heart in one pass."

Such a scanner also has potential use for orthopedic injuries, bone tumors and evaluation of vocal cord paralysis, added Dr. Evans. "We think a 320-slice CT scanner really has the potential to impact the way we practice medicine."

MITA Initiative Prompts Dose Reduction Techniques

The Dose Check Initiative launched earlier this year by the Medical Imaging & Technology Alliance, a division of the National Electrical Manufacturers Association, brings together five manufacturers—GE Healthcare, Toshiba, Siemens, Royal Philips Electronics and Hitachi—specifically on the issue of radiation dose. Under the agreement, member companies will install safety controls to better ensure patients do not receive excessive radiation doses.

Dosing checks are scheduled to begin before year-end and are meant to let scan operators know when the devices exceed recommended safety levels.

Offering optimal image quality at a lower dose was GE Healthcare’s goal in designing Discovery® CT750 HD, which delivers higher spatial resolution, better image clarity and liquid crystal display (LCD) with up to 50 percent lower radiation dose. At the core of Discovery CT750 HD is the proprietary GE Gemstone® detector, which enables spatial resolution improvements of up to 33 percent, according to the company.

"This system was designed to meet the needs of customers looking for higher diagnostic capability with significant dose reduction," said Nilesh Shah, general manager of Global CT Marketing for GE Healthcare. "Our customers also told us that they want a highly reliable multi-purpose scanner that provides solutions for multiple clinical needs."

Another dose-reduction technique, called iterative reconstruction, enables image processing times 20-fold faster than is possible with current software. Iterative reconstruction algorithms can provide superior diagnostic image quality while reducing X-ray dose by as much as 80 percent. iDose™ from Philips Healthcare is one example of the technique.

Adaptive Statistical Iterative Reconstruction (ASIR) uses statistical remodeling to diminish noise while reducing reliance on filtered back projection reconstruction techniques that were adopted soon after the invention of CT. This change allows for lower tube current, resulting in reduced dose for all CT applications to which it is applied.

Spice in MR Imaging Accidents Underscoring Needs for Regulation

"It would be best if the MR imaging community would implement standards rather than wait for the government to do it, but I’m not confident that will occur," Dr. Sheklock said. "Liability frequently comes up as a sticking point with these accrediting organizations."

And because accrediting bodies compete for imaging provider participation, adding new requirements could amount to a disincentive of sorts, according to Gilk, an author of the ACR document. “It’s a race to the bottom.”

Another factor is the intense spotlight on CT and radiation exposure. MR imaging—which does not use ionizing radiation and is therefore not linked to cancer—has avoided similar concerns.

"Radiologists need to be involved in creating safety protocol but also with making sure guidelines are properly implemented, because ultimately, the responsibility rests with them," Gilk said.

Radiologists need to be involved in making the magnetic room as safe as possible, which can involve anything from making basic architectural changes and installing metal detectors to screening for ferromagnetic objects and training staff on MR imaging safety protocol.

"Such safeguards will become critical as magnet strength increases and healthcare revenues increase," Gilk said. "Clinically, new applications are being unveiled and we’ve just scratched the surface of what MR can do,“ Gilk said. "In fact, there is an increasing use of MR in the high-susceptibility area and emergency rooms. As the number of stimuli increases, so does the potential for accidents."

"Physicians are particularly vulnerable. "It’s simply a matter of following current safety protocols and putting the proper procedures and protocols in place,“ Dr. Sheklock said.

Continued from Page 6
"We think a 320-slice CT scanner really has the potential to impact the way we practice medicine." Phil Evans, M.D.
HIFU Offers Promising Outcomes as Prostate Cancer Treatment

With more than 20,000 patients currently being treated in Europe and the results of a recent multicenter study in France offering promising results, researchers are hopeful that high-intensity focused ultrasound (HIFU) will emerge as a primary therapy for select patients with localized prostate cancer.

Along with impressive cancer survival rates, HIFU delivered outcomes similar to those expected with conformal external beam radiation therapy (EBRT), said Sebastian Crouzet, M.D., an associate professor in the Therapeutic Ultrasound Research Laboratory at the University of Lyon in France. Research by Dr. Crouzet and colleagues was published in the July 2010 online edition of the European Urological Association annual meeting.

“We have followed some patients as long as 10 years and are reaching results very similar to EBRT,” said Dr. Crouzet. “HIFU offers a minimally invasive alternative to more invasive surgery and radiotherapy treatments for low-risk cancers. It offers a dedicated solution before the disease progresses and requires more radical intervention.”

Despite promising results, it is unclear whether HIFU—which does not yet have FDA clearance for this indication—will be approved for clinical use in the U.S. HIFU is available as a treatment for prostate cancer in the United Kingdom as part of clinical trials.

“The accomplishments of French researchers are impressive and the outcomes have been good,” said Graham Sommer, M.D., a professor of radiology at Stanford University, researchers including Graham Sommer, M.D., (right), are studying MR-guided transrectal HIFU, which may eliminate the need for a transurethral resection of the prostate prior to ablation.

“MR will play a major role in HIFU going forward,” Dr. Crouzet said. “Because MR is more precise than ultrasound, we are getting even better outcomes with MR, including fewer side effects and complications.”

Seven-Year Survival Rate Touted

A six-center study in France showed that high-intensity focused ultrasound (HIFU) offered promising results for select patients with prostate cancer, according to lead researcher Sebastian Crouzet, M.D., (left) of the University of Lyon in France. At Stanford University, researchers including Graham Sommer, M.D., (right), are studying MR-guided transrectal HIFU, which may eliminate the need for a transurethral resection of the prostate prior to ablation.

Study results and ongoing research have helped Dr. Crouzet identify a profile of the patient best suited for HIFU treatment.

“For those patients who might be candidates for HIFU treatment,” Dr. Crouzet said, “HIFU can be repeated when necessary several months or several years after the first session and can also be followed by a salvage radiation therapy.”

A six-center study in France showed that high-intensity focused ultrasound (HIFU) offered promising results for select patients with prostate cancer, according to lead researcher Sebastian Crouzet, M.D., (left) of the University of Lyon in France. At Stanford University, researchers including Graham Sommer, M.D., (right), are studying MR-guided transrectal HIFU, which may eliminate the need for a transurethral resection of the prostate prior to ablation.

“HIFU offers a minimally invasive alternative to more invasive surgery and radiotherapy treatments for low-risk cancers.”

Sebastian Crouzet, M.D.

With MR, you can see what you’re heating,” agreed Dr. Sommer, adding that he believes MR guidance is just as crucial in HIFU of the prostate as it is in other ablation procedures.

Unlike the French researchers, who use a transrectal approach for HIFU, Dr. Sommer’s group is studying MR-guided transurethral HIFU, which may eliminate the need for a transurethral resection of the prostate prior to the ablation. The transurethral technique allows the physician to preserve the urethra not only from the resection but also from the ablative sound waves.

“Our technique also looks very promising for benign prostatic hyperplasia, which could be an even more important application of HIFU than as a treatment for prostate cancer.” Dr. Sommer said.

While the final outcome of HIFU research is yet to be determined, experts agree that ablation of the prostate holds promise.

“There’s a lot of movement in this field with researchers going in different directions,” Dr. Sommer said. “Nevertheless, prostate is another ideal area for ablation because it’s just sitting there. It’s a perfect target.”

With new research showing impressive cancer survival rates, researchers are hopeful that high-intensity focused ultrasound will emerge as a primary therapy for select patients with localized prostate cancer. Left: Axial contrast-enhanced image one month post-ablation in canine prostate involved with benign prostatic hyperplasia (BPH) shows complete resorption of ablated regions on either side of the urethra (UL), which is preserved. The ablated regions are of size and location similar to enlarged transition lobes seen with human BPH.

HIFU TO BE DEBATED IN RSNA 2010 SESSION

“High-Intensity Focused Ultrasound: Myth or Reality?” will be presented by Christopher Comstock, M.D., on Monday, Nov. 29, at RSNA 2010. Registration is under way at RSNA.org/register.
The potential for radiologist assistants (RAs) to transform radiology still faces considerable bureaucratic and political hurdles.

In all states in the U.S., eventually recognize RAs, there will be a significant change in how we perform radiology,” said Paul Ellenbogen, M.D., a diagnostic radiologist at Texas Health Presbyterian Hospital in Dallas and co-presenter of the RSNA 2010 course, “The Continuing Evolution of the Radiologist Assistant in the Medical Imaging Environment.” (See sidebar)

Still in its infancy—the first RAs graduated and began entering the workforce in 2005—the RA profession has strong support from the American College of Radiology (ACR), the American Society of Radiologic Technologists (ASRT) and the American Registry of Radiologic Technologists (ARRT®), which jointly endorsed the new category in 2003. Later that year, the nation’s first RA educational program began at Loma Linda University in California. Today, 13 RA education programs exist in the U.S.

Nevertheless, RAs are still trying to find a place in the big picture of healthcare. Specifically, RAs face two hurdles: First, like the Centers for Medicare & Medicaid Services (CMS), many insurers refuse to reimburse for RA services, primarily because they are not considered medical providers; and second, 22 states do not license, regulate or even recognize the role of RAs, sharply limiting the duty by which they can perform. Individual states regulate nonphysician practitioners such as RAs.

Another sticking point: CMS now requires personal supervision for RAs, meaning the supervising physician must be in the room during the procedure. ACR, ASRT, ARRT and the Society of Radiology Physician Extenders are advocating for direct supervision for RAs, under which the supervising physician needs only be present on the premises, immediately available to offer assistance and direction.

While ACR, ASRT and ARRT have been lobbying state legislators to recognize RAs, many lawmakers are gun-shy about supporting such initiatives due to the increasing number of ancillary medical professionals lobbying for increased responsibilities, Dr. Ellenbogen said.

For example, anesthesiologists are seeking to perform anesthesiologists’ duties and physician assistants (PAs) want increased autonomy over patient care. The resulting “ turf wars” have made legislators hesitant to support any new medical professional role, Dr. Ellenbogen said.

If all RAs were authorized to do selected procedures, radiologists could concentrate on the more complex procedures.” —Paul Ellenbogen, M.D.

Although radiologist assistants (RAs) are considered a boon to radiology practices and hospital departments and have support from professional radiology organizations, they are still trying to find their place in the big picture of healthcare.

RAs were authorized to do selected procedures, radiologists could concentrate on the more complex procedures. This would result in greater productivity by the radiologist, and in turn, lead to faster response times and possibly shortened length of patient stay.”

Roles of PAs, RAs Overlap

Meanwhile, another trend threatens to affect the RA role. An increasing number of PAs are finding work in radiology departments and performing most of the same duties as RAs, but with the added advantage of being licensed medical providers.

Although PAs are moving into radiology at higher rates, ACR contends that the RAs’ specialized training gives them an advantage, according to Dr. Ellenbogen. “We think the RA is the better person to do the job,” he said.

Even though RAs possess valuable skills, they are not able to perform many of the duties that a PA can, including making hospital rounds and discharging patients, according to Kenneth Trulson, PA-C, of Interventional Radiology and Vascular Surgery in San Jose, Calif.

“RAs are going to be relegated to the cath lab, and that’s really all they can do,” he said, adding that RAs are more beneficial to outpatient radiology practices than hospital departments.

Still, Trulson thinks there is a place for both RAs and PAs in the radiology field. “I don’t think anyone is invading anyone’s turf,” he said. “It comes down to what works for each group. We’re all here to treat the patient. Even so, many states do not allow PAs to perform radiologic procedures, Lung said.

“Since the radiologist assistant is a radiologic technologist, he or she can perform specialized technical aspects of the procedure as well as patient care duties,” she said. “Radiologist assistants are specifically educated to work in radiology for radiologists and are highly skilled in radiation safety and protection by virtue of their radiologic technologist training.”

Ultimately, the choice between RA and PA should be determined by the needs of the individual practice, Trulson said. “Healthcare providers need to take a little time, do their homework and find the right person to fill their needs. I think we can all coexist quite well.”

