

RSNA *News*



RSNA 2007 Meeting Preview and Restaurant Guide

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- Real-Time Observation of Demyelination Could Change MS Diagnosis
- Physicians Warned of Cardiac CT Radiation Risk for Young Patients
- Newest MOC Phase Focuses on Quality Improvement
- Cell Phone Technology May Speed Up CT Scanning

**Final Advance Registration for RSNA 2007
November 5**

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RSNA News

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New Web Site Helps Fund Biomarker Projects

THE Biomarkers Consortium, of which RSNA is a member, has launched a Web site to encourage researchers to submit biomarker project concepts. Financial support for approved concepts will be procured through fundraising by the Foundation for the National Institutes of Health (FNIH). More than \$6 million has already been raised to support the consortium's lung cancer and lymphoma biomarker projects.

Geared toward biomedical, clinical and technology-oriented health researchers and others in the health field, www.biomarkersconsortium.org allows easy submission of biomarker project concepts to the consortium's

therapeutic area steering committees—neuroscience, metabolic disorders, cancer and inflammation and immunity.

The Web site also includes news about the consortium, founded in 2006 by FNIH, the National Institutes of Health, U.S. Food and Drug Administration and Pharmaceutical Research and Manufacturers of America. The consortium seeks to harmonize approaches to identifying and verifying viable biomarkers, with an eye on accelerating delivery of technologies, medicines and therapies for successful prevention, early detection, diagnosis and treatment



of disease. Twenty-eight companies, non-profit trade associations and advocacy groups participate in the contributing membership program which funds the consortium.

FDA, Defense Department Share Data to Enhance Medical Product Safety Reviews

The U.S. Food and Drug Administration (FDA) and U.S. Department of Defense (DoD) have announced that the FDA will begin using data from the U.S. Military Health System to make decisions affecting the safety and use of FDA-regulated drugs, biologics and medical devices.



General patient data such as prescriptions, lab results and patient weight will be used by the FDA to spot trends that may identify potential concerns, as well as recognize benefits, of products. The two agencies will protect all personal health information exchanged under the agreement.

Among the DoD programs involved in the agreement is TRICARE, the agency administering the healthcare plan serving 9.1 million members of the uniformed services, retirees and their families. Assistant Secretary of Defense for Health Affairs S. Ward Casscells, M.D., noted that while most drug studies performed prior to FDA approval involve about 1,000 patients, data from the Military Health System will expand the possibilities to include millions of patients.

More information about the agreement is available at www.fda.gov/oc/mous/domestic/FDA-DOD-INFO.html.

BCBS Agrees to Pay More than \$131 Million

Physicians who provided covered services to patients enrolled in or covered by Blue Cross Blue Shield (BCBS) plans between May 22, 1999, and May 31, 2007, may be entitled to reimbursement as part of a recently settled class action lawsuit.

A group of BCBS settling parties has agreed to distribute more than \$131 million among eligible physicians who file claim forms by Oct. 19. Forms were mailed to physicians on July 27; physicians who believe they may be eligible and did not receive a form in the mail should go to www.hmosettlements.com to download a notice, claim form and instructions. Further information is available on the Web site or by calling 1-877-893-2643.

ACGME to Require Resident Learning Portfolio

Starting July 1, 2008, every diagnostic radiology resident will be required to maintain a Resident Learning Portfolio, the Accreditation Council for Graduate Medical Education (ACGME) has decided.

According to the ACGME, the portfolio must include documentation of patient care, medical knowledge, practice-based learning and improvement, interpersonal and

communication skills, professionalism, systems-based practice and scholarly activities.

RSNA is working with the education committee of the Association of Program Directors in Radiology to develop a Web-based portfolio for residents to use to document their activities to fulfill the ACGME requirement.

Radiologists Warned about E-Mail Scam

The Radiological Society of South Africa (RSSA) is warning radiologists about an e-mail scam involving an organization calling itself the Association of African Radiology Resident Doctors (AARRD).

Two Australian radiologists reported that they were notified via e-mail that they were to receive a prize from AARRD and a wing of a radiology facility was to be named after them. In the e-mail, AARRD also claimed large radiology companies as benefactors and asked the e-mail

recipients for donations to the Nelson Mandela-AARRD Healthy Kids Initiative.

RSSA emphasized that it is not linked to AARRD and that the people listed as AARRD president and secretary-general do not practice medicine in South Africa. The Nelson Mandela-AARRD Healthy Kids Initiative does not exist, RSSA said, adding that the South African Police Service is investigating the scam.

MEDICAL IMAGING COMPANY NEWS

Biophan Sells MR Imaging Patents

■ Biophan Technologies, Inc., of Pittsford, N.Y., has agreed to sell its MR imaging safety patents to Medtronic, Inc., of Minneapolis, for \$11 million. Included in the portfolio Biophan will transfer to Medtronic are technologies that make medical devices, such as pacemakers, safe for use with MR imaging.

Philips Buys XIMIS

■ Royal Philips Electronics, of Amsterdam, The Netherlands, will acquire XIMIS Inc., of El Paso, Texas, for an undisclosed amount. XIMIS is the maker of XIRIS (extended Internet radiology information system), a Web-based radiology information system. Philips is a global provider of healthcare, lifestyle and technology products and services.

Annual Individual Giving to R&E Foundation Tops \$1 Million

INDIVIDUAL gifts to the RSNA Research & Education (R&E) Foundation totaled more than \$1 million in fiscal 2007, marking the first time in the Foundation's 23-year history that such a milestone has been reached.

Pacesetters—donors who commit to a new gift of \$25,000 or more before the R&E Silver Anniversary Campaign celebration at the 2009 Annual Meeting—played a significant role in reaching the \$1 million mark, as did the thousands of other individual donors, said Robert E. Campbell, M.D., chair of the Foundation's Individual Giving Committee.



Robert E. Campbell, M.D.

The Foundation has set a goal to raise \$15 million before the Silver Anniversary Celebration.

“We still have a ways to go, but these recent donors have given us a strong and inspiring start,” said Dr. Campbell.

“They set a great example of what it means to help secure radiology's future.”

■ Celebrating 25 years, the RSNA R&E Foundation provides the R&D that keeps radiology at the forefront of medicine. Support your future, donate today. (RSNA.org/campaign)



AAPM Announces Honors

Arthur Boyer, Ph.D., has received the William D. Coolidge Award, the highest honor given by the American Association of Physicists in Medicine (AAPM). Recognized for his research and mentorship of students, Dr. Boyer is director of the physics division of the Radiology Department at Scott & White Memorial Hospital in Temple, Texas, and a professor in the Texas A&M University School of Medicine in College Station.

At its annual meeting in July, AAPM also gave its Award for Achievement in Medical Physics to **Lawrence Rothenberg, Ph.D.**, and **Marilyn Stovall, Ph.D.** Dr. Rothenberg directed the Diagnostic X-Ray Quality Assurance Laboratory for Memorial Sloan-Kettering Cancer Center (MSKCC) and N.Y. Presbyterian Weill Cornell Medical Center for more than 35 years until January 2007, when he was appointed member emeritus of MSKCC. Dr. Stovall is a professor in the Department of Radiation Physics at the M.D.

Anderson Cancer Center in Houston, where she has worked since 1951.

E. Russell Ritenour, Ph.D., a professor and chief of physics in the Department of Radiology and director of graduate studies in biophysical sciences and medical physics at the University of Minnesota, received special recognition for his service to AAPM. Dr. Ritenour is a member of the RSNA Research & Education Foundation Board of Trustees. **Donn Brascho, M.D.**, was awarded AAPM honorary membership. Dr. Brascho was director of the Radiation Oncology Residency Program at the University of Alabama from 1974 to 1987, served in radiation oncology private practice from 1987 to 2006 and continues doing locum tenens in radiation oncology throughout the southeastern U.S.



Arthur Boyer, Ph.D.



Marilyn Stovall, Ph.D.



E. Russell Ritenour, Ph.D.

Chassin is Joint Commission President

THE Joint Commission has named **Mark R. Chassin, M.D., M.P.P., M.P.H.**, its next president, effective January 1, 2008. Current President Dennis S. O'Leary, M.D., who has led The Joint Commission for 21 years, will become president emeritus.

Dr. Chassin is the Edmond A. Guggenheim Professor of Health Policy and chair of the Department of Health Policy at Mount Sinai School of Medicine in New York and executive vice-president for excellence in patient care at The Mount Sinai Medical Center. Prior to joining Mount Sinai, Dr. Chassin served as commissioner of the New

York State Department of Health.

Dr. Chassin built a nationally recognized quality improvement program at The Mount Sinai Medical Center. He was named a lifetime member of the National Academies and received the Founders Award of the American College of Medical Quality and the Ellwood Individual Award of the Foundation for Accountability.



Mark R. Chassin, M.D., M.P.P., M.P.H.

An independent, not-for-profit organization, The Joint Commission evaluates and accredits nearly 15,000 healthcare organizations and programs in the U.S.

NYRS Taps Rosenblatt as Distinguished Radiologist

Ruth Rosenblatt, M.D., director of women's imaging at Weill Cornell Medical College, has been named the 2007 Distinguished Radiologist by the New York Roentgen Society (NYRS). The award recognizes substantial contributions to NYRS.

Dr. Rosenblatt was NYRS president from 1989 to 1990. She has also served as president of the New York Radiological Society.



Ruth Rosenblatt, M.D.

Image courtesy of Weill Cornell Medical College/Maria Wallace

Reaching Out to Patients—*RadiologyInfo.org*

As diagnostic radiologists, we know that many of our patients do not know who we are or what we do. My own mother was distraught to learn that I planned to be a radiologist, “I thought you were going to be a doctor!” We don’t fix radios, and we do provide services other than sending a bill.

The personal contact interventional radiologists and breast imagers have with patients has shed new light on who radiologists are. Similarly, the collaborative Web site of RSNA and the American College of Radiology, *RadiologyInfo.org*, has offered more information to the patient community about our specialty.

Launched in 2000, *RadiologyInfo.org* is now presented in English and Spanish. Our emphasis is on patients, explaining radiologic procedures and interventions, radiation oncology, nuclear medicine and radiation safety. If a patient needs a chest

CT, they can go to *RadiologyInfo.org* to learn all about it—the preparation, patient experience, what a scan looks like, how results are typically reported and benefits and risks. We also post news articles and other important information.

Within two days after the new American Cancer Society guidelines for breast screening with MR imaging were announced, *RadiologyInfo.org* was updated to explain the recommendations and provide references for more information.

RADIOLOGYINFO.ORG
The radiology information resource for patients
La fuente de información sobre radiología para pacientes

RadiologyInfo.org averages nearly 500,000 visits per month, with 10 percent to our Spanish translations. Most visitors are from the U.S.; however, there are routinely visits from more than 25 countries. Feedback has been positive, but we must make our own radiol-



Joseph Tashjian, M.D.

ogy colleagues aware of *RadiologyInfo.org* and refer patients ourselves. I ask that you take time to review *RadiologyInfo.org* and include it whenever appropriate in your discussions with patients, physicians and administrators. You will find that this excellent resource strengthens our bond with

those who are most important, our patients.

If you are already using *RadiologyInfo.org* with your patients or referring physicians, please let us know how it’s working for you by clicking the “Comments” link at the bottom of any page on the Web site or by sending an e-mail to Webmast2@rsna.org. We’d like to post “success stories” to help spread the word.

Joseph Tashjian, M.D., is the RSNA representative co-chair of the RSNA-ACR Public Information Web Site Committee. Susanna I. Lee, M.D., Ph.D., is the ACR representative co-chair.

LETTER TO THE EDITOR

TO THE EDITOR:

We read with great interest the article “PAD Treatment Safe for Arteries Below the Knee” (*RSNA News*, August 2007). Indeed, the advent of modern low-profile endovascular instruments has shifted the paradigm of critical limb ischemia (CLI) therapy towards minimally invasive percutaneous angioplasty and stenting. Vascular interventional radiologists are technically skillful and highly competent in performing such procedures in the delicate small-caliber vessels below the knee and are already involved throughout Europe in the multidisciplinary management of CLI patients. Recent publications also



underline the therapeutic value of endovascular therapy in CLI with limb salvage rates exceeding 90 percent after one year. The authors would also like to emphasize their favorable experience with below-the-knee stenting, especially with the application of drug-eluting stents in the infrapopliteal arteries. In the *Journal of Vascular and Interventional Radiology* and the *Journal of Endovascular Therapy*, we discuss promising results with below-the-knee sirolimus-eluting stents, which significantly reduced both vascular restenosis and repeat angioplasty procedures. We’ve also shown Paclitaxel-eluting

stents are another option when dealing with a suboptimal tibial angioplasty outcome. As a whole field of medicine, infrapopliteal endovascular procedures are a critical and exciting component of our discipline and seem to constitute the new gold standard therapy for the heavily morbid group of CLI patients.

KONSTANTINOS KATSANOS, M.D., M.S.C.

INTERVENTIONAL RADIOLOGIST-IN-TRAINING

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Real-Time Observation of Demyelination Could Change MS Diagnosis

RESearchers at Purdue University report finding a way to observe real-time demyelination of nerve cells—an achievement that could have critical implications for the diagnosis and treatment of diseases such as multiple sclerosis (MS).