If RAs are able to perform selected procedures and act as patient liaisons of sorts, radiologists will be able to devote more time to interpretation and diagnosis, noted Dr. Ellenbogen. “Just as the PA assists the physician, surgeon, internist or other physician, the RA assists the radiologist,” he said. “If all
Microbubble-enhanced US in Body Imaging: What Role?

Contrast agents for ultrasound (US)—comprising microscopic bubbles of gas in an encapsulating shell—are unique in that they interact with the imaging process, oscillating in response to a low-intensity ultrasound field and disrupting in response to a high-intensity field. New contrast-specific imaging modes allow US to show exquisite vascularity and tissue perfusion in real time and with excellent spatial resolution.

In a State of the Art article in the October issue of Radiology (RSNA.org/Radiology), Stephanie R. Wilson, M.D., and colleagues review current literature on US contrast agents and discuss milestones in liver tumor diagnosis and treatment, as well as advances in imaging using ultrasound.

In an article in the October monograph issue of Radiology Oncology (RSNA.org/RadioGraphics), Rachel B. Lewis, L.C.D.R., and colleagues review current literature on the potential of PET imaging for targeting detection, as well as its role in antivascular drug therapies.

The October issue of Radiology included an article on the potential of PET imaging for targeting detection, as well as its role in antivascular drug therapies.
Effective intervention and treatment," the authors write.

"Awareness of SEB may result in radiologists being the first physicians to diagnose and intervene of child abuse, the authors conclude. As part of a larger longitudinal study over the past decade evaluating the use of image-guided foreign body removal (IGFBR) for the treatment of STFBs, Adam S. Young, B.S., of the Department of Radiology at Nationwide Children’s Hospital in Columbus and The Children’s Radiological Institute, and colleagues identified a subgroup of adolescent patients who deliberately embedded objects into the soft tissues in order to effect bodily harm. Along with providing the first series report of self-embedding behavior (SEB) as a distinct pathologic behavior, the authors demonstrate the efficacy and clinical impact of IGFBR in the treatment of STFBs and discuss the radiologist’s unique role in recognizing the behavior and initiating interventional and treatment.

This diagnostic responsibility is similar to the role of the radiologist in the initial diagnosis and intervention of child abuse, the authors conclude. "Awareness of SEB may result in radiologists being the first physicians to identify SEB and rapidly mobilize an interdisciplinary team for early and effective intervention and treatment," the authors write.

Atrial and Ventricular Functional and Structural Adaptations of the Heart in Elite Triathletes Assessed by Cardiac Magnetic Resonance Imaging

Cardiac adaptations in elite triathletes are characterized by a balanced increase in left ventricle (LV) and right ventricle (RV) myocardial mass, wall thickness, ventricular dilation and diastolic function. In a study of 26 professional male triathletes (mean age 27.9 ± 2.7) and 27 male controls (mean age 27.3), who underwent cardiac MR imaging, Michael Schult, M.D., of the University of Erlangen-Nürnberg in Germany, and colleagues discovered that the prevalence of left atrial (LA) enlargement is substantially higher and LA dilation is accommodated by LV remodeling as an adaptation to training in elite triathletes. Results also showed that LV and RV end-diastolic volumes (EDV) in elite triathletes are significantly increased above the normal range of EDV as measured on cardiac MR imaging, whereas values for LV and RV myocardial mass do not exceed normal ranges.

"The similar LV remodeling index in athletes and controls and the strong positive correlation between LV myocardial mass and EDV indicate a balanced eccentric adaptation of the heart. The indexed ratio for end-systolic LA volume to EDV indicates a balanced eccentric adaptation of the heart. The similar LV remodeling index in athletes and controls and the strong positive correlation between LV myocardial mass and EDV indicate a balanced eccentric adaptation of the heart. The indexed ratio for end-systolic LA volume to EDV indicates a balanced eccentric adaptation of the heart," the authors write.

Addressing Overutilization in Medical Imaging

Radiologists should be at the forefront of a movement to develop a national strategy addressing overutilization of imaging services and increasing accountability in radiology and healthcare in general for the appropriate utilization of medical imaging and radiation.

In an article drawing on information released at the 2009 American Board of Radiology Foundation summit, "Medical Imaging: Addressing Overutilization in an Era of Healthcare Reform," William R. Hendee, Ph.D., of the Medical College of Wisconsin in Milwaukee, and colleagues identify the key factors driving overutilization and discuss ways to reduce their influence through a collaborative national effort.

Factors identified as drivers of overutilization include the payment mechanism and financial incentives in U.S. healthcare, the practice behavior of referring physicians and self-referral. Recommended solutions include a national collaborative effort to develop evidence-based appropriateness criteria for imaging, decision support at the point of care and management of self-referral and defensive medicine.

"Many factors contribute to the overutilization of medical imaging, some of which are beyond the ability of the radiology community to ‘heal itself,’” the authors conclude. “However, there are many avenues that radiologists and their colleagues in medical physics and radiation oncology can take to reduce the overutilization and improve the performance of imaging services.”

Radiation Doses and Cancer Risks from Breast Imaging Studies

A single breast-specific gamma imaging (BSGI) or positron emission mammography (PEM) study is associated with a radiation-induced fatal cancer risk higher than or comparable to that of annual screening mammography in women aged 40–80 years. In an article comparing recent literature on radiation doses from radiologic procedures and organ doses from nuclear medicine procedures, along with Biologic Effects of Ionizing Radiation (BEIR) VII age-dependent risk data, R. Edward Hendrick, Ph.D., of the School of Medicine at the University of Colorado in Denver, estimates the lifetime attributable risk (LARs) of radiation-induced cancer incidence and mortality from screen-film mammography, digital mammography, digital breast tomosynthesis, dedicated breast CT, BSGI and PEM.

A single BSGI or PEM examination involves a lifetime risk of inducing fatal cancer greater than or comparable to that of a lifetime of conventional mammography in women starting at age 40 years, results showed. In addition, digital breast tomosynthesis and dedicated breast CT involve cancer risks that are one to two times those of digital or screen film mammography, Dr. Hendrick discovered.

"BSGI and PEM devices are being marketed to breast centers and private physicians’ offices as problem-solving adjunctive tools and, in some cases, second-look devices after mammography and US," Dr. Hendrick concludes. "The associated risks and potential benefits of these procedures, even as diagnostic adjuncts to mammography, should be communicated to patients through informed consent.”

October Outreach Activities Focus on Breast Cancer Awareness

To highlight National Breast Cancer Awareness Month in October, RSNA distributed public service announcements (PSAs) focusing on the importance of regular screening mammograms. In addition to the PSAs, RSNA distributed the “60-Second Checkup” radio program focusing on mammography screening.

Media Coverage of RSNA

In August 2010, media outlets carried 169 RSNA-related news stories. These stories reached an estimated 36 million people.


Mean glandular dose (MGD) per view as function of compressed breast thickness, measured by using material equivalent to 50 percent glandular tissue, 50 percent fatty tissue (X1), for 32 screen film mammography (SFM) units. Error bars represent 1 standard deviation in measured MGDs at each compressed breast thickness across all 32 SFM units. Solid line is best quadratic fit of MGD versus compressed breast thickness.

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RSNA 2011 Membership Renewal Under Way
RSNA membership renewal for 2011 is under way online, by e-mail or phone. To use myRSNA®, to pay your membership dues online, click "myRSNA" at the top of the RSNA.org homepage or go to myrsna.org. After logging onto myRSNA, click Membership Renewal in the My Profile section. Before beginning the renewal process, take a moment to update your profile with current contact information and save your changes. 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 December 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 members@rsna.org.

For Your Benefit

Member Question of the Month
Why do you give to the RSNA R&E Foundation?
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: What is your biggest challenge in incorporating new technology on the job?
As a radiologist in a little hospital in the outskirts of Milan in northern Italy, I can say without any doubt that the passage from a single-slice CT to a 64-slice machine has represented a “giant leap forward.” The biggest challenge has been to “tune up” to the full potential of our new CT—the winning method is introducing new techniques into your daily activity in order to set up your skills and get prepared before the opening of the new facility, so you can ultimately add value to your practice.
Alberto Pumagalli, M.D.
Melzo, Italy

R&E Foundation Grant Recipient Continues as Reviewer
After receiving two RSNA Research & Education (R&E) Foundation grants early in my career, I was encouraged by the research bug and felt compelled to continue my involvement in the grant process by serving as a reviewer with the RSNA R&E Radiology Research Section.

Along with wanting to give back to the organization that benefited my career so substantially, I was also interested in mentoring new junior investigators and getting to know scientists in the imaging community. My last six years as an R&E reviewer have given me the opportunity to achieve these goals, which I find highly rewarding.

Since accepting a 1999 Research Resident Grant and a 1999 Research Seed Grant from R&E, I received more than $12 million in National Institutes of Health grants to pursue research, and in 2010 became chair of the Department of Radiology at the University of Pittsburgh. I believe the R&E grants were crucial in igniting the flame that has fueled the continued growth of my academic career.

As a department chair, I am interested in mentoring medical students and exposing them to the radiology and imaging research that is so critical to their career development.

Writing a Competitive Grant Proposal
Registrations are being accepted for the 2011 RSNA Writing a Competitive Grant Proposal program, a grant writing session for researchers in radiology, radiation oncology, nuclear medicine, and related sciences who are interested in actively pursuing federal funding. A limited number of slots are available for this 1½-day intermediate-level course that combines didactic and small group interactive sessions and is designed to help radiologic researchers understand and apply the key components of writing a competitive grant proposal.

Topics to be covered are the NIH grant review process, developing specific aims, and fund- ing 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 Casselse, M.D., Ph.D., M.P.H., of Massachusetts General Hospital in Boston; Robert Norton, Ph.D., of the National Cancer Institute in Bethesda, Md.; Ruth Caro, M.D., M.S., of the University of Michigan Health System in Ann Arbor; Elizabeth Burns, M.D., M.P.H., of the University of Wisconsin in Madison; John Halter, Ph.D., of NIH/National Institute of Biomedical Engineering and Bioengineering; and Michael Vannier, M.D., of the University of Chicago.

RSNA will hold a National Institutes of Health (NIH) Grantsmanship Workshop on Saturday, November 27, from 1 to 5 p.m. at McCormick Place Chicago. The workshop covers grantsmanship techniques from concept development to submission, as well as the NIH review process. There is also an opportunity to experience a mock study section. Speakers will address the entire NIH grant application experience, including basic applications as well as K grants. Speakers are: Robert J Nordstrom, Ph.D., of the National Cancer Institute in Bethesda, Md.; Ruth Caro, M.D., M.S., of the University of Michigan Health System in Ann Arbor; Elizabeth Burns, M.D., M.P.H., of the University of Wisconsin in Madison; John Halter, Ph.D., of NIH/National Institute of Biomedical Engineering and Bioengineering; and Michael Vannier, M.D., of the University of Chicago.

To register online at RSNA2010.RSNA.org, registration fee is $155.

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 in Chicago.

"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, November 27. 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, November 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 Credits®. 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 1-800-581-6660 x7772 or e-mail jcomerford@rsna.org.

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To register online at RSNA2010.RSNA.org, registration fee is $155.

Medical Meetings
Decemeber 2010 – March 2011

DECEMBER 9–11
American Society for Radiation Oncology (ASTRO), Chicago Hilton, Chicago • www.astro.org
JANUARY 17–21, 2011
Integrating the Healthcare Enterprise (IHE) North American Connection, Hyatt Regency Chicago • www.ihe.net/Connection
JANUARY 29–31, 2011
Indian Radiological & Imaging Association (IRIA), 63rd Annual Congress, Hotel Ashok, Charak Puri, New Delhi, India • www.rsna.org
FEBRUARY 20–24, 2011
International Society for Optics and Photonics (SPIE), Medical Imaging 2011, Lake Buena Vista Orlando, Fla. • www.spie.org
FEBRUARY 20–24, 2011
Healthcare Information and Management Systems Society (HIMSS), Annual Conference and Exhibition, Orlando, Fla. • www.himssconference.com
MARCH 6–9, 2011
Society of Thoracic Radiology, Annual Meeting, Hyatt Regency Coconut Point, Bonita Springs, Fla. • www.stronline.org

JANUARY 2011

• www.himssconference.org
• www.sbi-online.org
• www.rsna.org/register.

JANUARY 2–7, 2011
• www.ihe.net/Connectathon
• www.sbi-online.org
• www.rsna.org/register.

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JANUARY 2011

JANUARY 29–31, 2011
Indian Radiological & Imaging Association (IRIA), 63rd Annual Congress, Hotel Ashok, Charak Puri, New Delhi, India • www.rsna.org
FEBRUARY 20–24, 2011
International Society for Optics and Photonics (SPIE), Medical Imaging 2011, Lake Buena Vista Orlando, Fla. • www.spie.org
FEBRUARY 20–24, 2011
Healthcare Information and Management Systems Society (HIMSS), Annual Conference and Exhibition, Orlando, Fla. • www.himssconference.com
MARCH 6–9, 2011
Society of Thoracic Radiology, Annual Meeting, Hyatt Regency Coconut Point, Bonita Springs, Fla. • www.stronline.org

JANUARY 2011

• www.himssconference.org
• www.sbi-online.org
• www.rsna.org/register.

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Using the Online RSNA Meeting Program

The enhanced online RSNA Meeting Program offers detailed information about each of the hundreds of presentations happening at RSNA 2010, in an easy-to-search format. Start by going to RSNA2010.RSNA.org/search.

Use the links on the left-hand sidebar to filter your search by:
1. **Subspecialty.** Choose the kind of content you are seeking—for example, click “Mammography” to see all sessions identified as having mammography content. You can choose just one or multiple subspecialties.
2. **Author.** Enter the last name of the presenter you want to see. Unsure about the spelling? Enter just the first few letters and the system will search possible matches for you.
3. **Keyword.** In the “Search Events” box, enter keywords pertaining to your area of interest, such as “angiography.” Adding more keywords will refine your search— for example, “CT angiography.”
4. **Area.** Select the kinds of RSNA annual meeting sessions—refresher courses, education exhibits, scientific presentations, etc.—in which you are interested.
5. **Date.** Not going to be at RSNA 2010 the entire week? Narrow your search based on the days you’ll be attending.
6. **Find out more.** Click titles within the results list to read abstracts, learning objectives and other session information.
7. **Narrowed your search too much?** Click individual filters to remove them from your search, or click “Clear All Filters” to start over.
8. **Take your schedule with you.** Click “Print PDF” to print your final schedule right away, or “E-Mail PDF” to have an electronic copy sent to you.

**Using a Smartphone?**
Go to m.rsna.org to search the program using the RSNA 2010 mobile site. Click “Search Program” and then “Search” in the upper left-hand corner. Use the dropdown boxes to create the filters described above.

**COMING IN NOVEMBER**
While the days of double-digit salary increases are becoming a distant memory for radiologists, experts believe this year’s flat compensation rates are likely to show a rebound in 2010. Next month, RSNA News analyzes 2009 data from the American Medical Group Association (AMGA) 22nd Annual Medical Group Compensation and Financial Survey and asks the experts what radiologists can expect in coming years.

**Crossword Answer**
Here are the answers to the 20th anniversary crossword from our July 2010 issue. Missed the puzzle and still want to give it a try? Go to rsnanews.org to try an interactive version, complete with timer and optional clues. A new puzzle will be published in print and online with the November 2010 issue of RSNA News.
Patient-tailored care, dose-reduction efforts, healthcare policy and emerging technology are among the compelling issues slated to make headlines at RSNA 2010. Along with the latest in education exhibits and scientific presentations, attendees can choose from a diverse roster of refresher courses, self-assessment modules (SAMs), applied science, integrated science and practice sessions, and workshops encompassing every specialty.

Evolving techniques and technology as well as patient safety are among the issues reflected in scientific courses planned for RSNA 2010, according to Robert Quencer, M.D., chair of the RSNA Scientific Program Committee. “Focusing on these is the evolution in state-of-the-art techniques in all imaging modalities, standardization of patient imaging results, considerations in increasing quantitative data in reports, ongoing efforts in patient radiation dose reduction and development of individualized patient-centric imaging,” Dr. Quencer said.

RSNA 2010 features a record number of education exhibits, said RSNA Board Liaison for Education Richard L. Baron, M.D. “The meeting presents a wide range of education materials in many different formats tailored to each individual’s optimal learning style. “Reducing unnecessary radiation is an important task for the imaging community, and will be addressed in refresher courses, exhibits and a special interest session,” Dr. Baron, chair of the RSNA Education Committee, said. Refresher courses offer an up-to-date review of all aspects of diagnostic radiology, radiation oncology and medical physics, said Valerie P. Jackson, M.D., RSNA Refresher Course Committee chair. “Many new offerings focus on practical clinical problems and quality issues,” Dr. Jackson said. “There is also a wide variety of courses on informatics, healthcare policy and radiation safety, and a continuation of the popular Hands On! and How To! workshops.”

This year, RSNA received 11,470 abstract submissions—814 more than last year. Over the summer, the committees and subcommittees selected 9,919 abstracts for education exhibits, 49 for quality storyboards, 1,769 for formal scientific papers and 679 for scientific posters.

Breast Imaging

Continuing last year’s successful combined breast/nuclear medicine sessions, RSNA 2010 features a second vertical series highlighting emerging technologies including non-contrast MR imaging, digital tomosynthesis, ultrasound elastography and quantitative breast MR imaging, said Robyn L. Birdwell, M.D., chair of the Scientific Program Subcommittee. “We will also see more integrated science and practice (ISP) sessions: a combined mammography, ultrasound and MR imaging CAD session, an advanced digital application session and a diagnostic ultrasound session,” Dr. Birdwell said. “Abstract submission numbers were high and varied, with an increase in studies regarding diffusion-weighted imaging, automated whole-breast ultrasound and molecular composition breast mapping.”

Notable education exhibits in breast imaging range from multiple-modality imaging to molecular imaging, said Education Subcommittee Chair Cheryl M. Krueziak, D.O. “This year emphasizes advances in MR of the breast, including its role in neoadjuvant chemotherapy and diffusion-weighted imaging. Other noteworthy topics include cone-beam breast CT and breast-specific gamma imaging.”

Cardiac Radiology

Hot topics in cardiac radiology science include dose- and noise-reduction algorithms for cardiac CT angiography and improved CT evaluation of plaque and lesions, said Scientific Program Subcommittee Chair Andre J. Duerricks, M.D., Ph.D. “There is great interest in new CT technology—256-slice, 128-slice dual-source and, to a lesser extent, 320-slice CT,” Dr. Duerricks said. He also noted important outcomes in studies involving smokers and patients with diabetes.

“Attendees can expect to see high level education exhibits on the gamut of congenital and acquired heart disease, with much of the focus on cardiac CT and MR, including technical advances,” said Linda B. Haramati, M.D., Education Exhibits Subcommittee Chair. “Since cardiac imaging covers such a broad range of topics, these exhibits are of great interest and practical utility for pediatric, emergency, chest and cardiac radiologists.”

Chest Radiology

Driven by public concern regarding CT safety, this year’s program features a number of sessions focusing on dose-reduction methods, according to Warren G. Gefter, M.D., Scientific Program Subcommittee chair. “One of the most promising dose-reduction methods is iterative reconstruction,” Dr. Gefter said. “Decreasing image noise allows significant dose reduction without sacrificing image quality.”

Overall, this year’s scientific sessions emphasize functional over structural imaging and quantitative over subjective interpretations, Dr. Gefter said. “I am personally very excited about the functional lung imaging session,” he added. “Until now, most pulmonary functional imaging has been done with MR, but this year’s papers will demonstrate dual-energy CT together with non-radioactive xenon gas for functional ventilation imaging, with great promise for asthma and other airway disorders.”

Other notable topics in chest radiology include CT-guided ablation procedures—including radiofrequency, cryotherapy and microwave—for treating inoperable primary lung cancers and pulmonary metastases, Dr. Gefter said. “In response to the recent H1N1 outbreak, the pulmonary infections session emphasizes diagnostic and prognostic chest radiographic and CT findings in this pandemic.”

Chest education exhibits also focus largely on CT applications for infection, especially influenza A, and the continued introdustion of CT into angiography, said Education Exhibits Subcommittee Chair Sanyeep Jhalla, M.D. “Another hot area is the increasing multimodality approach to thoracic oncology, using CT to help predict who has responded and who will respond to treatment,” said Dr. Jhalla. “Attendees should pay close attention to the increasing role of dual-energy CT and diffusion-weighted MR,” Dr. Jhalla added.

Refresher courses covering new guidelines for thoracic imaging based on proposals for the Fleischner Society, Society of Thoracic Radiology and other organizations, are of note, according to Dr. Jackson.

Emergency Radiology

“Skeletal topics in emergency radiology this year include methods of decreasing CT radiation and optimization of imaging utilization in the emergency department,” especially CT pulmonary angiography,” said Jorge A. Soto, M.D., Scientific Program Subcommittee Chair. Incorporating imaging studies from other institutions into PACS, optimizing CT protocols for trauma and non-trauma patients and the growing use of CT-assisted autopsy are among the noteworthy topics to be covered, Dr. Soto said.

A record number of engaging, high-quality education exhibits cover a wide spectrum of issues reflecting important trends in emergency medicine, said Education Exhibits Subcommittee Chair Kathirkamadurai Shanmuganathan, M.D. “Exhibits focus on important traumatic and non-traumatic entities head-to-toe, covering the central nervous system, chest, abdomen, pelvis and extremities,” Dr. Shanmuganathan said. “New trends include demonstrating MRI utility in evaluating acute abdominal pain and dual-energy CT in the acute emergency setting.” Several exhibits illustrate current applications of multidetector CT and ultrasound in diagnosing and imaging acute traumatic and non-traumatic injuries, he said.

Gastrointestinal Radiology

Hepatic imaging is a hot topic for focus as well as diffuse liver disease in this year’s scientific sessions, according to Benjamin M. Yeh, M.D., Scientific Program Subcommittee Chair.

“In particular, we’re seeing intense explorations of the value of cross-sectional imaging techniques with and without hepatobiliary contrast material to improve the detection and characterization of liver lesions and evaluate hepatocellular carcinoma,” Dr. Yeh said. “We’re also seeing promising developments in our noninvasive imaging options to detect, quantify and monitor diffuse liver disease.” He noted promising results for radiation dose strategies, including iterative reconstruction and reduced kVP for abdominal organ imaging.

“Further developments in contrast-enhanced ultrasound and PE will provide options for imaging工作up and validate quantitative methods that could be useful in the near future for diagnosing cancer therapy—in particular, perfusion imaging in the liver and pancreas,” Dr. Yeh said.
Renal Mass Diagnostic Imperative: What addresses the important question, ‘The renal carcinoma, he noted. One ISP session, “Prostate MRI: adding that new developments will be presented in the ISP session, “Prostate MRI: Ready for Prime Time?” Series courses include “The Abdominal Incidentaloma,” with practical discussions on incidental discoveries in the kidneys, adrenals, liver and pancreas, as well as “Female Pelvis 2010,” exploring MR techniques in benign and malignant disease, imaging the pregnant patient and emergency imaging, continued. Dr. Remer “There is a continued interest in renal mass imaging and determining response to antangiogenic therapies for metastatic renal carcinoma,” he noted. One ISP session addresses the important question, ‘The Renal Mass Diagnostic Imperative: What Research Do We Need?” Attendees can expect to increase knowledge of dynamic contrast-enhanced MR imaging, diffusion-weighted imaging, elastography and functional renal imaging techniques, such as blood oxygen level-dependent MR imaging, Dr. Remer said.