Using coherent anti-Stokes Raman scattering (CARS) microscopy, researchers identified key steps in the progression of demyelination, a loss of the nerve-insulating myelin sheath that is the hallmark of some neurodegenerative autoimmune diseases like MS and transverse myelitis.

Although MS has been studied for many years, a lack of understanding about its origin has limited the treatment for more than 2 million people worldwide suffering from this chronic central nervous system disease.

“CARS microscopy is emerging as a powerful method for imaging materials and biological systems, partly because of its noninvasiveness and selective chemical sensitivity,” said Ji-Xin Cheng, Ph.D., one of the study’s lead authors and an assistant professor in the Weldon School of Biomedical Engineering and Department of Chemistry at Purdue, in West Lafayette, Ind.

“CARS is not perfect for everything, but it’s particularly suited to looking at myelin,” Dr. Cheng said.

CARS gives selective information on a particular chemical species in a material. It is sensitive to the vibrations of chemical bonds within the material,

as in ordinary Raman spectroscopy, but is resonantly enhanced via the use of three laser beams—the pump beam (P), Stokes beam (S) and probe beam (pr). A signal is generated at the anti-Stokes frequency (P-S+pr) and resonance occurs when (P-S) coincides with the vibrational frequency.

Analyzing Living Tissue is Key

The Purdue research, funded for the past three years by the National Science Foundation, was carried out in spinal cord tissues extracted from animals and in the sciatic nerves of living mice. The work was detailed online in the *Journal of Neuroscience Research*.

Study co-author Riya Shi, M.D., Ph.D., said conventional microscopic imaging techniques for myelin require that samples be labeled with dyes, which kills the tissue. Being able to analyze living tissue is key, he said.

“With other methods we had to sacrifice the animal to see the demyelination process—of course, there are obvious limitations in humans,” said Dr. Shi, an associate professor of medical science in

the Purdue School of Veterinary Medicine and an associate professor of biomedical engineering. “CARS works without using dyes, so it can be used to study living tissues.”

CARS can distinguish normal myelin from demyelinated cells, said Dr. Shi, also a member of Purdue’s



Riya Shi, M.D., Ph.D.
Purdue University

Center for Paralysis Research, where he specializes in spinal cord and brain trauma and chronic neurodegenerative diseases. “That is so important because right now we know the major pathology of MS is demyelination, but we can only guess how bad it is,” he said. “Now we can observe the development of the demyelination.”

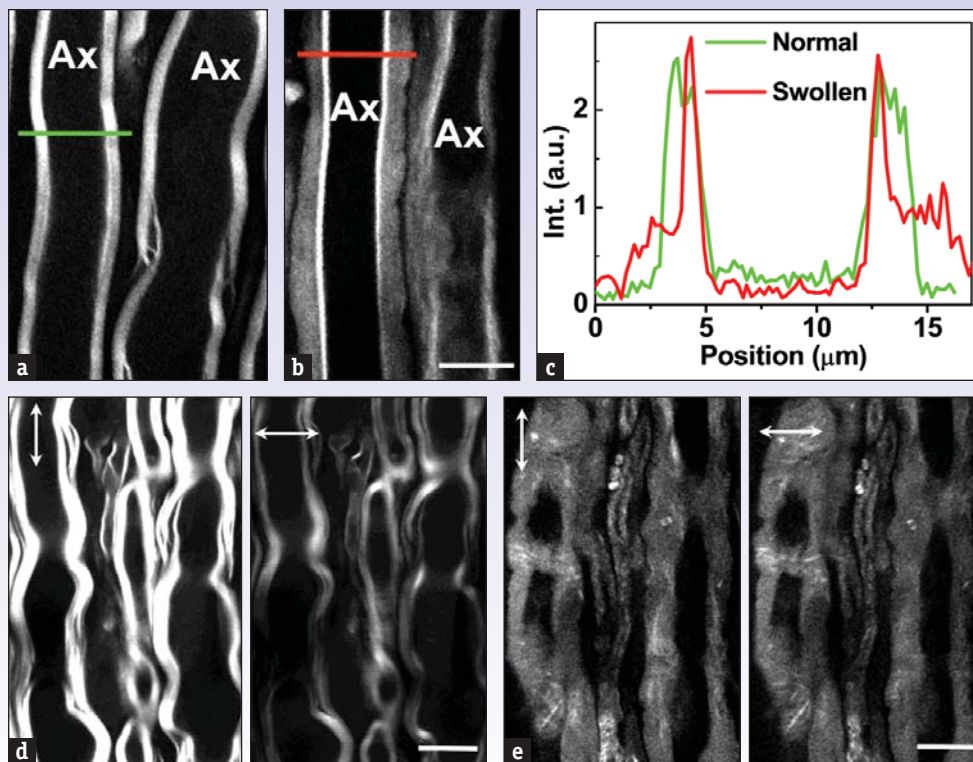
Researchers induced artificial demyelination in the spinal cord tissues in order to see the difference between cells with normal myelin and demyelinated cells. Knowing how the myelin sheath is degraded may allow scientists to find ways to stop disease progress and reverse damage by growing new myelin, they said.

“Many people may not realize that the MS diagnosis is always indirect, not direct, because sometimes you can’t diagnose MS until the symptoms become severe,” said Dr. Shi. “With

Continued on next page

CARS ... is very useful in clarifying the demyelination mechanisms and testing the remyelination efficacies of various therapies.

Riya Shi, M.D., Ph.D.



Characterization of lyso-PtdCho-induced myelin swelling by CARS microscopy.

Laser beams were focused into the equatorial plane of axons. (a) CARS image of normal myelin sheath wrapping two parallel axons acquired at a speed of 1.13 seconds/frame. The same speed was used for the other images. (b) CARS image of partially swollen myelin sheath acquired at 5 min after injecting 2 μ L of 10 mg/mL lyso-PtdCho into the tissue. (c) CARS intensity profiles of normal and swollen myelin fibers. Green: taken along the green line in a. Red: taken along the red line in b. Note the decrease of CARS intensity in the swollen region. (d) CARS images of normal myelin sheath with vertical (\updownarrow) and horizontal (\leftrightarrow) excitation polarization. (e) CARS images of totally swollen myelin sheath with vertical (\updownarrow) and horizontal (\leftrightarrow) excitation polarization. For all images, bar = 10 μ m.

Continued from previous page

this technique, we may be able to diagnose the disease at the early stage, before the symptoms appear.”

Imaging Biomarkers

CARS can monitor treatment efficacy as well, said Dr. Shi. “Right now patients take a drug and we have no idea if it affects the demyelination,” he said. “We can only tell that the person is gaining strength, but that could be a relapse. CARS can critically evaluate the demyelination to be sure it is not getting worse and that the medications are actually working.”

This research also could lend itself to other conditions in which the myelin degrades, such as damage to the spinal cord from accident trauma, said Dr. Cheng. “It is possible that the same pathway causes myelin degradation in people suffering from multiple sclerosis and people with spinal cord injuries,” he said.

The researchers compared the potential effect of CARS in diagnosing such injuries and neurological diseases to the

impact X-rays had on the treatment of bone injuries. “We believe that although a clinical application is probably a few years away, this will eventually result in better treatment of MS,” Dr. Shi said.

Right now researchers are imaging small animals such as rats and mice and have a few obstacles to overcome before they can test the process in larger animals and humans.

“CARS is very capable—it is very useful in clarifying the demyelination mechanisms and testing the remyelination efficacies of various therapies in small animals,” said Dr. Shi. “But we need to get optics that can work on a larger animal or a person before we get to human trials. Their skin is thicker

and some people will have more fatty tissue than others, so the optics will have to be suitable for that.” □

Learn More

■ The abstract for “Coherent Anti-Stokes Raman Scattering Imaging of Myelin Degradation Reveals a Calcium-Dependent Pathway in lyso-PtdCho-Induced Demyelination” is available online at www3.interscience.wiley.com/cgi-bin/abstract/114277028/ABSTRACT.

Molecular Imaging at RSNA 2007

A NEW one-day Molecular Imaging Symposium consists of four sessions on molecular imaging for the practicing radiologist. Included will be an overview of molecular imaging and discussions about applications of molecular imaging in oncology, cardiovascular imaging and neurology. For more information and to register now for RSNA 2007 courses, go to RSNA2007.RSNA.org.



RSNA 2007
CONNECTING RADIOLOGY

Physicians Warned of Cardiac CT Radiation Risk for Young Patients

THERE'S NO question that the high diagnostic sensitivity and specificity of CT coronary angiography (CTCA) makes it a modality of choice to evaluate the approximately 6 million patients presenting annually in emergency departments with chest pain. What some physicians are questioning, however, is whether radiation from CTCA could cause greater health problems for those patients in the future.

In an article in the July 18, 2007, issue of *The Journal of the American Medical Association (JAMA)*, lead author Andrew J. Einstein, M.D., Ph.D., attributes the dramatic increase in CTCA use to the introduction of 64-slice CT scanners.

To date there have been little data on the lifetime risk of developing cancer from CTCA radiation exposure, said Dr. Einstein. "We've only had 64-slice CT for three years, so we can't look at the long-term risks to patients," he said.

Instead Dr. Einstein and colleagues set out to determine the lifetime attributable risk (LAR) of cancer incidence—as well as evaluate the influence of age, sex and scan protocol on the risk—by using simulation methods to estimate organ radiation doses to standardized phantom male and female patients. Age and sex-specific LARs of individual cancers were then estimated by relying on the National Academies' Biological Effects of Ionizing Radiation (BEIR) VII Phase 2 report.

Cancer Risk Decreased with Age

Researchers found the risk from a single CTCA study varied with patient age. Younger patients, especially

women, were at higher risk for developing cancer—specifically lung and breast cancer. Results showed that LAR estimates for standard cardiac scans vary from 1 in 143 for a 20-year-old woman to 1 in nearly 3,300 for an 80-year-old man. The study also indicated that older patients may not survive long enough to develop radiation-attributable cancer. It typically takes at least a decade from exposure for cancer to develop, said Dr. Einstein.

Dr. Einstein, an assistant professor in the Division of Cardiology and Department of Radiology at Columbia

This is the death knell for the indiscriminate use of CTCA.

U. Joseph Schoepf, M.D.

University College of Physicians and Surgeons in New York, emphasized that the 64-slice CTCA is a good test, but it must be used with caution when evaluating young people. "The study found the risk is non-trivial, but there are ways to lower the dose and the risk," he said.

The likelihood of a 20-year-old undergoing CTCA is low, said Dr. Einstein, adding, however, that he does see patients in their 30s and 40s. "A patient should not just get this test done after hearing an advertisement," he said. "He or she should speak to his or her physi-



Andrew J. Einstein, M.D., Ph.D.
Columbia University

cian to discuss the risks and the benefits." He and his colleagues recommend considering stress electrocardiography, echocardiography and MR imaging as possible alternatives to CTCA in younger people.

Options Available to Lower Dose

Giving the patient Beta blockers to lower the heart rate is another step toward reducing radiation risk, as is using electrocardiographically controlled tube current modulation

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Steps for Reducing CTCA Radiation Dose

Eliot K. Fishman, M.D., offered three simple suggestions for reducing radiation dose when using CT coronary angiography.

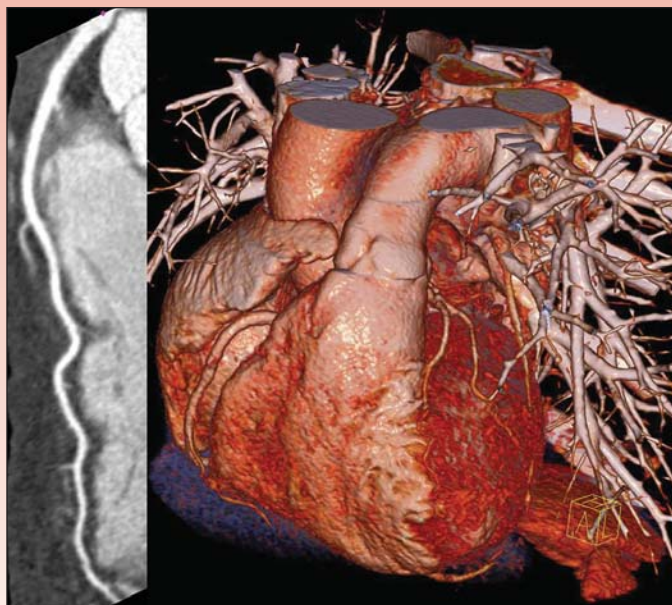
1 Consider the patient. "All referring doctors, emergency department physicians and cardiologists need to order studies appropriately," said Dr. Fishman. "If a patient needs a cardiac CT, of course get it, but think first. Don't just do it automatically."

2 Do it right the first time. "Obviously there is more radiation exposure when studies need to be repeated," Dr. Fishman said. All available dose reduction strategies, such as breast shields, should be used, he said.

3 Urge manufacturers to create new scanners with lower radiation doses. "We are dependent upon manufacturers to reduce the dose of radiation while improving the resolution of the scans," Dr. Fishman said.