Trends in diffusion-weighted imaging, particularly of the prostate gland, contrast-enhanced ultrasound of renal lesions, post-ablation appearances of renal tumors and dual-energy CT for stone detection and characterization are reflected in this year’s education exhibits as well, said Silvia D. Chang, M.D., Education Exhibits Subcommittee Chair. Innovative refresher courses include, “Contract Issues 2010: What the Experts Really Do for Allergies, CIN, NSF, and Extravasation,” “Reporting and Management of Incidental Abdominal Masses” and a new case-based course on GU emergencies, Dr. Jackson said.

Health Services Education, Research, Policy and Practice Presentations continue to focus on radiation and safety in imaging, said Ruth C. Carfagno, M.D., M.S., Scientific Program Subcommittee Chair. “There is an increasing use of decision modeling as an adjunct or potential replacement to randomized controlled trials and more robust methods of estimating utilization,” she said. Scientific presentations and ISP’s focus on value-added imaging and evidence-based utilization, said Dr. Carlos, who noted a continued rise in the quality of abstracts and international submissions. One new session covers hot topics in residency training, including revising the residency curriculum, the new American Board of Radiology examinations, Residency Review Committee requirements and teaching systems-based practice, according to Dr. Jackson.

Informatics Interest in mobile computing and decision support is on the upswing, said Keith J. Dreyer, D.D.S., Ph.D., Scientific Program Subcommittee Chair. “The quality of hypothesis-driven submissions has stayed strong; however, there is an increasing trend—in quantity and quality—toward applied science,” Dr. Dreyer said.

Proconvective topics include a CT pulmonary angiography ordering system, radiation dose reporting systems, a resident learning infrastructure, a Medical Imaging Resource Center (MIRC®) viewer application for iPhone® and data mining of radiology and pathology reports, Dr. Dreyer said.

To learn more about Informatics offerings at RSNA 2010, see Page 38.

Musculoskeletal Radiology “We received a large number of submissions detailing new procedures including dry needling tendons and fascia, autologous blood injections, treatment of meralgia paresthetica and cancer therapy for treating chronic cutaneous ulcers,” said Michelle S. Barr, M.D., Scientific Program Subcommittee Chair. She added that advances in tumor imaging continue to be a focus, including promising new research using 3.0 T diffusion-tensor imaging to study peripheral nerves adjacent to soft tissue tumors. “This new technique could impact confidence in limb salvage tumor surgeries,” she said.

Cartilage studies remain popular, with presentations on cationic contrast agents in glycosamine quantification of articular cartilage and 7.0 T MR, Dr. Barr said. “A particularly creative study describes the effects of body position changes on cartilage deformation.”

Dr. Barr noted another study evaluating cartilage abnormalities and their relationship to quadriceps muscle imbalances using a vastus lateralis/vastus medialis ratio, calling the research “exciting for athletes and non-athletes.” A European paper quantifies changes in ultra-endurance runners during the 4.5 km 2009 Trans Europe Foot Race, Dr. Barr said.

“We accepted abstracts on topics ranging from patella tendon and hamstring anterior cruciate ligament reconstruction to cartilage abnormalities in musculoskeletal diseases,” said Education Exhibits Subcommittee Chair Todd G. Abrahams, M.D. Exhibits also feature advanced imaging techniques, including the use of iterative decompositon of water and fat with echo asymmetry and least-squares estimation (IDEAL) for decreasing metal artifacts, 3.0 T whole-body MRI imaging for spinal metastasis, high-resolution 3D diffusion-weighted MRI neurography for small peripheral nerves and 6.0 T digital subtraction angiography multimodular CT for preoperative vascular assessment of bone tumors,” Dr. Abrahams said.”Participants will obtain a wide breadth of knowledge.”

Neuroradiology/Head and Neck This year’s session features extensive offerings in neuroradiologic clinical applications, according to Scientific Program Subcommittee Chair David B. Hackney, M.D. “There are strong trends in ear, nose and throat imaging moving into physiologic imaging—diffusion, perfusion and, to a lesser extent, nuclear medicine studies,” Dr. Hackney said. Advanced imaging techniques such as diffusion, vessel-based morphometry and volumetrics are emerging for diagnosing and predicting outcome in patients with cognitive disorders, he said.

Diagnosis and characterization of Alzheimer disease and other cognitive disorders are other hot topics, Dr. Hackney continued. Important new studies involve ground-breaking ideas including dual energy CT to optimize the energy of monochromatic CT for imaging the instrumented spine, correlation of hippocampal volumetry and Pittsburgh Compound B in Alzheimer disease, a high incidence of cerebellar inactivation in patients with migraine, diffusion abnormalities in cognitively normal subjects who are ApoE 2 carriers and diffusion tensor imaging of Parkinsonian syndrome using vessel-based morphometry,” Dr. Hackney said.

Nuclear Medicine This year, attendees have the opportunity to learn about the initial clinical experience of using integrated PET/CT/MR units, said Homer A. Macapinlac, M.D., Scientific Program Subcommittee Chair. “We offer interesting whole-body oncologic imaging comparisons between PET/CT and MR,” he said. “Clinical imaging studies also highlight non-fluorodeoxyglucose radiopharmaceuticals for molecular imaging in oncology, neurology and cardiology applications.”

This year’s nuclear medicine education exhibits offer increased quality and variety, along with more acute focus on PET and molecular imaging, noted Laura E. Gantutco, M.D., Education Exhibits Subcommittee Chair.

Pediatric Radiology This year, five integrated sessions will combine invited speakers with scientific paper presentations on fetal imaging, pediatric chest imaging, pediatric cardiac imaging and two pediatric neuroradiology sessions, according to Scientific Program Subcommittee Chair Marvin D. Nelson Jr., M.D., Education Exhibits Subcommittee Chair. "We received a large number of submissions detailing new procedures including dry needling tendons and fascia, autologous blood injections, treatment of meralgia paresthetica and cancer therapy for treating chronic cutaneous ulcers,” said Michelle S. Barr, M.D., Scientific Program Subcommittee Chair. She added that advances in tumor imaging continue to be a focus, including promising new research using 3.0 T diffusion-tensor imaging to study peripheral nerves adjacent to soft tissue tumors. “This new technique could impact confidence in limb salvage tumor surgeries,” she said.

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“Optimization, the importance of estimating and CT dose are major education issues of the kidney in high-intensity focused characterization of tissue thermal properties – time-of-flight CT angiography and in vivo imaging, molecular breast imaging, cerebral oxidative metabolism with MR. Provocative ideas include mapping of detection abstracts and an increased focus on CT dose reduction is a strong trend in Physics notewor thy topics, Dr. Hollingsworth said. Radiation dose techniques are other noteworthy topics, Dr. Hollingsworth said.

Physics
CT dose reduction is a strong trend in physics, said Scientific Program Subcommittee Chair Martin J. Yaffe, Ph.D., who also noted a downturn in computer-aided detection abstracts and an increased focus on image-guided therapy.

Provocative ideas include mapping of cerebral oxidative metabolism with MR imaging, molecular breast imaging, time-of-flight CT tomography and in vivo characterization of tissue thermal properties of the kidney in high-intensity focused ultrasound, Dr. Yaffe said.

CT and CT dose are major education issues as well, according to Anthony Seibert, Ph.D., Education Exhibits Subcommittee Chair. "Optimization, the importance of establishing protocol reviews, iterative reconfiguration techniques, understanding CT dose indicators and evaluations of image quality are on display," said Dr. Seibert.

Technological MR imaging innovations, teaching and understanding MR physics, and image quality and artifacts are major themes, Dr. Seibert continued. "Presentations include diffusion-weighted acquisition methods, reviews of MR image artifacts and their causes, all-important issues related to MR imaging safety, education of clinical MR through images and a ‘ridiculously’ easy explanation of k-space."

More exhibits review multimodality devices and their physics, Dr. Seibert said. "Several ultrasound presentations discuss artifacts as well as elastography techniques with examples of clinical utility," he said. "Exhibits also explore digital tomosynthesis presentations beyond breast applications, including reconstruction methods and pulmonary nodule detection, as well as fluoroscopy and radiography dose reviews and digital radiography exposure monitoring standards."

Radiation Oncology and Radiobiology
In the few years since it was introduced, the BostUting Oncoradiologic and Oncoradiotherapeutic Skills for Tomorrow (BDOST) program has experienced considerable growth, said Scientific Program Subcommittee Chair Chung T. Chung, M.D. "The program includes longitudinal radiologic and oncologic presentations with related scientific presentations in lymphoma, central nervous system, breast, lung, prostate and head and neck."

This year’s program also includes presentations in basic biology, genetiology, sarcoma, gastroenterology, quality of life/outcomes and benign tumors, Dr. Chung said. Hot topics are tumor targeting using molecular imaging, MR and CT and stereotactic body radiotherapy, he noted.

Vascular/Interventional Radiology
While vascular interventions continue to decline, there has been an explosion in cancer-related interventions, said Scientific Program Subcommittee Chair John A. Kaufman, M.D., noting that oncologic intervention abstracts represent 25 percent of the subcommittee’s submissions. Hot topics focus on treating new tumors such as mesothelioma and new technologies including irreversible electroporation. Issues such as drainage and biopsy contribute to the strong showing in basic interventional radiology. Dr. Kaufman added. "Important topics are long-term outcomes of liver ablation, clinical service by interventional radiologists, new treatments for metastatic cancer, and patient experience in interventional radiology and improved treatment experience with lower cost for liver embolization."

Interventional oncology submissions were plentiful for education exhibits as well, said Michael D. Darcy, M.D., Education Exhibits Subcommittee Chair. "But there is still great diversity spanning all aspects of interventional radiology," Dr. Darcy said.

RSNA Meeting Program Online
The online RSNA Meeting Program offers detailed information about each of the hundreds of presentations happening at RSNA 2010, in an easy-to-search format. See Page 21 for more information on how easy it is to find the annual meeting offerings that best meet your needs.

Plan Ahead for the Technical Exhibition
Available on the annual meeting website are detailed maps of the RSNA 2010 technical exhibit halls. Browse a comprehensive, up-to-the-minute list of the exhibitors and their products and services to map your visits to the exhibit floors. Search exhibitors by product category, keyword and more. RSNA.org/Showcase

RSNA2010.RSNA.org/search

Technical Exhibits at RSNA 2010 will feature more than 600 exhibitors spanning three halls: Hall A in the South Building, Hall B in the North Building, and Hall D in the Lakeside Center. A balanced mix of companies will be located in each hall. Commercial vendors will conduct workshops in Hall D, Lakeside Center.

After you arrive at RSNA 2010, pick up a copy of the new RSNA Technical Exhibit Guide, which will provide detailed floor plans of the exhibits areas, along with a directory of exhibiting companies and their contact information.

Technical Exhibit Hours
Hall A (South Building), Hall B (North Building) and Hall D (Lakeside Center)
Sunday–Wednesday 10:00 a.m. – 5:00 p.m.
Thursday 10:00 a.m. – 2:00 p.m.

Find It Online
Look for this icon to find more information online. To use course or session numbers, access the online program by going to RSNA2010.RSNA.org and click Meeting Program. Search the program by entering the course or session number in the Search Events box.

Wayfinders
Finding your way around the RSNA annual meeting has never been easier. Stop at one of the new "wayfinders" located throughout McCormick Place to see a detailed floor plan of the convention center. Use the touchscreen to enter where you want to go, such as a specific event, restaurant or even the restroom, and get turn-by-turn directions that you can print to take with you.

Mobile Site
The RSNA 2010 website is your source for the very latest, up-to-date information on the annual meeting program, meeting services and more. The site is now available in a mobile edition, making it easy to access and browse from smartphones.

Personalize Your Pursuit of Excellence at RSNA 2010
A wide spectrum of scientific and educational offerings, along with a robust technical exhibition and plentiful amenities, means RSNA 2010 attendees can tailor their annual meeting experiences to their unique combinations of needs and interests.
See RSNA Services Redo
Check out the newly redesigned RSNA Services area (see illustration at right) in its can’t-miss location on Level 3 of the Lakeside Center. Anchored by the all-new RSNA Plaza, the RSNA Services area is your place to ask questions, get answers and see demonstrations of RSNA’s exceptional services and new initiatives in these areas:
• Career Connect
• RSNA Store
• Membership
• Performance Solutions
• myRSNA
• Journals, News & RadiologyInfo.org
• Research & Education Foundation

Popular Help Stations Move to Grand Concourse
When you’re traveling through the Grand Concourse at McCormick Place, be sure to stop by the Media Wall, where counters for the following services are now located:
• Tours & Events
• Chicago restaurant reservations
• Member recognition ribbons
• Help Center

Enjoy Lower Prices at Food Courts, Bistro RSNA
A new Illinois law that overhauled work rules at McCormick Place has reduced prices for some food at the convention center. According to Chicago Restaurant Partners, prices on all non-branded (Starbucks, for example) items have been cut 20 percent. A meal such as a cheeseburger with french fries or individual pizza with side salad, along with a drink, is now available for about $9.50 plus sales tax.

Bistro RSNA Lunchtime Discussion Topic Tables
Special tables at the Lakeside Learning Center Bistro RSNA are reserved as “topic tables” where attendees can participate in discussions with American Board of Radiology representatives or in various sub-specialties. Topic facilitators are present at Bistro tables Monday through Wednesday from 12:15 p.m. to 1:15 p.m. Topics this year are:
Monday
• ABR/Maintenance of Certification
• Breast Imaging in the Era of Molecular Medicine
• Contrast-enhanced Ultrasound: Where Are We in 2010?
• Interventions in the Female Pelvis
• Managing Your Emergency Room
• Musculoskeletal Intervention
• Residency Review Committee
• Small Bowel Enterography
Tuesday
• ABR/Maintenance of Certification
• Breast: General Discussion
• Cardiovascular Imaging in the Era of Molecular Medicine
• CT Angiography: Strategies for Technique Optimization
• Lung Nodules/Lung Cancer
• Pediatric Chest and Cardiac
• Peripheral Vascular Disease Imaging and Interventions

Wednesday
• ABR/Maintenance of Certification
• Emerging Technologies in Breast Imaging
• Female Pelvis: MRI Imaging, Emergency Radiology, and Imaging the Pregnant Patient
• Interventional Oncology
• Musculoskeletal Interventions
• Nuclear Medicine: General Discussion
• Sports-related Musculoskeletal Injuries
• Stroke Imaging

Prices are also reduced at Bistro RSNA, a McCormick Place premium dining option that gives attendees the opportunity to enjoy lunch at their convenience. Bistro RSNA provides a delicious variety of menu options, including several fresh and healthy foods, international cuisine and hearty regional favorites. The ticket price of $21 covers the entire, soup and salad, choice of beverage and dessert. There are Bistro RSNA locations in the all technical exhibit halls and the Lakeside Learning Center. Purchase tickets online before Nov. 5 and save another $2.10. www.bistrotickets.com

Expand Your Horizons, Get Credit
RSNA-ESR Oncology Symposium
Essentials in Oncologic Imaging: What Radiologists Need to Know is presented jointly by RSNA and the European Society of Radiology on Wednesday. Topics include principles of oncologic imaging and reporting, lung, colon, pancreatic, kidney, ovarian, liver and prostate cancers; terminology, definitions and buzzwords; lymphoma, musculoskeletal neoplasms, and chemos and radiation therapy-induced toxicity.

SAMs
More than 30 American Board of Radiology-qualified self-assessment modules (SAMs) will be offered during RSNA 2010 to assist participants in fulfilling maintenance of certification (MOC) requirements. Courses offered as SAMs are indicated in the Meeting Program with an “S” icon.

Special Interest, Controversies and Hot Topic Sessions
Early Sessions Return This Year
These sessions, offered throughout the week, address important radiology-related topics that are late breaking or particularly controversial, or require in-depth analysis. In addition, Controversies sessions at 7:15 a.m. on Monday, Tuesday and Thursday and Hot Topic sessions at 7:15 a.m. on Monday–Thursday give attendees more opportunities to work critical topics into their course schedules. Sunrise inbound shuttle service, beginning at 6:30 a.m., will get you to McCormick Place in time.

“Presets” Sessions
The latest installments in RSNA’s series highlighting international radiology explore the very latest developments around the world.

China Presents
This session, offered in conjunction with the Chinese Society of Radiology, features the latest in radiology research from China. Among the topics to be covered in the session, scheduled for Monday, 10:30 a.m. – 12:00 p.m., are MRI of prostate cancer, outcomes after resection of severe intracranial stenosis, acupuncture research and applications by MR imaging and a radiologic study of severe acute respiratory syndrome (SARS).

Latin America Presents
This session takes a look at Latin American contributions to imaging science and the role of imaging in endemic diseases in Latin America. Scheduled for Tuesday, 10:30 a.m. – 12:00 p.m., the session also will feature presentations on virtual multidetector CT pneumoencephalography and hysteroscopy in Argentina and embolization of prostatic adenomas in Brazil.

Explore Quantitative Imaging, Biomarkers
Quantitative Imaging Reading Room
The Quantitative Imaging Reading Room educational showcase highlights products and applications that integrate quantitative analysis and structured reporting into the image interpretation and reporting process.

Located in the Lakeside Learning Center, the quantitative imaging showcase brings together various related efforts to provide visual and experiential exposure to the concepts of quantitative imaging and imaging biomarkers.

QIBA (Quantitative Imaging Biomarkers Alliance)
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. Gain a better understanding of how quantitative imaging will impact your practice by attending the special interest session, Imaging Biomarkers for Clinical Care and Research, on Monday from 4:30 to 6:00 p.m. in Room S404CD.

See RSNA News October 2010
explore quantitative imaging, biomarkers
A major voice in radiation oncology from the very beginning of his distinguished career, 2010 RSNA President David H. Hussey, M.D., is internationally known for his outstanding contributions to patient care, research and training of medical students and residents.

In addition to being a top clinician and researcher in his field, Dr. Hussey has provided remarkably dedicated and effective service to the radiologic sciences year after year,” said 2010 RSNA President Hedvig Hricak, M.D., Ph.D., Dr(hc). “Through his leadership of crucial national organizations, he has played an integral role in shaping the radiologic professions as we know them and encouraging them to work together for the benefit of patients everywhere.”

“I have been attending RSNA meetings regularly since the first year of my residency in 1965—it was the first scientific meeting I attended as a physician and, as such, made a significant impact on me in some of the most formative years of my career,” said Dr. Hussey, a clinical professor at the University of Texas Health Science Center in San Antonio since 2001.

Dr. Hussey earned his bachelor’s degree from Beloit College in Wisconsin and his Medical Doctor degree from Washington University School of Medicine in St. Louis. He continued his medical training with an internship and a radiology residency at the University of Iowa and a radiation therapy fellowship at the University of Texas M.D. Anderson Hospital and Tumor Institute. Between 1969 and 1981, Dr. Hussey was an assistant at the MD Anderson Hospital, where he directed the Fast Neutron Therapy Program. He then spent a year in private practice before moving to the University of Iowa to head the radiation oncology division for 15 years. He returned to Texas in 2001, joining the faculty of the University of Texas Health Science Center San Antonio. Dr. Hussey’s research has included a clinical evaluation of fast neutron therapy using the Texas A&M Variable Energy Cyclotron, while his practice has covered a broad range of neoplasms, focused on head and neck, testicular and prostate cancers.

In addition to his service to RSNA, Dr. Hussey served as president of the American Radium Society and the American Society for Therapeutic Radiology and Oncology (ASTRO), now the American Society for Radiation Oncology. He also was a member of the board of trustees of the American Board of Radiology, where he contributed significantly to the recertification examination in radiation oncology. Dr. Hussey has been honored with Distinguished Alumni awards from the MD Anderson Cancer Center and the Washington University Medical School and fellowships in the American College of Radiology and ASTRO.

A unique combination of innovator, engineer, entrepreneur and physician-scientist, William R. Brody, M.D., Ph.D., earned a national reputation for his fierce devotion to investing in research and education while preserving over two of the world’s most prestigious medical research institutions. “Bill Brody is a rare combination of scientist, clinician, engineer, statesman, business leader, educator and concert pianist,” said Dr. Hricak. “He is not only a highly cultured individual, but also a warm, wise and fiercely loyal friend to the institutions he has led and to the individuals that stood by him in his many fields of endeavor. His vision has propelled it to preeminence every entity that he headed.”

“While my career has taken me away from direct participation in the field of radiology, I was fortunate to be able to be active in the transition to the second century revolution in diagnostic imaging.” Dr. Brody said. “Some of my most memorable and enjoyable times were spent preparing for the RSNA meeting, stimulated by the anticipation of new discoveries and the introduction of new technology. Even when I’m not able to attend the meeting, I still feel a rush of adrenaline around the last week of November. And the bonds of friendships formed through the radiology community remain strong even today.”

Appointed president of the Salk Institute for Biological Studies in 2009, Dr. Brody served the preceding 12 years as president of The Johns Hopkins University Hospital, where he forged a deepened commitment to undergraduate education, diversity, the community and research. A prolific innovator, Dr. Brody holds two U.S. medical patents and has made significant contributions in medical acoustics, CT digital radiography and MR imaging.

The Stockton, Calif., native received his Bachelor’s and Master of Science degrees in electrical engineering from the Massachusetts Institute of Technology and his Medical Doctor degree and doctorate, also in electrical engineering, from Stanford University.

Following post-graduate training in cardiovascular surgery and radiology at Stanford, the National Institutes of Health and the University of California, San Francisco, Dr. Brody served as a professor of radiology and electrical engineering at Stanford University from 1977 to 1986. He followed that position with a 1987–1994 term as the Martin Donner Professor and director of the Department of Radiology, professor of electrical and computer engineering, and professor of biomedical engineering at Johns Hopkins, and radiologist-in-chief of The Johns Hopkins Hospital.

Renowned for his achievements in biomedical engineering, Dr. Brody is a member of the National Academy of Engineering and the Institute of Medicine. Dr. Brody is proud to include the RSNA Gold Medal among his lengthy list of professional accomplishments.

“I am humbled to be honored as a Gold Medalist and have my name placed alongside those to whom I looked up in the early days of my radiology career,” Dr. Brody said.

While many in the medical community came to know the name: Elías A. Zerhouni, M.D., during his tenure as director of the National Institutes of Health (NIH) and current assignment as a U.S. presidential science envoy, radiologists have long benefited from his visionary leadership and prolific research.

“Dr. Zerhouni’s story exemplifies why openness to individual talent and imagination have made the U.S. richly successful,” Dr. Hricak said. “He has contributed to the greatness of this country and provided a model for others to follow.”

Dr. Zerhouni is a senior adviser at Johns Hopkins Medicine in Baltimore, Md., and was named a U.S. presidential science envoy in November 2009. He served as NIH director from 2002 to 2008.

Clinical, scientific and administrative leadership fueled Dr. Zerhouni’s success in a variety of endeavors, ranging from implementing reform and launching new programs at the National Institutes of Health to helping create the Institute for Cell Engineering at Johns Hopkins Medicine.

As the 15th director of the NIH, Dr. Zerhouni oversaw the world’s largest biomedical research and development agency, with more than 27,000 employees and a yearly budget of $29.5 billion. He spearheaded a series of reforms that led to the successful passage of the NIH Reform Act of 2006 by the U.S. Congress. He also launched programs including the Roadmap for Medical Research and the Pioneer, New Innovator and Pathways to Independence grant programs.

Prior to joining NIH, Dr. Zerhouni served as chair of the Russell H. Morgan Department of Radiology and Radiological Science as well as executive vice-dean of the Johns Hopkins University School of Medicine from 1995 to 2002.