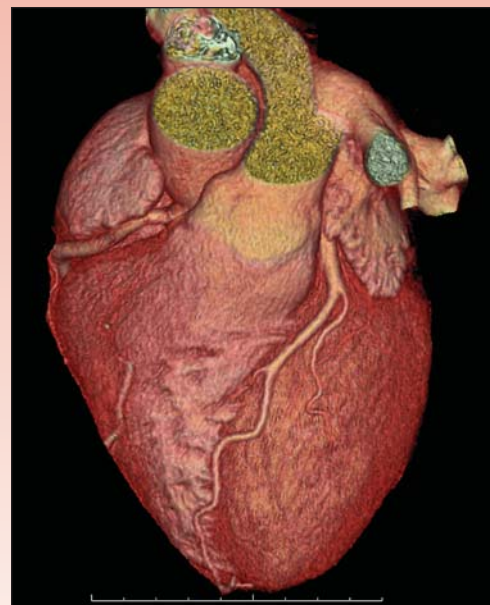
45 year-old woman with atypical chest pain and abnormal nuclear myocardial perfusion scan.

Contrast enhanced dual-source CT of the heart was performed using prospective electrocardiogram (ECG)-triggering, instead of the more commonly employed retrospectively ECG-gated approach. With prospective ECG-triggering, the X-ray tube is switched on only during diastole and switched off during the remainder of the cardiac cycle, with a substantial reduction in radiation exposure. The



effective radiation dose equivalent in this patient is 3.4 mSv, a fraction of the dose routinely applied with retrospective ECG-gating. 3D volume rendering (right) and automatically generated curved multiplanar reformat (left anterior descending coronary artery, left) show no sign of coronary artery stenosis or atherosclerotic changes. Coronary artery disease can be effectively ruled out based on this low-dose CT scan, obviating the need for invasive diagnostic catheterization.

Image courtesy U. Joseph Schoepf, Medical University of South Carolina.



CT coronary angiogram (volume-rendered image demonstrating left anterior descending and right coronary arteries).

Image courtesy of Andrew J. Einstein, M.D., Ph.D., Columbia University College of Physicians and Surgeons.

Continued from previous page

(ECTCM), a dose reduction protocol. “Adequate Beta blockade is imperative, not just to improve image quality but also to improve dose reduction from ECTCM,” Dr. Einstein and colleagues reported.

Dr. Einstein said the study emphasizes the importance of adhering to the principle of as low as reasonably achievable, or ALARA. “Radiologists and cardiologists should learn what they can do to reduce radiation dosages,” he said. “The initial settings in CT scanner protocols are not necessarily optimized to minimize dose. They need to be adjusted. Radiologists and cardiologists must pay attention to scanner settings used by technologists.”

An analysis presented at the 2007 annual meeting of the Society of Cardiovascular Computed Tomography showed cardiac imagers could reduce the effective radiation doses from 64-slice CTCA to half the current levels.

Elliot K. Fishman, M.D., who has researched and lectured extensively on cardiac CT, urged all physicians to take

heed of the *JAMA* study. “In this era of incredible technology, we need to take a step back and look at safety,” said Dr. Fishman, a professor of radiology and oncology at Johns Hopkins Hospital and director of diagnostic imaging and body CT at The Johns Hopkins University School of Medicine.

“Radiation dose has always been a concern within the radiology community since the early days of the X-ray and fluoroscopy,” Dr. Fishman added. “We must always remember, ‘do no harm.’”

CTCA has helped tremendously in the fight against cardiac disease but doctors must still ask if what they’re doing is actually harmful, said Dr. Fishman. The *JAMA* study offers that

critical look at the downside of CTCA, he said. Dr. Fishman also offered some suggestions for reducing radiation dose (see sidebar, previous page).

Some Say Patient Selection is Key

Other CT experts praised the *JAMA* study as well. “It is a thorough and precise article of significant importance for our field,” said U. Joseph Schoepf, M.D., a scheduled lecturer during Cardiac CT Mentored Case Review, presented in conjunction with the North American Society for Cardiac Imaging (NASCI) at RSNA 2007.

“This is the death knell for the indiscriminate use of CTCA,” he said.

Dr. Schoepf, an associate professor of radiology and medicine at the

CT and Radiation Dose at RSNA 2007

An RSNA special focus session, “MDCT and Radiation Dose: American versus European Perspective,” will be moderated by Robert K. Zeman, M.D., and Maximilian F. Reiser, M.D. The session is scheduled for Monday, Nov. 26, from 4:30 to 6 p.m. For more information and to register now for RSNA 2007 courses, go to RSNA2007.RSNA.org.



Medical University of South Carolina in Charleston, said patient selection is the key. “CTCA should not be used as a screening test,” he said. At his hospital, he added, self-referrals and walk-ins for CTCA are not allowed—physician referral is mandatory.

For the last year, said Dr. Schoepf, his center has been using dual source CT with prospective electrocardiogram (ECG)-triggering to test patients with slow heart beats, and retrospective ECG-gating with aggressive ECTCM for those with more rapid or irregular heart beats, and have substantially lowered radiation exposure in both groups. Dr. Schoepf and his colleagues discuss this technique, as well as many of the other protocols followed at their institution, in

a “How I Do It” article in the July 2007 issue of *Radiology*.

G. Donald Frey, Ph.D., a medical physicist at the Medical University of South Carolina, expects the radiation-reducing technique to spread. “In addition, sites should measure radiation dose and maintain an active quality assurance program to check the performance of their scanners,” he said. “As image quality decreases, so too does the value of the study.”

“It has always been our goal to reduce radiation exposure,” added Dr. Schoepf. “All of us still need to work on patient and physician education.” □

Learn More

■ More information about the studies cited in this article is available online.

- “Estimating Risk of Cancer Associated with Radiation Exposure From 64-Slice Computed Tomography Coronary Angiography” jama.ama-assn.org/cgi/content/abstract/298/3/317.
- “How I Do It: Coronary CT Angiography” radiology.rsnaajnl.org/cgi/content/abstract/244/1/48.
- “Effects of CT Irradiation on Implantable Cardiac Rhythm Management Devices” radiology.rsnaajnl.org/cgi/content/abstract/243/3/766.

Radiology Study Looks at Effects of CT on Implantable Cardiac Devices

ANOTHER RECENT study of radiation effects on patients found that implantable cardiac rhythm management devices (ICRMDs) are sensitive to CT.

Cynthia H. McCollough, Ph.D., of Mayo Clinic in Rochester, Minn., and colleagues exposed 21 ICRMDs (13 pacemakers and 8 defibrillators, all from the same manufacturer) to ionizing radiation from CT systems via a patient phantom. The researchers reported in the June 2007 issue of *Radiology* that they observed oversensing in 20 devices at maximum doses and in 17 devices at typical doses, with oversensing often manifesting as inhibition and occasionally manifesting as tracking or safety pacing. Oversensing was transient and ceased as soon as the ICRMD stopped moving through the X-ray beam or the beam was turned off, the researchers reported.

Though the effects of CT on the devices are generally considered benign, the researchers concluded that they may merit consideration when a physician is faced with an ICRMD-dependent patient presenting for CT if the device will remain in the X-ray beam for more than a few seconds.

Dr. McCollough, an associate professor of radiological physics at the Mayo Clinic, said the study was inspired by research from Japan that found changes in ICRMDs exposed to X-rays. “When we heard that, we

asked how we can manage this issue to make sure our patients with implantable devices are safe,” said Dr. McCollough. “Our study found ICRMDs are sensitive when directly in the CT beam.”

Dr. McCollough noted that in most cases the presence of an implantable device during CT is not an issue—during routine head CT, for example. “That’s not a problem because the beam is not directly over the pacemaker or defibrillator,” she said. For body CT applications, procedures where the X-ray beam

remains over the device for more than a few seconds could potentially interfere with the device, she said. Examples of such exams would be perfusion CT (also called dynamic CT) or interventional CT (also called CT fluoroscopy) examinations.

She advised radiologists to consult their colleagues in cardiology before performing perfusion or interventional CT on patients with ICRMDs when the device will be in the direct CT beam. A patient can put the device in “monitor only” mode—which obligates the radiologist or technologist to remind them to put it back in regular mode when imaging has concluded—but getting cardi-

ology involved is essential, Dr. McCollough said. She stressed that their data indicate that routine CT scanning over these devices, as long as the patient is translated through the

beam, should not be a source of concern, albeit devices from other manufacturers should be evaluated.

This study is another wake-up call for the radiology community, said Elliot K. Fishman, M.D. “What we don’t know may be what we should know,” he said.

Like the *JAMA*-reported study of CT radiation doses effects on cancer risk, this

study highlights the need for radiologists to pay more attention, Dr. Fishman said. “Again, we need to be sensitive to each patient and, in select cases, alert the referring physician that the device settings may need to be checked.”

Both papers also point to the close working relationship between physicists and radiologists, Dr. Fishman said. “We’ve used radiation for more than 100 years, but there are still a lot of things we need to learn,” he said.



Newest MOC Phase Focuses on Quality Improvement

AS PART OF its ongoing implementation of the MOC process, the American Board of Radiology (ABR) has unveiled the newest phase of the maintenance of certification (MOC) requirements—practice quality improvement (PQI).

“We’re looking at the individual radiologist selecting an aspect of their practice that they can identify as related to patient care, clearly indicative of how they’re practicing and has measurable end points that relate to the accuracy or quality of that study,” said Larry E. Kun, M.D., an ABR assistant executive director for MOC who helped lead a task force of radiology-related organizations looking at PQI.

“For instance, in the case of CT pulmonary angiography, you can look at the percentage of diagnostic or non-diagnostic studies in an emergency room setting,” said Dr. Kun, chair of the Department of Radiological Sciences at St. Jude Children’s Research Hospital in Memphis, Tenn. “If an individual develops some metrics around that, then it might become their project.”

Further illustrating his example, Dr. Kun said the radiologist could go back to a finite number of studies, see what percentage lacked the information necessary to be fully diagnostic or involved technical issues creating difficulties in diagnosis, and then analyze the process. The radiologist could then develop a spreadsheet to chart improvement, in this case for processes that would reflect not only the individual radiologist but also the department or practice as a whole.

“This is systems-based medicine that explores competencies and becomes groundwork for a PQI project,” Dr. Kun said. “The key steps are identifying areas that could be improved, initiating improvement over time and documenting those improvements or indicating where further improvement should be made.”

Loss of Confidence Spurred MOC Process

PQI joins professional standing, lifelong learning and self-assessment and cognitive expertise as parts of the MOC process launched five years ago. A decade ago, amidst extraordinary advances in the science and technology of medicine, the American public was losing confidence in patient care. Subsequent heightened expectations, as well as a series of critical reports on healthcare quality, set the stage for sharply increased government scrutiny of medical practice. Medicine has responded in turn with a new holistic approach to medical education, evidence-based patient care and physician-based quality improvement.

The key steps are identifying areas that could be improved, initiating improvement over time and documenting those improvements.

Larry E. Kun, M.D.

Already discussing physician proficiency, the American Board of Medical Specialties (ABMS) formed a Task Force on Competence in 1998. The group ultimately prescribed an overarching MOC process by which radiology and the 23 other specialty boards might advance quality medical care by requiring regular physician self-assessment and improvement.

The task force was led by surgeon



Larry E. Kun, M.D.
ABR Assistant Executive Director for MOC

David L. Nahrwold, M.D., later elected ABMS president and currently chair of The Joint Commission. Initially disbelieving a report that “40,000-98,000 patients died annually through preventable errors,” Dr. Nahrwold said he came to accept the Institute of Medicine’s startling numbers and now echoes that organization’s urgent recommendations—standardize procedures and validate physician competence regularly.

“We were in denial for years, but it was a wake-up call,” said Dr. Nahrwold. “If we didn’t do something, somebody else would, and board certification would become irrelevant. But the main reason to act was to make sure the public is well-served.”

MOC is Gold Standard for Continuing Certification

The task force identified six competencies that all physicians should demonstrate and that would become prerequisites for certification: medical knowledge, effective patient care, interpersonal and communication skills, professional-

ism, practice-based learning and improvement and systems-based practice. To assess physician competency and as a model for recertification, the task force adopted a framework of four categories comprising the required activities that must be demonstrated by diagnostic radiologists on an ongoing basis:

Part I: Professional standing—Possession of valid, unrestricted medical license(s).

Part II: Lifelong Learning and Self-Assessment—Completion of CME and self-assessment tools that meet specialty-specific guidelines for patient care. Current requirements call for completion of 250 hours of CME and 20 self-assessment modules (SAMs) over the course of 10 years.

Part III: Cognitive Expertise—Successful performance on a structured examination, demonstrating mastery of fundamental, practice-related knowledge.

Part IV: Practice Quality Improvement—Comparison of the quality of care provided to that of their peers or against national benchmarks, through ongoing participation in continuous quality improvement projects.

Mandated by ABMS in March 2000 for all 24 specialty boards, the MOC process is now required for continuing certification of all new residency graduates. The process is intended to demonstrate physician commitment to continual practice improvement and maintain physician commitment to quality in the national healthcare debate.

“MOC should include a continuous quality improvement effort for all diplomates to show that they’re constantly striving to improve their practice,” said Stephen H. Miller, M.D., M.P.H., ABMS president and CEO. “MOC has to show the outcomes for patient care are better because of it.”

MOC Part II, lifelong learning and self-assessment, received early attention from an ABR task force. SAMs—typically CME content followed by a series of multiple-choice questions, ask physicians to reflect on the knowledge just reviewed and its impact on their practices. The key, said Dr. Kun, is

RSNA Assists in MOC, Lifelong Learning Process

RSNA offers a variety of resources to help physicians involved in the maintenance of certification (MOC) process. Access these resources by going to RSNA.org/education/moc.cfm.

InteractED® (Internet-based CME)—Access more than 300 peer-reviewed programs to earn *AMA PRA Category 1 Credits™*. Programs include:

- Refresher Courses (available free of charge; opportunity to earn CME credit available to members only)
- *RadioGraphics* CME Tests / Education Exhibits (free of charge to members; non-members charged \$15 to access CME tests)
- Cases of the Day (free of charge to members; non-members charged \$15)

NEW! Cases of the Day from RSNA 2006 are now available. Cases cover breast imaging, cardiac radiology, chest radiology, emergency radiology, gastrointestinal radiology, genitourinary radiology, musculoskeletal radiology, nuclear medicine, neuroradiology, obstetrics/gynecology, pediatric radiology and ultrasound.

Self-Assessment Modules—View nearly 50 online self-assessment modules (SAMs) based upon previously distributed, peer-reviewed materials in a variety of subspecialty content areas. All SAMs are “qualified by the American Board of Radiology in meeting the criteria for self-assessment toward the purpose of fulfilling requirements in the ABR Maintenance of Certification Program.” All SAMs are also available for AMA PRA Category 1 Credit.

My Practice Profile—Define your practice and target lifelong learning activities more appropriately. Information entered is confidential and used by RSNA only to determine what types of educational programming you may need to fulfill the ABR MOC requirements. Receiving e-mail notifications about RSNA MOC resources is a benefit of completing a profile.

My CME Action Plan—Print a template of a personal learning plan based on your completed practice profile and save it to your hard drive. Each physician participating in the ABR MOC process is encouraged to keep a personal education plan for continuing education.

RSNA CME Credit Repository—Verify and print your RSNA-awarded AMA PRA Category 1 Credits and self-enter credits for self-directed learning.

MOC File—Upload and store pertinent MOC information, such as your CME Action Plan.

A new quality assurance section in *RadioGraphics*, set to debut in January, will also address the tools and methodologies of practice quality improvement (PQI) projects to help members identify, initiate and complete projects.

feedback to physicians regarding their performance and a comparison to their peers. Already well accepted, SAMs are readily available from RSNA and other organizations on a regular basis.

Radiologists will find the same ease with Part IV as PQI is better understood, said Dr. Kun. “It will become clear that this is not extraordinary and can really be approached within the context of an individual physician’s practice commitment,” he said.

ABR hopes eventually to see two broad types of PQI projects, those initiated by individuals or practice groups and others sponsored by societies such as RSNA. Accomplishments will ultimately be entered into diplomates’ per-

sonal databases (PDBs) with ABR.

“MOC is no longer foreign or threatening,” said Dr. Kun. “It’s part of good medicine and of what’s required for quality improvement in most settings. What’s implicit here is taking it down to the individual physician level.” □

Learn More

■ The American Board of Radiology will be at RSNA 2007 to discuss maintenance of certification. See Page 18 for more information. More information is also available at www.theabr.org.



Cell Phone Technology May Speed Up CT Scanning

UTILIZING the same multiplexing technology used in cell phone networks and other telecommunication systems, researchers at the University of North Carolina (UNC) at Chapel Hill are on their way to developing dramatically faster CT scanners.

Multiplexing—whereby multiple signals are combined into a single composite signal and then transmitted—allows cell networks and computer modems to operate at high speeds. In CT, multiplexing can instantaneously merge signals from 10 to 1,000 separate X-ray sources. Currently, one X-ray source is moved quickly around the patient and data are slowly collected in a serial or “single-file” manner.

Leading the UNC research team is Jian Zhang, Ph.D., of the Department of Radiation Oncology. Dr. Zhang explained that the research is really moving forward on two fronts: scanning and transmission. The first step is to develop CT scanners that simultaneously use up to 1,000 stationary X-ray pixels. Multiplexing will then be employed to quickly transmit the data.

The theory is that 1,000-view CT scanning could be 500 times faster, said Dr. Zhang. The researchers’ ultimate goal is a multiplexed 1,000-pixel CT scanner that provides images clear enough for clinical use, but, he said, getting there “is going to take a while and take some considerable effort.”

Breast Tomosynthesis is Focus

In the meantime, the UNC team is also working with the National Cancer Institute to develop a limited-angle, station-

ary CT scanner for use in 3D breast tomosynthesis. That scanner would only require 25 to 50 pixels and data would first be collected in the traditional sequential manner, rather than using multiplexing. “It’s a little bit easier for us to create the system for tomosynthesis applications,” said Dr. Zhang. “We’re actually pretty close to that.”

There are still hurdles to overcome, however. The first and most obvious, said Dr. Zhang, is working out the balance between speed and image quality. He pointed out that each time the number of X-ray sources is increased, the scattering effect of the rays also increases. His team is currently working with a 25-pixel prototype to study the scattering effect.

One of Dr. Zhang’s colleagues on the project is Otto Zhou, Ph.D., a professor of materials sciences and physics and a member of UNC’s Lineberger Comprehensive Cancer Center. “The other challenge is that once you have this multipixel X-ray source, are you going to do multiplexing imaging or sequen-

tial imaging, and what are the tradeoffs in multiplexing between imaging speed and the imaging quality?” asked Dr. Zhou. “What is the signal-to-noise ratio? At this point there’s no clear answer to that—it’s one of the things we want to find out with this project.”

Dr. Zhou explained that when it comes to achieving a clear image, “It really depends on the reference point. The goal of this research is to provide a realistic comparison between the traditional method of doing breast tomosynthesis and the use of our process.” He

added that with their 25-pixel tomosynthesis scanner, “We’re hoping to increase the scan speed by a factor of 10.” Dr. Zhou is hopeful that such multipixel tomosynthesis scanners could be in clinical use in the near future. “I’m always optimistic, so I’d say less than five years,” he said.

New Electron Source Identified

One of the biggest hurdles for multiple-source X-ray technology was the heat created by X-ray sources that use a metal filament to generate electrons. The need for insulation surrounding these high-heat sources also makes the machinery bulky. Therefore, the notion of multiplying those traditional electron sources by 1,000 made multipixel scanning seem impossible.

When they began their research eight years ago, the first thing Drs. Zhang and Zhou focused on was using carbon nanotubes as an electron source. As Dr. Zhang explained, nanotubes do not have to be heated in order to pull out an electron. Dr. Zhou added, “the reason we can do multipixel scanning where traditional technology cannot is nanotechnology.” They spent more than five years developing a carbon-nanotube-based device, but it was only in the last two to three years that they started looking at multipixel capabilities and multiplexing, explained Dr. Zhou.

Noting there are different ways to do multiplexing, Dr. Zhang said binary multiplexing is the most efficient way to encode the X-ray beam. He has some preliminary results on binary multiplexing and said he hopes to publish his findings soon.

Today Drs. Zhang and Zhou work with a fairly large and diverse group of researchers. “We have about 20 to 30

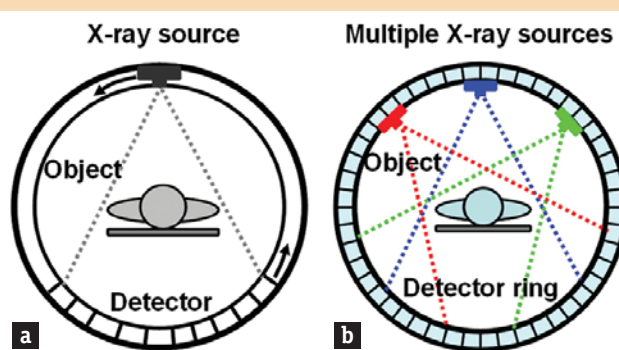
The reason we can do multipixel scanning where traditional technology cannot is nanotechnology.

Otto Zhou, Ph.D.

people from different backgrounds, including engineering, physics, medicine, radiology and oncology,” said Dr. Zhou. “There’s certainly a high level of interest from different corners of the imaging community.”

One area that may benefit from the research sooner rather than later is airport security scanning, where speed is definitely desired but imaging standards are not as high as in medical use.

The team’s first prototype, developed in 2005, used five pixels. Now they are using a 25-pixel prototype and a 100-pixel scanner is in the works. Building the hardware presents some engineering challenges, said Dr. Zhou, adding, however, “We’re making a lot of progress and there are now commercial vendors working together with us. We hope that a lot of these issues will be solved in the near future.”



How Multiplexing Works
 (a) Configuration of a conventional CT scanner. (b) The multiplexing CT scanner enables simultaneous collection of multiple images due to the multiplexing principle.
 Courtesy of Jian Zhang, Ph.D., University of North Carolina at Chapel Hill, et. al.

As for the 1,000-pixel scanner, that remains a bit further out. “It’s going to be a long way to go, probably 10 years or even longer,” said Dr. Zhang when asked about the possibility of a multiplexing CT scanner for clinical radiology use.

Still, both professors were confident there will be more immediate uses for their research. “Obviously a multi-

pixel X-ray is very useful and can be applied in different areas,” said Dr. Zhou.

Learn More

■ The abstract for “Multiplexing Radiography for Ultra-Fast Computed Tomography: A Feasibility Study” is available online at www.aapm.org/meetings/amos2/pdf/29-7279-59073-381.pdf.

iPhone™ is Next Step in Remote Reading Revolution

While engineers focus on improving radiology practice by taking advantage of cell phone transmission technology, radiologists are seizing the opportunities offered by the latest generation of handset, the Apple iPhone™.

Whereas other phones’ browsers often rearrange Web pages to adjust to a smaller interface, the iPhone’s display is more like that of a small laptop, allowing users to view content much like they would on a desktop computer using Safari, the Web browser developed by Apple. The iPhone’s 3½ inch screen displays images with a resolution of 480 x 320 pixels—good by mobile phone standards, but not quite the 512 x 512 matrix required for CT studies.

The advent of the iPhone has had medical software companies scrambling to boast iPhone compatibility, appealing to consumers with scenarios in which a physician swiftly attends to a patient’s emergency situation from a table in a restaurant or a lounge chair on the beach.

For example, the Mac-based WebPAX VS, developed by Durham, N.C.-based Heart Imaging Technologies (HeartIT), is an iPhone-compatible secure remote picture

archiving and communication (PACS) system that converts MR and CT images into animated GIF files that display simultaneously with the patient’s heart rate. A sample on HeartIT’s Web site features detailed miniature movies of a beating heart from 12 angles. Using WebPAX, a physician with access privileges can click on a Web link sent via e-mail by a colleague, enter a password and view images on the iPhone. The iPhone also allows for putting the colleague on speakerphone and conducting a medical consultation while viewing the images.

Physicians can also use iPhone with programs like Life Record™, a Web-based application that enables viewing of updated patient records, including recorded images, and even writing and transferring of prescriptions online. Representatives from the Bloomfield, N.M.-based company posted a video of how it works on YouTube.

Ever since they discovered in 2004 that the extensive storage space offered by the iPod® could be used to transport medical images, radiologists have awaited new developments and, specifically, technology practical enough



Courtesy of Apple

to use in real-life situations on a regular basis. (See *RSNA News*, December 2004)

Eliot L. Siegel, M.D., of RSNA’s Radiology Informatics Committee, said he has high hopes for the iPhone’s multi-touch interface, which he said is “intuitive and offers intriguing possibilities for navigation and display of images and related patient information.” He said he hopes that other displays and devices will offer this feature.

Dr. Siegel said that he hopes the iPhone will evolve into a device that takes advantage of a faster Internet connection, has improved battery life over its current five hours for talk/video/Web browsing and utilizes an open system that will support downloading of applications directly to the phone without the need to run them on Safari.

RSNA 2007 Presentations Move Radiology Ahead

Major advances in multislice CT, MR imaging, minimally invasive therapy and molecular imaging are some of the innovative topics that researchers from around the world will present at RSNA 2007.

With more than 6,000 abstracts submitted for consideration by the RSNA Scientific Program Committee, members of the committee undertook a substantial job in reviewing and selecting the abstracts for presentation at the annual meeting, said Committee Chair Gerald D. Dodd III, M.D., professor and chair of the Department of Radiology at The University of Texas Health Science Center in San Antonio.

“As always, we were blessed with exceptional quality submissions,” said Dr. Dodd. “It has been a pleasure to work with this wonderful committee to bring these new technologies and cutting-edge techniques to light for RSNA attendees.”

Over the summer, the Scientific Program Committee and its subcommittees reviewed the abstracts submitted for scientific paper or scientific poster presentation and selected 1,675 papers and 604 posters. A separate committee accepted 1,498 abstracts for education exhibits. “They have done a fantastic job of assembling what will be a memorable and

crucial program for the radiology community,” said Dr. Dodd.

Breast Imaging

Subcommittee Chair Jennifer A. Harvey, M.D., cited ultrasound and MR imaging in adjunct screening for women at high risk for breast cancer as an important trend this year.