Dr. Zerhouni’s research has focused on developing novel quantitative imaging methods for CT and MR imaging. He holds several patents. Presenting the RSNA 2007 Eugene P. Pendergrass New Horizons Lecture, “Major Trends in the Imaging Sciences,” Dr. Zerhouni declared that imaging would redefine itself in the era of “PM medicine.”

“Medical imaging will be predictive, personalized, preemptive and finally participatory, in which we shift to a cooperative network made up of patients and healthcare providers,” he said.

Dr. Zerhouni was elected to the Institute of Medicine of the National Academy of Sciences in 2000. He has received the gold medal of the American Roentgen Ray Society, two Paul C. Lauterbur awards from the Society of Computed Body Tomography & Magnetic Resonance and the Special Presidential Award of the European Congress of Radiology. He has received the Fleischner Society Medal, been elected a fellow of the International Society for Magnetic Resonance in Medicine and received the International Society of Radiology Mérite Medal.
RSNA 2010 Honorary Members/ Special Presidential Award

Honoritary Membership in RSNA is presented for significant achievements in the field of radiology. At RSNA 2010, Honorary Membership will be given to Claude Manelfe, M.D., of Auch, France; Iain McCall, M.D., D.M.R.D., F.R.C.R., of Shrewsbury, United Kingdom; and Kazurow Sugimura, M.D., of Kobe, Japan.

Claude Manelfe, M.D., has spent his career at the forefront of developments in interventional neuroradiology while also leaving his mark in the global radiologic movement.

“Professor Manelfe has had an extraordinary career marked by scientific creativity and service,” said 2010 RSNA President Hedvig Hricak, M.D., Ph.D., Dr. h.c. “His contributions helped bring about the present high standards of the neuroradiology field.”

Dr. Manelfe is a professor emeritus at the Université Paul Sabatier in Toulouse, France, where he served as professor and chair of diagnostic radiology from 1974 to 2004. He also headed the Department of Diagnostic and Therapeutic Neuroradiology at Toulouse’s Purpan University Hospital from 1975 to 2003.

A biography published when Dr. Manelfe was awarded honorary membership in the American Society of Neuroradiology (ASNR) in 1999 noted how, during Army service in Paris in the mid-1960s, he met René Djindjian, M.D., himself a pioneer in spinal and superselective neuroangiography. With Dr. Djindjian’s help, Dr. Manelfe assembled a key group of young neuroradiologists who would chart the course for interventional neuroradiology in France and Europe in the next decade.

In 1978 Dr. Manelfe received the first scientific prize of the European Society of Neuroradiology and helped found the French Society of Neuroradiology. He would go on to lead both organizations almost 30 years later.

An appointment in 1981 to a visiting professor position at the University of California, San Francisco, would prove pivotal for Dr. Manelfe, as he returned to France with experience in the emerging field of MR imaging and would go on to develop some of the first clinical applications of MRI in neuroradiology.

Two years later Dr. Manelfe co-founded, with Pierre Lasjaunias, M.D., Ph.D., the European Course of Neuroradiology. He also helped found the World Federation of Neuroradiological Societies.

As president of the International Society of Neuroradiology (ISNR) from 2006 to 2008, Dr. Manelfe oversaw the launch of ISNR’s first virtual congress in 2007 and the 25th International Congress of Radiology in 2008 in Maranah, Morocco, just the second time the congress had been held in Africa. His hundreds of publications include the 1992 textbook Imaging of the Spine and Spinal Cord.

Dr. Manelfe has received numerous honors for his work, including the Schinz medal of the Swiss Society of Radiology, Bélair medal of the International Society of Radiology, and honorary memberships in the Argentinian Society of Neuroradiology and KNR.

Iain McCall, M.D., D.M.R.D., F.R.C.R., is the quintessential radiology educator.

Dr. McCall has spent much of his musculoskeletal radiology career working alongside radiologists in training and helping improve radiologic education. His leadership studies of spinal degeneration and pain, meanwhile, have informed countless radiologists across the globe.

“Professor McCall exemplifies the best that our field has to offer,” Dr. Hricak said. “His dedication and his generous efforts to reach out to transitional countries are inspiring.”

Since 1996 Dr. McCall has been a professor of radiologic sciences at the University of Linköping, Sweden. As vice-chairman of the Royal College of Radiologists in the U.K., Dr. McCall was influential in the development of the five-year radiologic curriculum. As vice-president of the European Association of Radiology, he was a member of the European Commission on Radiation Protection.

Dr. McCall has received many honors, including honorary membership in the German, French, Austrian and Hellenic radiology societies and the European Society of Skeletal Radiology, the founders gold medal of the International Society of Radiology, and the gold medal of the Turkish Society of Radiology.

“American radiology has been an inspiration to me from my early years in the specialty in science education and later in service provision,” Dr. McCall said. “I have worked closely with RSNA and its officers during my work for European radiology and the European Society of Radiology—this has been both developmental and constructive.

Special Presidential Award

RSNA presents its Special Presidential Award to individuals who have made significant contributions to the field of radiology or the radiologic sciences. At RSNA 2010, the Special Presidential Award will be given to Hans G. Ringertz, M.D., Ph.D., of Linköping, Sweden.

During his nearly 50 years in medicine, the professor and chairman of radiology at the Karolinska Institute in Stockholm from 1984 to 2006, has served as a professor emeritus since 1997. He also has received honorary membership in numerous other societies around the globe and the gold medal of the European Congress of Radiology (ECR) in 2005.

“This very special award is a great honor for me,” Dr. Ringertz said. “Personally I owe most of whatever achievement I have had in my professional career to my mentors, most of whom are American. With that background, getting first RSNA honorary membership and now the special presidential award strikes me as an honor—it is who should express my gratitude to American radiology for all the possibilities it has given to me.”

It is a very great honor for me to be awarded RSNA honorary membership.”

Although he began his radiology career in Japan, Kazurow Sugimura, M.D., Ph.D., credits a 1988 research fellowship in the U.S. with establishing his path to becoming an internationally known radiologist, educator and researcher.

After earning his medical degree and doctorate from Kobe University School of Medicine in Hyogo, Japan, Dr. Sugimura traveled to San Francisco to pursue a research fellowship in the Department of Radiology at the University of California. At the university’s Dr. Suzuki Institute, he worked with world-renowned radiologists who had a significant impact on his early career and influenced the trajectory of his future—Alexander Margulis, M.D., and Dr. Hricak.

CONTINUED ON PAGE 36
Plenary Sessions

Special Lecture

Personalized Cancer Treatment
John Mendelsohn, M.D.

Annual Oration in Diagnostic Radiology
Evaluation and Management of Focal Pulmonary Lesions: New Findings, Inno-
vative Strategies, and the Quest for Personalized Approach
Christion J. Hendel, M.D.

10:45 a.m. – 12:15 p.m.

Oncodiagnosis Panel
Ewing Sarcoma
Ruth F. Lawigie, M.D., Mark J. Krismadoff, M.D., Mark D. Murphy, M.D., H. T. Temple, M.D., Lars Wagner, M.D.

4:00 – 6:10 p.m.

Report of the RSNA Research Education Foundation
Jack E. Price, chair, R&E Foundation Board of Trustees

4:10 – 5:45 p.m.

Image Interpretation Session
Moderator: Susan M. Ariche, M.D.
Panelists: Richard L. Baron, M.D., Mauricio Bastidas, M.D., William P. Dinan, M.D., John R. Mayo, M.D., Mark D. Murphy, M.D., Min N. Patina, M.D., Caroline Renhold, M.D., Valene Vilgoren, M.D., Charles S. White, M.D., Ronald J. Zagona, M.D.

Monday

1:30 – 2:45 p.m.

Presentation of Honorary Memberships
• Claudia H. Manefie, M.D.
• Iain W. McColl, M.D.
• Kazuo Sugimura, M.D.

Sunday

8:30 – 10:15 a.m.

Presentation of Gold Medals
• David H. Harvey, M.D.
• William B. Brody, M.D., Ph.D.
• Ellis A. Zerhouni, M.D.

(See Pages 31-32 for honoree biographies)

Dedication of 2010 Meeting Program to the memory of Peggy J. Fritzsche, M.D.
President’s Address
Oncologic Imaging: A Guiding Hand of Personalized Cancer Care
Hedvig Hricak, M.D., Ph.D., Dr.Hc., RSNA President

Wednesday

1:30 – 2:45 p.m.

Special Lecture
Real Reform: Facing the Complexity of Health Care
Atul Gawande, M.D.

AAPM/RSNA Basic Physics Lecture
for the Radiologic Technologist
Hybrid Imaging
Organizer: Douglas L. Peoff, M.S.

1:30 – 5:45 p.m.

Physics Symposium
Fundamentals for Clinical Dosimetry
Moderator: David W.O. Rogers, Ph.D.

4:30 – 7:30 p.m.

Asset Protection and Retirement Planning in the New Era**
Bany Rubenstein, B.S., J.D., LL.M.

Tuesday

1:30 – 2:35 p.m.

Special Address
President B.W. Orona
(Tickets required. Go to RSNA2010.RSNA.org to obtain tickets and to learn how attendees without tickets can view the lecture in one of the simulcast rooms.)

RSNA 2010 Honorary Members

CONTINUED FROM PAGE 34

“It is no exaggeration to say that this encounter with Drs. Margulis and Hricak offered me a new chapter in my life as a radiologist,” Dr. Sugimura said.

Dr. Hricak noted that Dr. Sugimura displayed a rare combination of talent, dedication and kindness as a fellow, and working with him was a delight. “After his fellowship was over, it was not a surprise to see him quickly take on important leadership roles in his home country at a remarkably young age,” she said. “His vision and dedication built the field of women’s imaging in Japan and the excellence of his research established Japan as an important player in genitourinary MR imaging research worldwide. Furthermore, his friendliness and remarkable leadership skills have helped bring about close international collaboration in the field.”

“RSNA meetings refresh me and give me the power for the next year,” said Dr. Sugimura, an RSNA member since 1984. “I believe that my mission is to convey my deep impression about this meeting to Japanese radiologists.”

Embracing the deep commitment to the specialty demonstrated by his American mentors, Dr. Sugimura returned to Japan, where he encouraged many young radiologists to follow a similar path.

Dr. Sugimura began his prestigious academic career in 1980 as an assistant professor of radiology at Kobe University School of Medicine. In 1999, Dr. Sugimura was appointed a professor and chair of radiology at Kobe University School of Medicine, and in 2001, he assumed his current position as a professor and chair of radiology at Kobe University Graduate School of Medicine.

Dr. Sugimura is also revered for his work in women’s imaging. In 1996 he served as one of the directors-at-large for the Society for the Advancement of Women’s Imaging in the U.S. and in 2000 established the Japanese Society for the Advancement of Women’s Imaging. Since 2000, Dr. Sugimura has served on the Radiodiagnosis Women’s Imaging Panel for RSNA.

“I am very proud and deeply honored in being awarded RSNA Honorary Membership,” Dr. Sugimura said. “I continue to take part in the RSNA meeting and to make this outstanding meeting known to more radiologists in Japan and Asia.”

Annual Oration in Radiation Oncology
Single-Dose Radiation Therapy (SDRT): A changing Paradigm Evolving from Intensity-modulated Radiation Therapy
Zvi Y. Fuks, M.D.

Thursday

1:30 – 1:45 p.m.

Inauguration of RSNA Board of Directors for 2011
1:40 – 1:50 p.m.

Introduction of 2011 AAPM Officers and Council Chairmen

1:50 – 2:45 p.m.

RSNA/AAPM Symposium
Digital Media and Design: Slicing Through Complexity in Medical Imaging
Moderator: Jeffrey H. Sievers, Ph.D.

Friday

12:45 – 3:15 p.m.