The American Cancer Society now recommends MR imaging in addition to mammography for screening women at high risk, she said, and demand is increasing accordingly. Dr. Harvey pointed out, however, that ultrasound may be a less costly alternative to MR, and the results of a multicenter ultrasound screening trial from the American College of Radiology Imaging Network (ACRIN) will be among the presentations at a session devoted entirely to screening of high-risk women.

Dr. Harvey also noted interesting presentations of new data on digital tomosynthesis, MR diffusion-weighted imaging and the continuing debate over computer-aided detection.

Cardiac Radiology

With submissions nearly doubling during the last four years and a 20 percent jump in submissions from last year, the cardiac subspecialty continues to rapidly gain attention, said Paul R. Julsrud, M.D., subcommittee chair. Abstracts pertaining to CT imaging outnumbered those on MR imaging three to one, he added.

Dr. Julsrud identified in-stent stenosis via CT angiography, extra-cardiac findings at coronary CT angiography and cardiac MR imaging of left ventricular remodeling as important topics this year. He observed particular interest in the process of triple rule out, predicting that it will be a major issue in the near future with immediate implications for clinical practice.

Chest Radiology

H. Page McAdams, M.D., subcommittee chair, noted that CT venography versus ultrasound, digital tomosynthesis, imaging pulmonary embolism in pregnancy and CT pulmonary angiography (CTPA) utilization are among this year's significant topics. Dr. McAdams also cited trends in dual energy CTPA, computer-aided detection for pulmonary embolism and “continued interest in all things related to lung nodules.”

CT measurement with computer-aided diagnosis and matching software remains a strong topic this year, Dr. McAdams added.

Emergency Radiology

Topics of note in the emergency subspecialty are imaging vascular injuries, multidetector CT, CT angiography accuracy and contrast agent dosage, said Subcommittee Chair Diego B. Nuñez Jr., M.D., M.P.H. Other interesting topics related to the practice of emergency radiology and utilization of imaging resources in the acute setting will also be presented, he said.

Gastrointestinal Radiology

Subcommittee Chair Erik K. Paulson, M.D., noted that abstract submissions once again numbered well over 900 and dealt with the full spectrum of gastrointestinal imaging. Attendees can anticipate presentations on increased utilization of CT colonography for polyp detection, with emphasis on standardized reporting, as well as computer-aided detection and innovative approaches to small bowel imaging with multidetector CT and MR. 3 T MR imaging of the abdomen and pelvis is also a popular topic, Dr. Paulson said.

The emergence of dual energy applications in the abdomen and pelvis, continued refinement of minimally invasive therapies for liver tumors and the quest to drop radiation dose without compromising image quality are also important trends this year, according to Dr. Paulson.





2007 RSNA Scientific Program Committee

The RSNA Scientific Program Committee met in June at RSNA Headquarters in Oak Brook, Ill. (front row, from left) Jennifer A. Harvey, M.D., David S. Mendelson, M.D., Diego B. Nuñez Jr., M.D., M.P.H., James S. Welsh, M.D., Edward I. Bluth, M.D., Marcia C. Javitt, M.D., and Milton J. Guiberteau, M.D.

(back row, from left) Paul R. Julsrud, M.D., Maryellen L. Giger, Ph.D., David A. Rubin, M.D., N. Reed Dunnick, M.D., Gerald D. Dodd III, M.D., Robert M. Quencer, M.D., Mauricio Castillo, M.D., Umar Mahmood, M.D., Ph.D., Matthew A. Mauro, M.D. and Andrew D. Maidment, Ph.D.

(not pictured) Lane F. Donnelly, M.D., Howard P. Forman, M.D., H. Page McAdams, M.D., and Erik K. Paulson, M.D.

Genitourinary Radiology

Focus remains sharp on the connection between nephrogenic systemic fibrosis (NSF) and contrast agent administration in patients with moderate to severe kidney disease, said Marcia C. Javitt, M.D., subcommittee chair. She added that attendees can expect to see more molecular imaging and diffusion-weighted imaging applied to clinical practice than ever before.

Other important topics cited by Dr. Javitt include dual energy CT for tissue characterization in adrenal and renal masses and for lesion detection and characterization in the prostate gland, as well as MR spectroscopy, diffusion weighted imaging and apparent diffusion coefficient (ADC) mapping, computer-aided detection and dynamic contrast-enhanced imaging for prostate cancer.

Health Services Policy & Research

Howard P. Forman, M.D., subcommittee chair, said that presentations this year are keenly directed at the quality of imaging and image interpretation. Even the subcommittee's educational presentations are more focused on quality improvements in training medical students and residents, he said.

Utilization is another area of great interest, with scholars increasingly pursuing projects that seek answers to notoriously diffi-

cult questions about the trends in imaging utilization and their appropriateness, Dr. Forman said. He also indicated trends in management and job satisfaction issues, as well as cost effects on stakeholders, novel software for quality assurance and improvement of the quality assurance process in general.

Informatics

Automated literature indexing is an important trend in informatics presentations this year, according to Subcommittee Vice-Chair David Mendelson, M.D. Decision support is also of significant interest, he added, with presentations on support for search engines and computerized physician order entry. Lexicons and ontologies for search tools in radiology systems and applications are also of note, said Dr. Mendelson.

Molecular Imaging

In its second year as an RSNA subspecialty, molecular imaging promises many interesting topics, including diffusion, hyperpolarized C-13 MR imaging, smart MR agents and dendritic cell tracking, according to Subcommittee Chair Umar Mahmood, M.D., Ph.D.

There will be a number of posters on diffusion this year, Dr. Mahmood noted, adding that while there are fewer presentations

about new contrast agents, an increasing number address new applications for existing agents.

Musculoskeletal Radiology

Subcommittee chair David A. Rubin, M.D., said that whole-body scanning continues to be popular this year.

Structural analysis of the proximal femur with CT, automated sequence prescriptions via MR, perfusion/diffusion imaging of musculoskeletal tumors, use of computer-aided detection for MR imaging of meniscal tears and diffusion tensor imaging of muscle tracts are also compelling topics, Dr. Rubin said.

Neuroradiology/Head & Neck

Applications of new imaging techniques for interrogating the brain and spine continue to emerge, said Mauricio Castillo, M.D., subcommittee chair. This year, many presentations will emphasize intrinsic contrast (spin labeling) perfusion methods and the use of ultra-high field strength MR imaging, he said.

Further refinement of existing techniques, such as bone removal during image processing for CTA, will also have an important role at RSNA 2007, Dr. Castillo said. Application of perfusion and diffusion

Continued on next page

RSNA 2007 Presentations Move Radiology Ahead

Continued from previous page

in head and neck pathology has come of age and is helpful in assessing lesions, he observed, adding that a more detailed and clinically oriented look is also being given to established techniques in imaging of acute stroke.

Other significant topics cited by Dr. Castillo include molecular imaging, tensor and other functional imaging for dementias and other neurodegenerative disorders, perfusion CT and CTA as a one-stop evaluation of stroke, refinement of MR angiography in the head, neck and spine and applications of diffusion weighted and perfusion imaging in head and neck lesions.

Nuclear Medicine

Milton J. Guiberteau, M.D., subcommittee chair, said new and important results from the National Oncologic PET Registry (NOPR) will be presented at this year's meeting, reinforcing the use of fluorine 18 fluorodeoxyglucose (F-18 FDG) PET as an important tool in the management of patients with cancer. PET in general remains very popular this year, with abstracts on new uses, new agents, changes in camera design and other technology developments, Dr. Guiberteau said. FDG PET for evaluating cervical cancer and as a marker of acute aortic syndrome, ¹¹C-choline PET for detection of prostate cancer and ownership of PET scanners in private offices are among the many interesting and provocative topics, he added.

Pediatric Radiology

Areas with multiple papers submitted include CT and radiation dose, fetal imaging, cardiac MR imaging and pediatric



Edward I. Bluth, M.D. (center), chair of the RSNA Associated Sciences Committee, speaks at the June 2007 meeting of the Scientific Program Committee. More information about the Associated Sciences Program can be found on Page 26.

obesity, said Subcommittee Chair Lane F. Donnelly, M.D. Automated tube current modulation and fetal MR lung lesion imaging are also important topics this year, Dr. Donnelly said.

Physics

Subcommittee Chair Maryellen L. Giger, Ph.D., noted an increase in CT presentations in the physics subspecialty at RSNA 2007.

Attendees will find that presentations exploring image processing and computer-aided diagnosis have diversified into their relevant clinical subspecialties, advised Dr. Giger.

Radiation Oncology & Radiobiology

The subspecialty continues to see a number of excellent studies on image-guided radiation therapy and the integration of chemotherapy/molecular agents with radiotherapy, said James S. Welsh, M.D., M.S., subcommittee chair.

Radiation biology, low-dose rate radiobiology and image-guided intensity-modulated radiation therapy (IMRT) are among the topics of interest this year, he added.

Vascular and Interventional Radiology

Increased research on oncologic intervention is a trend this year, noted Subcommittee Chair Matthew A. Mauro, M.D. He also cited more studies of 64-slice CT angiography for vascular evaluation and parallel MR angiography.

Cryoablation of breast tumors, ablation of the endothelial lining, pulmonary vascular embolism and CD133 bone marrow stem cells, angiogenesis with 256-slice CT and simulators are some of this year's compelling topics, Dr. Mauro said.

Relevant Presentations Emphasize Healthcare Improvement

Dr. Forman, the health services policy and research subcommittee chair, remarked on the great care the Scientific Program Committee has taken to ensure the program's excellence. "The presentations once again will be of the highest caliber, addressing topics that are relevant, timely and in keeping with our nation's emphasis on healthcare quality improvement," said Dr. Forman.



Get the Most Out of RSNA 2007

With a broad spectrum of programming offered amidst convenient services and amenities, RSNA 2007 is designed to be as efficient as it is enriching.

Get More Now Look for this icon to use the course or session number to get more information in the online *RSNA Meeting Program*. Access the online program by going to RSNA2007.RSNA.org and clicking Meeting Program in the left-hand column. Search the program by clicking Search at the top of the page and then entering the course or session number in the Code box.

New Educational Offerings Raise, Reinforce Radiologic Knowledge

Cardiac CT Mentored Case Review

Monday, Nov. 26
8:30 a.m. – 6:00 p.m.

Get More Now MC21 – MC24

Offered in conjunction with the North American Society for Cardiac Imaging, this one-day course is designed to assist attendees in satisfying one of the recommendations of the American College of Radiology Practice Guidelines for the Performance and Interpretation of Cardiac CT. Participation in all four courses is required to receive a certificate of completion. An audience-response system will be utilized.

Bolstering Oncoradiologic and Oncoradiotherapeutic Skills for Tomorrow (BOOST) Program

Monday, Nov. 26–Thursday, Nov. 29
8:30 a.m. – 6:00 p.m.

Get More Now

R021 – R024 (Head and Neck)
R031 – R034 (Gastrointestinal)
R041 – R044 (Thoracic)
R051 – R054 (Prostate)

Designed especially for radiation oncologists, this new four-day course is organized so that one type of cancer—head and neck, prostate, lung or gastrointestinal—is addressed each day. Featuring experts in

radiation oncology, diagnostic radiology, biology and physics, BOOST will address the oncologic principles of each disease site, biology and pathophysiology, anatomy and contouring as well as the latest developments in each area. Specialists will be encouraged to learn from each other via audience participation exercises and question-and-answer periods.

Italy Presents—Multicenter Trials on Screening Research

Monday, Nov. 26
10:30 a.m. – 12:00 p.m.

Get More Now SSC23

The Italian Society of Medical Radiology has teamed with RSNA to offer this Integrated Science and Practice (ISP) session representing the best of radiologic science in Italy. Included will be a brief lecture on the current status of radiologic research in Italy, as well as presentations on studies of colorectal carcinoma, coronary artery disease, breast cancer, carotid artery stenosis and ablation of hepatic, renal and adrenal malignancies.

Quality Improvement Symposium

Tuesday, Nov. 27
8:30 a.m. – 5:00 p.m.

Get More Now QI31 – QI34

This one-day offering will make the case for every radiologist to have a quality improvement project and provide the tools, including real world examples, to get started. A related refresher course, “Using Information Technology to Improve Quality and Safety in Radiology Practice,” will demonstrate hardware and software options that can make quality projects easier to start and maintain.

Molecular Imaging Symposium

Wednesday, Nov. 28
8:30 a.m. – 4:45 p.m.

Get More Now MI41 – MI44

Comprising an overview of molecular imaging and discussions about applications of molecular imaging in oncology, cardiovascular imaging and neurology, this daylong series of four sessions is tailored for the practicing radiologist.

The symposium is the latest addition to RSNA's growing portfolio of molecular imaging offerings. For the second year, molecular imaging exhibits and posters will be grouped together in an area of the Lakeside Learning Center called the Molecular Imaging Zone. Also displayed will be exhibits from federal agencies on their molecular imaging programs, as well as information about funded centers of excellence in molecular imaging and molecular imaging societies. New this year, invited booth representatives and poster authors will make formal presentations during “Meet the Expert” sessions.

Watch for the Molecular Imaging Zone logo in the technical exhibition, displayed by exhibitors with molecular imaging products.