Friday Imaging Symposium
Nontraumatic After-hours Radiology
Moderator: Suresh K. Mukherji, Ph.D.
Courses, Presentations and Demonstrations
Examine Critical Topics

Associated Sciences Program

Among the topics to be tackled during the RSNA 2010 Associated Sciences Program are regulatory and business ethics and the role of ethics in clinical excellence. The program is sponsored by the Associated Sciences Consortium, 12 organizations representing radiologic nurses and technologists, radiology business managers and administrators and other allied professionals. Associated Sciences sessions for RSNA 2010 are:

Monday, November 29
• Ethical Dilemmas: Regulatory and Business Ethics in Medicine Today
• Ethical Dilemmas: The Vital Role of Ethics in Clinical Excellence
• Picking Up the Pieces: Forensic Radiography Following Mass Disasters
• Imaging Facility Design in an Age of Diminishing Resources

Tuesday, November 30
• Who’s Driving Radiology: Trends in Hospital/Radiologist Alignment
• The Clinical Impact of Molecular Imaging
• New Regulations and Their Impact on Radiology Practice
• Managing Risk for Optimal Patient Safety

Wednesday, December 1
• Radiology’s Changing Dynamics
• Imaging through a Cross-cultural Lens: A Global Perspective on Ethics, Standards and Human Resource Issues

ASRT@RSNA 2010
This 1½-day education program for radiologic technologists will kick off with a session on forensic radiology and radiography—past, present and future. Technologists may earn continuing education credit through ASRT@ RSNA 2010, which begins Wednesday afternoon and runs all day Thursday.

Wednesday, December 1
• Forensic Radiology and Radiography: Historical Perspective, Current Status, and Future Challenges
• Multimodality-Profit: Cardiac Imaging Technology
• Integrating Imaging into Radiation Therapy
• Current Trends in Imaging

Thursday, December 2
• The Improbable is Very Probable
• Multidisciplinary CT Operation Gap Analysis: Findings, Follow-through and Future Practice—A Canadian Perspective
• Trauma Care in the United Kingdom. The Changing Roles of Radiographers
• ACR and Intersocietal Accreditation Commission (IAC) Accreditation
• Digital Imaging: What Every Radiographer Needs to Know
• Lateral Violence and Bullying in the Workplace

Informatics Courses

Informatics Latest in Image Sharing, Performance Solutions Area Headline Informatics Offerings

Informatics demonstrations at RSNA 2010 highlight the latest in image sharing technology as well as solutions for uniform reporting, effective radiology searching and more.

IHE® Image Sharing Demonstration—South Building (Hall A), Booth 2852
At the Integrating the Healthcare Enterprise (IHE®) Image Sharing Demonstration, learn how institutions can provide better access to imaging information for patients and referring physicians and replace cumbersome image CDx with network access to images.

Held regularly during technical exhibit hours, the demonstration shows how images and radiology reports can be made part of a patient’s personal health record, available securely via the Internet to the patient and authorized care providers. The demonstration features leading vendors in medical imaging and electronic health records and is based on interoperability specifications from the IHE initiative.

Performance Solutions Area—RSNA Services (Lakeside Center Ballroom, Level 3)
Visit these kiosks to take guided tours of RSNA’s free informatics technology-based tools to improve performance in research, education and clinical care.
• Medical Imaging Resource Center (MIRC®)—set of free software tools to support radiology teaching files and imaging clinical trials
• RadiLex—comprehensive lexicon for standardized indexing and retrieval of radiology information resources
• Reporting—free library of best practices report templates that creates uniformity and improved communication

Also featured in this area will be demonstrations of myRSNA®, the personalized radiology web portal available exclusively to RSNA members.

Informatics Courses
Learn more about using RSNA’s performance solutions, as well as other radiology topics such as advanced imaging tools and literature searches, in Informatics refresher courses. See the online RSNA Meeting Program at RSNA.org for titles and times and to register.

NCl caBIG® Imaging Workspace—Lakeside Learning Center
The National Cancer Institute’s Cancer Biomedical Informatics Grid (caBIG®) Imaging Workspace, now in its fourth year at the annual meeting, will showcase five of its Imaging Tools as well as the Clinical Trials Suite in an interactive setting. Developers of these free, open-source tools will be on hand to give demonstrations and answer questions.

In addition, caBIG Imaging program leaders will be available to discuss instances of existing utilization of caBIG Imaging and Clinical Trials Management Systems (CTMS) products as well as opportunities for attendees to begin using caBIG Imaging and CTMS products.

National Library of Medicine—Lakeside Learning Center
The National Library of Medicine (NLM) provides free Web access to nearly 19 million citations for biomedical and clinical research articles dating back to the 1850s through PubMed/MEDLNE. (available at PubMed.gov), which also includes links to many sites providing full text articles and other related resources. Additional databases provided free by NLM include resources on genomics and environmental and toxicological topics. NLM coordinates delivery of library services to health professionals through the National Network of Libraries of Medicine (NN/LM).

Other free databases provided by NLM focus on genetics, environmental and toxicological topics and resources for patients and families. NN/LM coordinates delivery of library services to health professionals through the National Network of Libraries of Medicine (NN/LM); members of NN/LM Greater Midwest Region will staff the booth and coordinate additional volunteers who will staff the booth and teach instructional courses.

Demonstrations of the free databases and resources and personal training in searching PubMed/MEDLNE will be offered. Attendees are invited to search NLM databases on individual workstations with one-on-one assistance from NN/LM health sciences librarians. In addition, three NN/LM-sponsored courses will be presented three times during the week.

RSNA News

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Refresher Courses
More than 300 refresher courses on traditional and cutting-edge topics will be offered at RSNA 2010. Refresher courses:

* Require advance registration*

* Are conducted in a multiple- or single-instructor lecture format

* Offer AMA PRA Category 1 Credit™ for physicians and Category A+ CE credit for technologists

* Onsite refresher course ticketing has been eliminated. All ticketed courses must be confirmed prior to November 24 to guarantee a seat. Registrants without tickets will be allowed entrance into a course after all ticketed registrants have been seated.

For more information or to register, go to RSNA2010.RSNA.org.

Digital Presentations
This year’s digital presentations offer a vast array of electronic education and scientific posters covering a wide variety of specialties and modalities.

The 1,915 education exhibits and 679 posters in the Lakeside Learning Center can be viewed on computers within each subspecialty lounge area known as “communities,” which also allow for group viewing of scientific posters and/or electronic education exhibits. During the lunch period, those computers are reserved for CME discussions.

Education exhibits are designed to review the diagnosis of a specific condition using either a single modality or multi-modality approach. Identify the state-of-the-art imaging and methods of treatment of various pathologic conditions and assess new research on applications of various imaging and therapeutic modalities.

In addition to the computers located in each subspecialty community lounge, dedicated computers are also available for viewing all electronic science and education presentations.

Attendees are also encouraged to take part in lunchtime “topic table” discussions at the Lakeside Learning Center Bistro RSNA. Facilitators will lead discussions on different topics each day. See Page 29.
**Final Advance Registration**

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.

**Housing**

The deadline for housing reservations and changes through RSNA is November 5. After that date, you can contact the hotel directly. For more specific information, go to RSNA.org/register.

**Exclusive Air Discounts**

RSNA’s special discount agreement with United Airlines is not available to the general public. United.com offers a 5 percent discount on select United Airlines and United Express qualifying flights. Use promotional code 53318 to check schedules, make reservations or learn about ticketing information at United.com. You can also call United (1-800-521-4041) or your personal travel agent and mention the United promotional code to be eligible for personal travel agent and mention the United Express qualifying flights. Use promotional code 553SB to check schedule for RSNA 2010. Visit RSNA2010@RSNA.org or e-mail RSNA@ganttravel.com or call 1-800-381-6660 x7862.

International travelers can receive up to a 20 percent discount with the Star Alliance network by calling the reservation office of any participating Star Alliance member airline and quoting Conversion Code UA16510. Booking office information is available at www.staralliance.com/conventionsplus.

Custom travel itineraries can be booked through Gant Travel—RSNA’s official domestic travel agency for the past decade—Monday–Friday, 7:00 a.m. to 6:00 p.m. Central Time. Additional taxes and booking fees will apply to airline ticket prices and after-hours emergency assistance. Contact Gant Travel at 1-877-613-2010, international +1 011 630-227-3873 or RSNA@ganttravel.com.

**Important Dates for RSNA 2010**

<table>
<thead>
<tr>
<th>Date Range</th>
<th>Deadline or Event Information</th>
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</thead>
<tbody>
<tr>
<td>October 22</td>
<td>International deadline to have all conference materials mailed in advance</td>
</tr>
<tr>
<td>November 5</td>
<td>Final discounted advance registration, housing and course enrollment deadline to have all conference materials mailed in advance</td>
</tr>
<tr>
<td>Nov. 28 – Dec. 3</td>
<td>RSNA’s 96th Scientific Assembly and Annual Meeting</td>
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</tbody>
</table>

**Onsite Registration**

Those who registered after the mail deadline and/or who did not receive badges in advance should go to the Professional Registration, Already Registered line in the Lakeside Center Ballroom. Those who did not register in advance and wish to obtain a badge should proceed to the New Registration line in the ballroom.

**Hours of Operation**

Saturday, Nov 27
12:00 p.m. – 6:00 p.m.

Sunday, Nov 28 – Thursday, Dec. 2
7:30 a.m. – 6:00 p.m.

Friday, Dec. 3
7:30 a.m. – 12:00 p.m.

**Registering for RSNA 2010**

There are four ways to register for RSNA 2010.

1. **Internet — Fastest way to register!**
   
   Go to RSNA.org/register

2. **Fax (24 hours)**
   
   1-800-521-6017
   1-847-996-5876

3. **Telephone**

   (Monday–Friday 8:00 a.m. – 5:00 p.m., CT)
   1-888-650-7018
   1-847-996-5876

4. **Mail**

   Experient/RSNA 2010
   568 Atium Drive
   Vernon Hills, IL 60061 USA

**Tour & City Events**

**Jazz Performance Benefits 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 Court. 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. The price is $25 person and a portion of the proceeds will benefit the R&E Foundation.

**RSNA Team up with In the Loop–Chicago (ITLC) and Bloomingdale’s to offer Tours & Events packages.** View architectural wonders, explore unique neighborhoods, learn a new cooking technique and more. Ticket packages allow you to combine selected tours and events for even more savings. Email for RSNA 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.

**Registration Fees**

<table>
<thead>
<tr>
<th>Category</th>
<th>By Nov. 5</th>
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<tbody>
<tr>
<td>RSNA/AAPM Member Presenter</td>
<td>$0</td>
<td>$100</td>
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<tr>
<td>RSNA/AAPM Member</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>RSNA Member-in-Training, RSNA Student Member and Non-Member Student</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Non-Member Resident/Trainee</td>
<td>$150</td>
<td>$250</td>
</tr>
<tr>
<td>Radiology Support Personnel</td>
<td>$150</td>
<td>$250</td>
</tr>
<tr>
<td>Non-Member Radiologist, Physician or Physician</td>
<td>$680</td>
<td>$780</td>
</tr>
<tr>
<td>Hospital or Facility Executive, Commercial Research and Development Personnel, Healthcare Consultant and Industry Personnel</td>
<td>$680</td>
<td>$780</td>
</tr>
<tr>
<td>One-day registration to view only the Technical Exhibits</td>
<td>$300</td>
<td>$300</td>
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**Hours of Operation**

<table>
<thead>
<tr>
<th>Day</th>
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<tr>
<td>Sunday, Nov 28</td>
<td>12:00 p.m. – 6:00 p.m.</td>
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<tr>
<td>Monday, Nov 29</td>
<td>7:30 a.m. – 6:00 p.m.</td>
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<td>Tuesday, Nov 30</td>
<td>7:30 a.m. – 6:00 p.m.</td>
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<td>Wednesday, Nov 31</td>
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<td>Thursday, Dec 2</td>
<td>7:30 a.m. – 6:00 p.m.</td>
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<tr>
<td>Friday, Dec 3</td>
<td>7:30 a.m. – 6:00 p.m.</td>
</tr>
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<td>Saturday, Dec 4</td>
<td>7:30 a.m. – 6:00 p.m.</td>
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<tr>
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<td>7:30 a.m. – 6:00 p.m.</td>
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**RSNA News**

<table>
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<th>Website</th>
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<tbody>
<tr>
<td><a href="http://www.rsna.org/register">www.rsna.org/register</a></td>
<td><a href="mailto:RSNA2010@RSNA.org">RSNA2010@RSNA.org</a></td>
</tr>
</tbody>
</table>
RSNA Meeting Program online, Official Meeting Bag and Lanyard
Finding presentations to fit your schedule at RSNA 2010 is easier than ever using RSNA’s online program and user-friendly search engine (see RSNA.org, Page 1, for more details). Abstracts and learning objectives will not be published in the printed program but will instead be available online only along with the complete roster of special interest/controversy/hot topic sessions, multisession and reference/information courses and vendor computer workshops.
Along with searching for courses by title and name of presenter, users can search the online program by day, area and subcategory, and sort findings from earliest to latest. The program will remain online after the meeting.
One complimentary copy of the RSNA 2010 Program in Brief, official meeting bag and lanyard are available with the presentation of a voucher at the distribution counters located in the Lakeside Level, Level 2, Hall E (near coat check), or in the Grand Concourse, Level 3. Additional copies of the Program in Brief will be available for purchase at the RSNA Store.
The full RSNA Meeting Program online is available at RSNA2010.RSNA.org.