Continued on next page



Get the Most Out of RSNA 2007

Continued from previous page

Series Courses

Sunday Nov. 25–Thursday, Nov. 29
Times vary

Get More Now

VP11, VP12, VP21, VP31, VP32
(Pediatric)
VI11, VI21, VI31, VI41, VI51
(Interventional Oncology)
VG21, VG31 (Gastrointestinal)
VS21, VS41 (Musculoskeletal)
VN31 (Neuroradiology)

These courses combine state-of-the-art lectures on clinical care and basic science with scientific paper sessions on emerging therapies and technologies. Series courses will be offered this year in gastrointestinal, musculoskeletal, neuroradiology, pediatric radiology and interventional oncology.

Series courses are designed with a “take home” strategy, meaning attendees can expect to receive information they can apply immediately in their practices. In addition, by having refresher course instructors available to comment when new science is presented, these courses provide the opportunity for dynamic discussion and healthy debate.

Lakeside Learning Center Organized for Easy-to-Find Content

The “hub and spoke” design of the Lakeside Learning Center—well received in its debut last year—organizes education exhibits and scientific posters according to subspecialty. Signs will clearly mark the location of each subspecialty and a map will be published in the *RSNA Meeting Guide*. Scientific posters and electronic education exhibits will be available for viewing on computers in the communities at the outer end of each subspecialty spoke and in the electronic presentation area.

Representing a diverse range of subspecialties are 604 scientific posters and 1,498 education exhibits. On Sunday from 12:30 p.m. to 1:30 p.m. and Monday through Thursday from 12:15 p.m. to 1:15 p.m, select education exhibit and scientific poster authors are scheduled to be available for discussion. Following the discussion, any attendee desiring CME credit must deposit an attendance voucher with the author. CME credit is also available for courses in the Informatics, Advanced Imaging and Web classrooms.

Cases of the Day Now Electronic

This year, the popular Cases of the Day feature will be presented electronically in the Lakeside Learning Center. Each day, a new unknown case in 14 different categories will be displayed. Participants can submit what they believe is the correct diagnosis for any

of the cases on the electronic presentation system, at nearby Internet Zone computers or via any Web browser. For each submitted correct answer, the submitter can receive 0.5 *AMA PRA Category 1 Credit*™. Revealed cases will be displayed in the electronic presentation area for continued self-study.

Lakeside Learning Center

Hours of Operation

Sunday	8:00 a.m. – 6:00 p.m.
Mon. – Thurs.	7:00 a.m. – 10:00 p.m.
Friday	7:30 a.m. – 12:45 p.m.

Residents Lounge Moved to Lakeside Learning Center

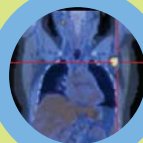
At the Residents Lounge, RSNA members-in-training and non-member residents are invited to relax and network while enjoying complimentary refreshments. The Residents Lounge, located this year on the east side of the Lakeside Learning Center near the *Radiology* and *RadioGraphics* Editorial Offices, is open Sunday – Thursday, 8:00 a.m. – 6:00 p.m.

RSNA Services Returns

Again this year, attendees will be able to access all RSNA amenities consolidated in one location called RSNA Services. Located on Level 3 of the Lakeside Center, RSNA Services will include meeting registration, RSNA membership, the RSNA Education Store, Career Connection, *RadiologyInfo*™, *RSNA.org*, *Radiology* and *RadioGraphics*. Also located within RSNA Services will be the RSNA Research & Education Foundation Pavilion, where attendees can learn more about Foundation activities and grant recipients. A lounge will be available for R&E donors of \$50 or more and donations will be accepted onsite.

ABR Offers Information and Exams

At The American Board of Radiology (ABR) kiosk in RSNA Services, ABR staff will distribute informative literature and answer questions about the maintenance of certification (MOC) and initial certification processes.



ABR will also offer MOC exams during the meeting. Held Tuesday, November 27, from 6:30 to 10:30 p.m., exams will be available in neuroradiology, vascular/interventional radiology and pediatric radiology.

Diplomates with certificates expiring from 2004 to 2009 are eligible to take the exams. To register, download a form at www.theabr.org/Images/MOCEXamRegForm.pdf and submit it to ABR, indicating RSNA and November 27 as the choices for location and date.

View Job Postings at Career Connection Booth

Located within RSNA Services will be the kiosk for RSNA's online job site, Career Connection. RSNA 2007 attendees are encouraged to stop by the kiosk, where a 50-inch monitor will continuously feature job openings during the entire week of the meeting. Job postings may be posted and viewed free of charge.

RSNA Services

Lakeside Center Ballroom—Level 3

Hours of Operation

Saturday	12:00 p.m. – 6:00 p.m.
Sunday	7:00 a.m. – 6:00 p.m.
Mon. – Thurs.	7:30 a.m. – 6:00 p.m.
Friday	7:30 a.m. – 1:00 p.m.

IHE® Demonstration Expands

At the Integrating the Healthcare Enterprise (IHE®) Image Sharing Demonstration, located in the technical exhibit booths of participating vendors and in the Lakeside Learning Center, view the emerging connected health system and learn what it will mean to practice radiology with full access to a patient's relevant medical history. Vendors and care sites will demonstrate the IHE Cross-enterprise Document Sharing for Imaging (XDS-I) and Teaching File and Clinical Trial Export (TCE) integration profiles defined by the IHE initiative.

In conjunction with the IHE Image Sharing Demonstration, RSNA will present an IHE Product Showcase of commercially available products compliant with the TCE profile. Participating companies will have the opportunity to demonstrate their ability to link with RSNA's Medical Imaging Resource Center (MIRC™) tools, including a new RSNA-hosted teaching file system called My MIRC Files.

New Dining Options Available

The Chicago Metropolitan Pier and Exposition Authority (MPEA) has announced plans to enhance the menu for customers at the McCormick Place Convention Center by signing a 10-year contract with Chicago Restaurant Partners, a consortium of top Chicago-based restaurateurs. Chicago Restaurant Partners includes Levy Restaurants, Phil Stefani Signature Restaurants and Airport Restaurant Management. Prior to the new agreement, the Levy organization held an exclusive contract with MPEA.

For a list of dining options at McCormick Place, see the *RSNA Pocket Guide* or *RSNA Meeting Guide*.

Meeting Bag and Lanyard Offered

Professional registrants for RSNA 2007 will receive a voucher with their registration materials for an *RSNA Meeting Program*, official meeting bag and lanyard. Remit the voucher at one of the distribution counters located in the Grand Concourse or Lakeside Center on Level 3.



RSNA 2007 Gold Medalists

RSNA will award three individuals its Gold Medal—RSNA's highest honor—at the 93rd Scientific Assembly and Annual Meeting. They are R. Nick Bryan, M.D., Ph.D., of Philadelphia, William R. Hendee, Ph.D., of Whitefish Bay, Wis., and James H. Thrall, M.D., of Boston.

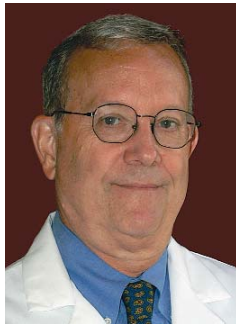
R. Nick Bryan, M.D., Ph.D., knew since childhood that he wanted to study the brain but initially set his sights on becoming a neurosurgeon. Had a neurosurgery internship not sparked an interest in neuroradiology, radiology might have missed out on a visionary leader, inventor and educator.

“Dr. Bryan is a steady, creative individual who has made impressive contributions to radiology on many fronts,” said 2007 RSNA President R. Gilbert Jost, M.D.

“Participating in organizations such as RSNA, that help support our profession, has not only brought me great pleasure and satisfaction but also has been a small

way for me to pay radiology back for all that it has allowed me to do,” said Dr. Bryan, who served as the 2002 RSNA president.

Currently the Eugene P. Pendergrass Professor and chair of the Department of Radiology at the University of Pennsylvania School of Medicine in Philadelphia, Dr. Bryan once called his study of the human brain a “business and bizarre hobby.” For more than 40 years he has used his brain—sometimes literally—to help others understand one of the body's most complex organs. In “Imaging My Brain,” a provocative lecture made into a film, he takes his audience on a virtual tour of his own brain.



R. Nick Bryan, M.D., Ph.D.

Dr. Bryan held various academic positions before joining the University of Pennsylvania in 1999. He also served as chief of neuroradiology at the National Naval Medical Center in Bethesda, Md., and was director of diagnostic radiology and associate director of the Radiologic and Imaging Sciences Program at the Warren Grant Magnuson Clinical Center at the National Institutes of Health (NIH) in Bethesda.

A prolific investigator who holds patents for a 4-Tesla magnet and a robotic device used in image-guided surgery, Dr. Bryan is a natural champion of radiology research. As chair of the Board of Trustees of the RSNA Research & Education Foundation, he used his RSNA 2005 speech to challenge radiologists to raise \$15 million by 2009.

An RSNA member since 1979, Dr. Bryan has also served as president of the American Society of Head & Neck Radiology and American Society of Neuroradiology, which awarded him its gold medal in 2006.

William R. Hendee, Ph.D., is a prolific scientist as well as a champion of healthcare safety and collaboration between academia and industry.

“Dr. Hendee's important and wide ranging contributions to the specialty have influenced medical physics, diagnostic radiology, radiation oncology and biomedical engineering,” said Dr. Jost.

“I cannot imagine a greater professional pleasure than learning and working in a discipline such as medical imaging, that is continuing to grow in both its science and its applications to research and clinical care,” said Dr. Hendee.

Dr. Hendee is a distinguished professor of radiology, radiation oncology, biophysics and community and public health at the Medical College of Wisconsin (MCW) in Milwaukee. He is also a professor of biomedical engineering at Marquette University in Milwaukee, an adjunct professor of electrical engineering at the University of Wisconsin–Milwaukee and a clinical professor of radiology at the University of New Mexico in Albuquerque.

During 16 years at MCW, Dr. Hendee served as president of the MCW Research Foundation, senior associate dean for research, dean of the Graduate School of



William R. Hendee, Ph.D.



Biomedical Sciences, vice-chair of radiology and interim dean of the medical school. He also played a role in creating organizations, such as the Biomedical Technology Institute and Wisconsin Security Research Consortium, aimed at encouraging collaboration between academic researchers and industry.

A founding member of the National Patient Safety Foundation, Dr. Hendee was also principal investigator on a three-year, \$783,000 project, funded by the U.S. Agency for Healthcare Research and Quality, to create a Web-based patient safety education curriculum for physicians, nurses and patients.

Prior to joining MCW, Dr. Hendee was vice-president for science and technology at the American Medical Association (AMA) in Chicago and executive secretary of the AMA Council on Scientific Affairs.

An RSNA member since 1976, Dr. Hendee has contributed to numerous societies, including service on the Board of Trustees of the RSNA Research & Education Foundation for five years. He received the gold medal of the American Roentgen Ray Society in 2006 and the William D. Coolidge Award, the highest honor awarded by AAPM, in 1989.

James H. Thrall, M.D., has profoundly influenced radiology with his ability to forecast and prepare for the forces that will transform the specialty.

"I don't think I know of anyone in our specialty who is as wise, as creative and as forward thinking," said Dr. Jost.

"Receiving the gold medal is an incredible honor, and it is very humbling to me to be selected because I know how many outstanding people share in working on behalf of our specialty and on behalf of RSNA," said Dr. Thrall.

Radiologist-in-chief at Massachusetts General Hospital (MGH) in Boston, Dr. Thrall also serves as the Juan M. Taveras Professor of Radiology at Harvard Medical School in Boston. He chairs the executive committee of the Harvard Departments of Radiology and is a member of the RSNA Research & Education Foundation Board of Trustees.

Dr. Thrall is regarded as a radiologic technology authority not only for his understanding of the programming intricacies of various applications but also for his ability to envisage the financial, quality and workflow implications. A groundbreaking integration of digital imaging systems with other hospital and departmental information systems, including the electronic

medical record, that Dr. Thrall helped guide at MGH in the 1990s is regarded by many as a radiology gold standard.

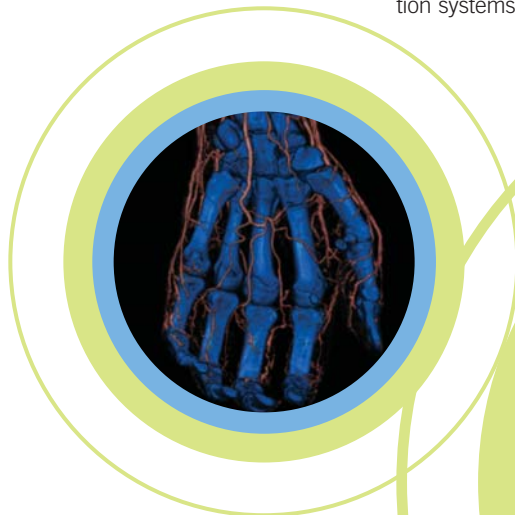


James H. Thrall, M.D.

Founder and editor of the *Requisites in Radiology* textbook series, Dr. Thrall also helped write *PACS: A Guide to the Digital Revolution* and recently contributed to "Blueprint for Imaging in Biomedical Research," a vision of how imaging can accelerate and enhance biomedical research, published in the July 2007 issue of *Radiology*.

An RSNA member since 1983, Dr. Thrall has served in numerous academic positions and as assistant chief of nuclear medicine at Walter Reed Army Medical Center in Washington. He currently serves on the Board of Councilors of the Society of Chiefs of Academic Radiology Departments and is a past-president of the American Roentgen Ray Society, which awarded him its gold medal earlier this year. In addition, he is vice-chair of the Board of Chancellors and chair of the Commission on Molecular Imaging for the American College of Radiology.

For expanded versions of the biographies of Drs. Bryan, Hendee and Thrall, see the [RSNA Meeting Program](#) or go online to [RSNA2007.RSNA.org](#) and click Meeting Program in the left-hand column.



RSNA 2007 Honorary Members

Honorary Membership in RSNA is presented for significant achievements in the field of radiology. At RSNA 2007, Honorary Membership will be given to Francisco A. Arredondo, M.D., of Guatemala City, Guatemala, Byung Ihn Choi, M.D., of Seoul, Republic of Korea, and Christian J. Herold, M.D., of Vienna, Austria.

Francisco A. Arredondo, M.D., is passionate about ensuring that other developing countries experience the same radiologic breakthroughs—CT, real-time ultrasound and radiology residencies—as he has seen in his native Guatemala.

“Dr. Arredondo has made groundbreaking contributions to the advancement of radiology in Central America and throughout the world,” said 2007 RSNA President R. Gilbert Jost, M.D.

Said Dr. Arredondo, “I have had the opportunity to contribute to radiologic and medical education in my country, America and other continents, and at the same time enjoy friendship and support from many colleagues around the world.”

A professor and chair of the Department of Radiology in the Francisco Marroquin University School of Medicine in Guatemala City, Dr. Arredondo also chairs the Department of Radiology at Hope University Hospital in Guatemala City. He is also a professor of anatomy at Francisco Marroquin University. At the university, Dr. Arredondo



Francisco A. Arredondo, M.D.

has overseen a residency program which has trained more than 50 radiologists from Guatemala, El Salvador, Honduras and Nicaragua.

Using his service to a number of international radiology organizations to marshal his radiology colleagues around the goal of advancing the specialty in developing countries, Dr.

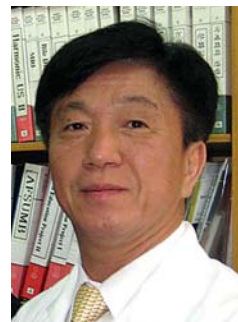
Arredondo has presided over the Central American Congress of Radiology, Guatemalan Congress of Radiology, Inter-American Congress of Radiology (CIR) and International Congress of Radiology. He has also convened regional meetings of radiology in less developed regions of Central and South America and the Caribbean.

As a member of the executive committee of the International Society of Radiology (ISR), Dr. Arredondo launched a regional radiology development project combining efforts of organizations at all levels to grow the specialty in developing countries, with a special focus on legal and workforce issues. A member of RSNA since 1977, Dr. Arredondo served on the RSNA Committee on International Relations & Education (CIRE) for many years.

In recognition of his achievements, Dr. Arredondo has received the gold medals of CIR, Veracruz Radiological Society and Guatemalan Radiological Society. He is an honorary member of radiologic societies in El Salvador, Honduras, Nicaragua, Argentina, Cuba, Chile, Italy and Veracruz, Mexico, and was also awarded honorary fellowship in the American College of Radiology.

Byung Ihn Choi, M.D., Ph.D., is an esteemed ultrasound expert who is using his worldwide eminence to promote international cooperation in the subspecialty.

“The recent growth of imaging science in the Pacific Rim has been remarkable and certainly one of the most important contributors to that growth has been Dr. Choi,” said 2007 RSNA President R. Gilbert Jost, M.D.



Byung Ihn Choi, M.D., Ph.D.

“Receiving honorary membership from RSNA is a privilege and pleasure not only for me personally but also for all radiologists in the region,” said Dr. Choi. “I believe that international collaboration between RSNA and the Korean and Asian Oceanian radiology societies will be wider and stronger.”

Currently a professor of radiology at Seoul National University, Dr. Choi served the Korean Army as radiologist-in-chief, major, before several academic appointments from Tokyo to Texas. He also served as



director of the Office of Education and Research at Seoul National University Hospital.

Fostering global alliances in ultrasound application and research through leadership of numerous subspecialty societies, Dr. Choi is currently president of the 12th Asian Oceanian Congress of Radiology and secretary of the 1st Asian Congress of Abdominal Radiology. He also served as president of the organizing committee of the 11th Congress of the World Federation for Ultrasound in Medicine and Biology.

Dr. Choi is also president of the Korean Radiological Society and Asian Federation of Societies for Ultrasound in Medicine and Biology (AFSUMB). He has advocated for closer relationships among AFSUMB's affiliated societies, noting the need for more education in developing countries that have just a few practitioners with limited experience.

An RSNA member since 1986, Dr. Choi serves the RSNA International Advisory Committee, helping RSNA assess the global impact of its research and education programs and guide promotion of RSNA membership internationally.

Dr. Choi is also a prolific researcher with a focus on early detection and characterization of hepatobiliary and gastrointestinal tract cancers, serving as principal investigator on two dozen funded grant projects. Among the dozens of international awards Dr. Choi has received are honorary fellowship from the European Society of Gastrointestinal and Abdominal Radiology and the American Institute of Ultrasound in Medicine.



implore elder practitioners to reach out to the younger. Dr. Herold's own mentors included National Institutes of Health Director Elias A. Zerhouni, M.D., under whom he worked as a radiology fellow at Johns Hopkins.

As he transitioned from being mentored to mentoring, Dr. Herold assembled a group of young residents and fellows interested in chest radiology who, as researchers, authors and journal editors, are now considered an important factor in the advancement of pulmonary radiology in Europe.

Overseeing other international congresses in addition to ECR, Dr. Herold also served as president of the European Society of Thoracic Imaging and Fleischner Society and is president-elect of the International Society for Strategic Studies in

Radiology. An RSNA member since 1990, Dr. Herold is chair of the RSNA International Advisory Committee and a member of CIRE.

Dr. Herold has received the Hounsfield Award of the Society of Computed Body Tomography and a European Society of Gastrointestinal and Abdominal Radiology award and is an honorary member of the Hungarian Radiology Society.

For expanded versions of the biographies of Drs. Arredondo, Choi and Herold, see the [RSNA Meeting Program](#) or go online to [RSNA2007.RSNA.org](#) and click [Meeting Program](#) in the left-hand column.

Christian J. Herold, M.D., is dedicated to giving a new generation of radiologists the same support he received early in his distinguished career as a chest radiology researcher.

"Dr. Herold is internationally recognized as an outstanding ambassador for the European radiology community," said 2007 RSNA President R. Gilbert Jost, M.D.

Said Dr. Herold: "RSNA has helped me to learn, mature and grow professionally and to orient myself towards outstanding science, education and mentorship. As an honorary member, I will strive to actively support RSNA's noble goals wherever and whenever I can."

Dr. Herold is director of diagnostic and pediatric radiology at the Medical University of Vienna (formerly the University of Vienna School of Medicine) in Austria and director of international relations and chief executive officer of the university's newly established company dealing with international hospital operations. Dr. Herold also maintains a part-time faculty appointment at The Johns Hopkins University in Baltimore.

As 2006-2007 president of the European Congress of Radiology (ECR), Dr. Herold oversaw ECR 2007 in Vienna. Invoking the meeting theme, *Imaging Generations*, Dr. Herold used his presidential address to



Christian J. Herold, M.D.

Plenary Sessions

Considered the highlights of the RSNA annual meeting, plenary sessions are open to all registrants. Some of these sessions require separate registration (+) and/or an additional fee (*).

Saturday

9:30 a.m. – 12:30 p.m.

RSNA Personal Financial Seminar +*

- *Effective Retirement Plans and Distribution Strategies*

Presenter: Barry Rubenstein, B.S., J.D., L.L.M.

12:00 – 2:00 p.m.

AAPM/RSNA Physics Tutorial for Residents

- *CR/DR*

Organizer: Robert A. Pooley, Ph.D.

1:00 – 5:00 p.m.

NIH Grantsmanship Workshop +*

Facilitator: Lee Rosen, Ph.D.

1:30 – 5:30 p.m.

RSNA Personal Financial Seminar +*

- *Effective Real Estate Investment Strategies*

Presenter: J. Michael Moody, M.B.A.

2:15 – 4:15 p.m.

AAPM/RSNA Tutorial on Equipment Selection

Selection Methodology for Multislice CT Scanners

Organizer: Jerry A. Thomas, M.S.

Sunday

8:30 – 10:15 a.m.

President's Address

- *The Evolution of the Digital Age and its Impact on Radiology's Future*

R. Gilbert Jost, M.D., RSNA President

- RSNA Special Presidential Award (posthumous) to Edward C. Nagy, M.A.
- Announcement of Outstanding Educator and Outstanding Researcher Awards

(Information about the award recipients will be included in the November issue of *RSNA News*.)

Opening Session

Moderator: Gerald D. Dodd III, M.D.

- *With Worldwide Image Distribution, Will Radiology Become a Commodity?*

Lecturer: James P. Borgstede, M.D.

- *Leveraging Informatics to Enhance Radiology Relevance and Value*

Lecturer: Paul J. Chang, M.D.

10:45 a.m. – 12:15 p.m.

Oncodiagnosis Panel

- *The Multidisciplinary Management of Soft-Tissue Sarcoma*

Moderator: Brian O'Sullivan, M.D.

4:00 – 5:45 p.m.

Report of the RSNA Research & Education Foundation

Anne G. Osborn, M.D., Chair,
R&E Foundation Board of Trustees

Image Interpretation Session

Moderator: C. Daniel Johnson, M.D.

Panelists: Lane F. Donnelly, M.D., Jud W. Gurney, M.D., Patricia A. Hudgins, M.D., Rodney Harris Reznick, M.B.Ch.B., Mark E. Schweitzer, M.D.

Webcast Available. (Information will be included in the November issue of *RSNA News*.)

Monday

1:30 – 2:45 p.m.

Eugene P. Pendergrass New Horizons Lecture

- *Major Trends in the Imaging Sciences*

Elias A. Zerhouni, M.D., Director, NIH

(A lecture preview will be included in the November issue of *RSNA News*.)

Presentation of Honorary Memberships

- Francisco A. Arredondo, M.D.
Guatemala City, Guatemala
- Byung Ihn Choi, M.D.
Seoul, Republic of Korea
- Christian J. Herold, M.D.
Vienna, Austria

(See pages 22–23 for honoree biographies)

1:30 – 2:45 p.m.

RSNA/AAPM Basic Physics Lecture for the Radiologic Technologist

- *Full-Field Digital Mammography*

Moderator: Donald Peck, Ph.D.

1:30 – 5:45 p.m.

Physics Symposium

- *Organ Motion in Radiation Therapy*

Course Directors: Bruce Curran and James M. Balter, Ph.D.



4:30 – 6:00 p.m.

Special Focus Sessions

- *Imaging Children in the ER: Coming to Terms*
- *Diffusion/Perfusion Imaging: Is There a Role in the Abdomen and Pelvis?*
- *Gadolinium Toxicity: Nephrogenic Systemic Fibrosis/Nephrogenic Fibrosing Dermopathy—A Lethal Threat to Patients with Renal Insufficiency*
- *MDCT and Radiation Dose: American versus European Perspective (An Interactive Session)*
- *Saphenous Vein Reflux: What's the Best Treatment?*
- *MR Imaging for Sports Injuries: Do You Need an Arthrogram? (An Interactive Session)*
- *Controversies in Acute Stroke Imaging: You Can't Always Get What You Want—But Can You Get What You Need?*
- *Urography: IVU vs CTU vs MRU?*

Tuesday

10:10 – 10:20 a.m.

RSNA Business Session

1:30 – 2:45 p.m.

Annual Oration in Diagnostic Radiology

Breast Imaging: Yesterday, Today, and Tomorrow

Lawrence W. Bassett, M.D.

(A lecture preview will be included in the November issue of *RSNA News*.)

Presentation of Gold Medals

- R. Nick Bryan, M.D., Ph.D., Philadelphia
 - William R. Hendee, Ph.D., Whitefish Bay, Wis.
 - James H. Thrall, M.D., Boston
- (See pages 20–21 for honoree biographies)

Wednesday

1:30 – 2:45 p.m.

Annual Oration in Radiation Oncology

The Cost of Cancer Care: Near-Term Strategies and Long-Term Solutions

Allen S. Lichter, M.D.

(A lecture preview will be included in the November issue of *RSNA News*.)

4:30 – 6:00 p.m.