RSNA R&E FOUNDATION ANNOUNCES 2010 GRANT RECIPIENTS
Nancy A. Resteghini, B.A., M.S. Brigham and Women’s Hospital Characterization of Breast Cancer and Recipient Status in Correlation with Magnetic Resonance Imaging (MRI) Morphology and Kinetics
Gabriel Rudi-Bernard, M.S. University of Southern California, Keck School of Medicine A Comparison of Syntactic and Diastolic 3D First-Pass Myocardial Perfusion Imaging in Patients with Atrio-ventricular Block
Jean-Claude M. Rigwiera, B.S. (Eng) University of Pittsburgh, School of Medicine Evaluation of Strategies for Radiation Damage Mitigation Using Small Molecule Mitochondrial Targeted Drugs
Abizer Sakawalla, B.S., M.S. University of Pennsylvania, Hospital of the University of Pennsylvania Value of 3T MRI in Detecting and Targeting Urinary Bladder Wall Biopsies in Patients with High Clinical Suspicion of Prostatic Cancer
Michael W. Toy, B.S. Cleveland Clinic: Foundation Evaluation of Student Index in Quantifying Toxicity Risk from Gamma Knife Radiosurgery of Pharyngeal Adenomas
Benjamin Wang, B.S. University of Pennsylvania Gliocyte Detection with MRI Through Chemical Exchange-Dependent Saturation Transfer Imaging (CEST) Imaging
Shota Yamamoto, B.S. University of California, Los Angeles, David Geffen School of Medicine Radiographic Analysis of Prostate Cancer Utilizing Gene Expression Profiling and Advanced MRI
Yee Yu, B.S. University of California, Davis Determination of the Optimal Image Guided Radiation Therapy Protocols for the Treatment of Head and Neck Cancers
Julia Fielding, M.D., and Alfred D. Llave, M.D. University of North Carolina at Chapel Hill CT Virtual Autopsy for Radiation Dose Reduction and the Role of the Radiologist

Services for International Attendees
• Certificate of Attendance—Use the computer in the Internet Zones to print a personalized certificate of attendance.
• Foreign Currency Exchange Services—Exchange foreign currency and cash foreign or U.S. denominated traveler’s checks. Located in the Business Center operated by FedEx Office on the Grand Concourse – Level 2.5.
• Interpretation Services—International attendees will be assisted at the Help Centers and at Professional Registration (Lakeside Center Ballroom) to assist with questions.

Jie Li, M.D., Beijing Cancer Hospital & Beijing Institute of Cancer Research, Peking University School of Oncology and Elizabeth A. Morris M.D., Memorial Sloan-Kettering Cancer Center Developing an Educational Program on Breast Imaging for the Chinese Radiology Society with International Cooperation
Lucas R. Sabowski, M.D. University of Wisconsin School of Medicine and Public Health A Paradigm Shift in Teaching Anatomy: Development of New Educational Methods for Health Care Professionals to Learn Anatomy through Radiologic Simulation

RSNA/AUR/APRO/SCARD RADIOLoGY EDUCATION RESEARCH DEVELOPMENT GRANT
Joanne Hill, M.D. Medical University of South Carolina Achieving Excellence in Communication Skills: Development and Implementation of an Objective Structured Clinical Examination to Evaluate Radiology Specific Communication Skills

Nina Kowalczyk, Ph.D. The Ohio State University, College of Medicine Best Practices in Creating a Critical Thinking Educational Environment for Radiation Science Students

Travel Services—ESA Voyages, the official International travel provider at RSNA 2010, will be available at the Help Center (Grand Concourse, Level 3) and at Professional Registration (Lakeside Center Ballroom) to assist with questions.

Pamela B. Hopewell, M.D. University of Cincinnati Medical Center Glycine Detection with MRI Through Chemical Exchange-Dependent Saturation Transfer Imaging
Benjamin Wang, B.S. University of Pennsylvania Gliocyte Detection with MRI Through Chemical Exchange-Dependent Saturation Transfer Imaging (CEST) Imaging
Shota Yamamoto, B.S. University of California, Los Angeles, David Geffen School of Medicine Radiographic Analysis of Prostate Cancer Utilizing Gene Expression Profiling and Advanced MRI

Nancy A. Resteghini, B.A., M.S. Brigham and Women’s Hospital Characterization of Breast Cancer and Recipient Status in Correlation with Magnetic Resonance Imaging (MRI) Morphology and Kinetics
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Jean-Claude M. Rigwiera, B.S. (Eng) University of Pittsburgh, School of Medicine Evaluation of Strategies for Radiation Damage Mitigation Using Small Molecule Mitochondrial Targeted Drugs
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Julia Fielding, M.D., and Alfred D. Llave, M.D. University of North Carolina at Chapel Hill CT Virtual Autopsy for Radiation Dose Reduction and the Role of the Radiologist

RSNA Foundation announces 2010 grant recipients
Chicago Restaurants Offer Something for Every Taste at RSNA 2010

No matter what your mood or palate, Chicago offers a wide variety of dining options for even the most discerning tastes. Because the nightlife is equally renowned, we've added a selection of Chicago's finest clubs and lounges to explore after a full day at RSNA 2010. More information about Chicago and its many attractions is available at the RSNA website (www.choosechicago.com/RSNA).

—New—indicates a restaurant appearing on the RSNA list for the first time.

AMERICAN

676 Restaurant and Bar
676 N. Michigan; 1-312-943-6767
This Omni Chicago Hotel restaurant offers an expansive rooftop mural of the city. The menu highlights include fillet, chops, a raw bar and ‘charcuterie,’ a selection of antipasti meats.

Bistro 240
410 S. Wabash; 1-312-786-1401
Expensive
This hotel restaurant offers a view of Chicago’s famous Water Tower and exhibits an urban French style. Adding to the dining, some fall are bottled sides. Very expensive

Blackbird
676 N. Michigan; 1-312-943-6767
This elegant, leather-accented restaurant is set in the 240 Architectural and offers a modern menu. The open kitchen allows diners to view the twisty art of the chefs. The Top Chef” entrée Stephan La, preparing your meal. Reservations recommended. Moderate

The Goat
800 N. Wabash; 1-312-420-0475
Graham Elliot's Bistro left his throne at the Peninsula Hotel. Avenues restaurant to open this warehouse facility on the Park Avenue is not to be missed. The high ceilings, exposed ductwork and concrete columns create a hip, trendy experience. The building for former skaters’ attraction in the Elysian Hotel uses few eclectic ingredients. The menu that centers on seafood, cutlets, beef and duck is recommended.

North Pond
3200 N. Lake Shore; 1-312-773-4845
Seasonal Midwestern and French dishes served in well-crafted arts-and-crafts style. A former ‘fancy’ warning station, this popular restaurant is located in the heart of Lincoln Park on a pristine jagged river with a city skyline view. Expensive

One Off
900 N. Michigan; 1-312-875-0204
Sophisticated contemporary cuisine served to a sophisticated clientele in a setting and bar. The Chicago skyline is around 200 in the split-level dining room.

Park Grill
111 W. Washington; 1-312-725-7205
Chicago’s answer to New York’s Times out the Green, Park Grill features floor-to-ceiling windows for a great view of Millennium Park. The unpretentious menu includes a double-cut pork chop with port sauce. Expensive

Pettero’s
705 W. Van Buren; 1-312-420-0100
Located in the southeast corner of the new Goodman Theatre building. Petterino specializes in quality steaks, pasta and salads. The room and the food are at this restaurant. Moderate

Ria
533 S. Michigan; 1-312-588-4800
The restaurant in Donald Trump’s White House building features a marquetry Torah scroll. This Chicago restaurant offers a variety of French dishes served in well-crafted arts-and-crafts style. Adding to the dining, some fall are bottled sides. Very expensive

Rhapsody
611 S. Michigan; 1-312-372-4243
This new restaurant in a former pharmacy, classic American food with European influences. The room while the Chicago skyline is around 200 in the split-level dining room.

Sable
570 N. Dearborn; 1-312-461-1116
Expensive
Bar and tuxedoed waiters.

Sophisticated setting.

Viand Restaurant
401 N. Wabash; 1-312-588-8030
This small, 35-seat restaurant. Heavier than just a triple cut of meat, the staff, including owner/chef and operating partner Graham Elliot, is highly trained. Recommended.

Prairie Fire
2610 N. Cannon; 1-773-477-5845
This unique experience. The building for former skaters’ attraction in the Elysian Hotel uses few eclectic ingredients. The menu that centers on seafood, cutlets, beef and duck is recommended.

Aria
837 W. Fulton Market; 1-312-733-9555
Aria is a restaurant to open this warehouse facility on the Park Avenue is not to be missed. The high ceilings, exposed ductwork and concrete columns create a hip, trendy experience. The building for former skaters’ attraction in the Elysian Hotel uses few eclectic ingredients. The menu that centers on seafood, cutlets, beef and duck is recommended.

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Tuscan cuisine served in a fabric-draped studio, complete with a beautiful view of the John Hancock Center. The Italian Italian food is presented with a modern flair with its own unique touches. The menu offers wine and cocktails that are perfect for pairing with the dishes. The restaurant is decorated in warm colors to create a cozy and comfortable atmosphere.

Ristorante Tratto No. 10
159 E. Monroe; 1-312-443-8650

Traditional Italian food is served in a cozy setting with a focus on the use of fresh, locally-sourced ingredients. The menu features a variety of dishes, including pasta, pizza, and seafood. The wine list is extensive and features a wide selection of international wines.

Carnival
358 W. Ontario; 1-312-302-9977

This theater-in-the-round restaurant offers a unique dining experience with a variety of dishes, including seafood, pasta, and steak. The menu is seasonally changing and features local and international ingredients. The restaurant has a bar and lounge for pre- and post-dinner drinks.

Mercat a La Planxa
638 S. Michigan; 1-312-765-0524

This Catalan restaurant in the restored 1929 Carbide and Carbon Building offers a menu that combines traditional Spanish and Mediterranean flavors. The restaurant features a variety of tapas, paella, and seafood dishes, all prepared with fresh ingredients.

Shaw’s Crab House
140 E. Walton; 1-312-932-4625

The specialty at this Loop/Theater District restaurant is fresh, locally-sourced seafood. The menu features a variety of crab dishes, including crab cakes, Maryland-style crabmeat, and shrimp. The restaurant also boasts a remarkable interior.

Signature Lounge
632 N. Dearborn St.; 1-312-266-1944

This nationally renowned lounge and bar boasts a remarkable interior. The menu features a variety of cocktails and small plates, as well as live music and professional dance performances. Explore Chicago's nightlife!
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