Special Focus Sessions

- *Neurofibromatosis Head to Toe with Pathologic Correlation (In Conjunction with the Armed Forces Institute of Pathology)*
- *Sedation for Pediatric Imaging: Who and How—What Is the Current Standard of Care?*
- *Dual-Energy CT: Technical Curiosity or Potential Clinical Tool?*
- *Lung Cancer Therapy: What Treatment Is Appropriate? Surgery versus Radiation Treatment versus Ablation*
- *Postoperative Musculoskeletal Imaging: MR Imaging versus MDCT—Which Is Best?*
- *Percutaneous Treatment of Lumbar Disk Disease: What (If Anything) Really Works?*
- *The Radiologist Assistant and the Radiology Practitioner Assistant: Scope of Practice*
- *PET/CT versus PET Alone: Is CT Always Appropriate?*
- *Beware of Handcuffs: Legal and Ethical Restraints on Soliciting and Providing Funds, Food, and Fun in the Health Care Business Environment (In Conjunction with the Medical Imaging and Technology Alliance, a division of the National Electrical Manufacturers Association, and the American College of Radiology)*
- *Imaging Journals: Peering into the Past, Present, and Future*

Thursday

10:10 – 10:20 a.m.

RSNA Business Session

1:30 – 2:45 p.m.

Inauguration of RSNA Board of Directors for 2008

Introduction of 2008 AAPM Officers and Council Chairs

RSNA/AAPM Symposium

- *CT Acquisition and Visualization: The State of the Art*

Moderator: Andrew D.A. Maidment, Ph.D.

3:00 – 4:00 p.m.

Special Focus Sessions

- *ACR Update on Current Critical Issues Facing Our Profession*
- *Digital NightHawks: Threat or Asset?*
- *The Radiology Report: Is It Time to Abandon Free Text and Implement a Structured Report?*
- *To Biopsy or Not to Biopsy: An Expert Quiz Panel for Musculoskeletal Lesions*
- *The Genitourinary All-Star Jeopardy Game: Battle of the Stars*
- *Ultrasound Contrast: Is It Time to Let Go?*
- *Genotype-Phenotype Correlation in Oncologic Imaging: Hype or Hope?*

Friday

12:45 – 3:15 p.m.

Friday Imaging Symposium

- *Intravenous Contrast Agents for CT and MR Imaging: Predicting and Preventing Adverse Events*

Moderator: Jeffrey C. Weinreb, M.D.

Associated Sciences Program

The Associated Sciences Consortium will hold 10 refresher courses on Monday, Tuesday and Wednesday. The consortium comprises 10 associations representing the various disciplines that function within the radiology department.

Refresher Courses

Monday – November 26

- Radiology's Role: When Disaster Strikes! Part 1: Environmental
- Radiology's Role: When Disaster Strikes! Part 2: Terrorism
- Satisfying Our Diverse Patient Needs: Unique Like Everyone Else
- Optimizing Image Acquisition and Display in Digital Imaging

Tuesday – November 27

- Fusion Imaging
- The Buck Stopped Here and I Put It in My Pocket: The Link Between Compliance and Good Business
- Pay and Performance: Can Radiology Play Too?
- Radiology Errors

Wednesday – November 28

- Controversies in Screening: Breast, Cardiac, Chest, and Virtual Colonoscopy
- The Art and Science of Radiology Planning and Design



Edward I. Bluth, M.D.
Chair, RSNA Associated Sciences Committee



Barbara A. Whitefield, M.A., R.T. (R) (CV)
Coordinator, Associated Sciences Consortium

Scientific Paper Sessions

RSNA 2007 will feature more than 1,600 scientific papers in 16 subspecialties:

- Breast Imaging
- Cardiac
- Chest
- Emergency Radiology
- Gastrointestinal
- Genitourinary
- Health Services, Policy & Research
- Informatics
- Musculoskeletal
- Molecular Imaging
- Neuroradiology/Head & Neck
- Nuclear Medicine
- Pediatrics
- Physics
- Radiation Oncology & Radiobiology
- Vascular/Interventional

Scientific paper sessions will be held during nine designated time slots during the week. Seating is on a space-available basis. Those attending a scientific paper

session will be able to evaluate the most current research, identify current and future scientific and technologic developments, modify academic and clinical practices and identify and practice research methods.

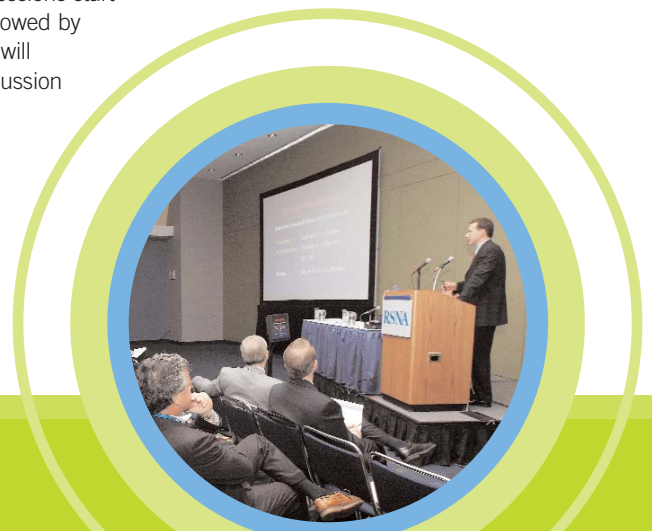
AMA PRA Category 1 Credit™ and Category A+ CE credit for technologists are available.

Integrated Science and Practice

Subspecialties will also offer Integrated Science and Practice (ISP) sessions combining education and science in the same session. ISP sessions start with an invited lecturer, followed by abstract presenters. Some will conclude with a panel discussion of the subject.



Gerald D. Dodd III, M.D.
Chair, RSNA Scientific Program Committee



Refresher Courses

RSNA 2007 offers more than 300 refresher courses on traditional and cutting-edge topics.

Refresher courses are conducted in a multiple- or single-instructor lecture format.

Advance registration is recommended for all refresher courses. If a particular course is full, attendees may check the availability of stand-by seating at the classroom location prior to the beginning of the course.

AMA PRA Category 1 Credit™ and Category A+ CE credit for technologists are available.

Radiologist Assistants Symposium

Six refresher courses at RSNA 2007 are designed to meet the educational needs of the radiologist assistant (RA) as defined by the American Registry of Radiologic Technologists (ARRT®). Topics are geriatric radiology, RA decisions and actions, interventional radiology, the role of the RA in abdominal imaging, measuring patient satisfaction and quality practices, and RA licensure and reimbursement issues.

To register for these or any other courses, go to RSNA2007.RSNA.org and click on Advance Registration.



James A. Brink, M.D.
Chair, RSNA Refresher
Course Committee

Case-based Review Courses and SAMs

Single-day, case-based review courses feature an audience-response system (ARS) to facilitate assessment. Topics this year are MR imaging, neuroradiology, pediatric radiology and interventional radiology.

Self-assessment modules (SAMs) can be completed in many of these courses and

applied toward maintenance of certification (MOC) requirements. SAMs also will be available for portions of the Bolstering Oncoradiologic and Oncoradiotherapeutic Skills for Tomorrow (BOOST) program, as well as the Digital Mammography Training and Self-Assessment Workshop. In addition, SAMs are available for a variety of refresher courses on topics including pediatric radiology, lung cancer, acute stroke treatment, small bowel imaging, sedation and pain management and obstetric and gynecologic ultrasound. Select courses in professionalism and informatics will also offer SAM credit.

If you elect to take a course for SAM credit, after the meeting you will receive several documents including a SAM certificate, comparison of your test results to those of the rest of the class and a list of additional references.

Advance registration is required for case-based courses and SAMs. Register online at RSNA2007.RSNA.org.

Essentials of Radiology Courses

This two-day series of eight refresher courses is designed especially for generalists, trainees and subspecialists who want to review other areas of radiology. The series will provide a thorough review of basic radiology in the areas of pediatrics, ultrasound, nuclear medicine, gastrointestinal radiology, neuroradiology, interventional radiology, breast imaging and high-resolution CT of the chest. Attendees may register for individual courses or the whole series.

2007 Categorical Course in Diagnostic Radiology

- *Clinical PET and PET/CT Imaging*

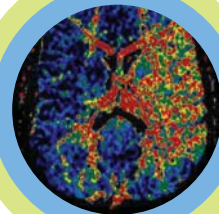
Director: Richard L. Wahl, M.D.

2007 Categorical Course in Diagnostic Radiology Physics

- *Imaging Technologies in Oncology*

Co-Directors: John D. Hazle, Ph.D., and J. Daniel Bourland, Ph.D.

More detailed information about RSNA 2007 is available at RSNA2007.RSNA.org.



Education Exhibits and Scientific Posters

Education exhibits and scientific posters are clustered according to subspecialty, arranged as “spokes” in two giant wheels, in the Lakeside Learning Center.

This year there are 1,498 education exhibits and 604 posters. Scientific posters help attendees evaluate current research, identify current and future scientific and technologic developments, modify academic and clinical practices and identify and practice research methods.



Richard L. Baron, M.D.
Chair, RSNA Education Exhibits Committee

Education exhibits are designed to review the diagnosis of a specific condition using either a single-modality or multimodality 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.

All scientific posters and some education exhibits are presented electronically. They can be viewed on computers in the communities at the end of the subspecialty spokes

in the Lakeside Learning Center as well as the electronic presentation area. During the lunch period, select scientific poster and education exhibit authors are scheduled to be available for discussion in the communities.

Hard-copy, backboard-panel education exhibits make up the subspecialty spokes in the Lakeside Learning Center. Authors of some of these exhibits are also available for discussion during the lunch period. See the *RSNA Meeting Program* for more details.

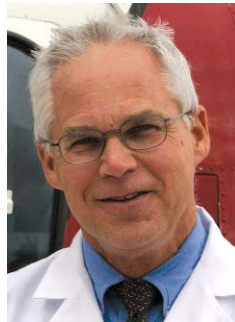
Informatics

The informatics presence at RSNA 2007 includes an expanded demonstration by the Integrating the Healthcare Enterprise (IHE®) initiative (see Page 19 for more information).

Informatics posters, education exhibits and other demonstrations that apply to many subspecialties will have a “spoke” within the wheel layout of Lakeside Learning Center, while informatics used only in a particular subspecialty will be grouped with that clinical area. In addition, special informatics presentations and classes will take place on the perimeter of the Lakeside Learning Center:

Advanced Imaging Classroom

Also new this year is the Advanced Imaging Classroom (formerly the PACS Workstation Classroom), where radiologists can get acquainted with the new generation of image processing and display tools offered with picture archiving and communication systems (PACS).



David E. Avrin, M.D., Ph.D.
Chair, RSNA Radiology Informatics Committee

NCI caBIG™ Imaging Workspace

Featured in this area will be demonstrations by representatives from the National Cancer Institute Cancer Biomedical Informatics Grid (NCI caBIG™). Back to the RSNA annual meeting for its second year, NCI caBIG is an initiative to accelerate research discoveries and improve patient outcomes by linking researchers, physicians and patients throughout the cancer community. caBIG

serves as the cornerstone of NCI's biomedical informatics efforts.

Informatics Classroom

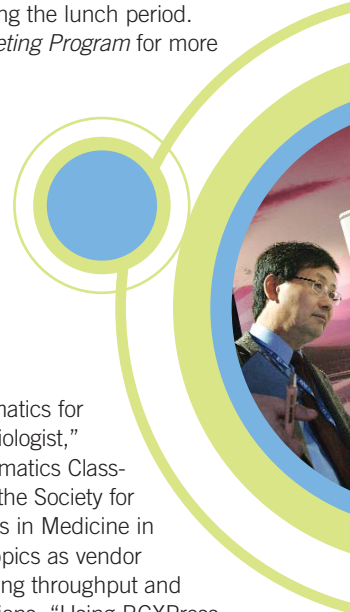
Courses in the Informatics Classroom will cover a variety of IHE-related topics, including purchasing and integrating IHE-compatible radiology systems, using IHE solutions to solve common problems and overcoming IHE implementation obstacles. Separate RadLex® courses for developers and radiologists will offer technical and clinical overviews of the ever expanding lexicon for anatomic and findings terms in radiology.

In “Practical Informatics for the Practicing Radiologist,” offered in the Informatics Classroom, RSNA joins the Society for Imaging Informatics in Medicine in addressing such topics as vendor selection, maximizing throughput and orphaned workstations. “Using RGXPRESS and Overview of the Publication Process” walks manuscript authors through *RadioGraphics'* new Web-based manuscript processing and peer-review system.

Web Classroom

Subjects covered in the Web classroom include conducting basic and advanced PubMed/MEDLINE searches and using RSNA's Medical Imaging Resource Center (MIRC™). “ABCs of MOC at *RSNA.org*” is a hands-on workshop demonstrating the resources RSNA provides to support its members in the maintenance of certification process.

To register for these or any other courses, go to RSNA2007.RSNA.org and click Advance Registration.



Technical Exhibits

Technical exhibits at the RSNA annual meeting make up the world's largest medical exhibition. More than 700 leading manufacturers, suppliers and developers of medical information and technology are on hand to demonstrate and discuss a wide variety of radiology products and services.

A comprehensive, up-to-the-minute list of the exhibitors, their products and services is available at RSNA.org/showcase.

A detailed floor plan of the exhibits area, along with exhibiting company names and contact information, will be available in the *RSNA Meeting Guide*.



Dennis Kay, M.D.
Chair, RSNA Technical Exhibits Committee

Technical Exhibit Hours

Halls A & B

South and North Buildings

Sunday–Wednesday 10:00 a.m. – 5:00 p.m.

Thursday 10:00 a.m. – 2:00 p.m.



Chicago Welcomes RSNA Attendees

Through Chicago's "We're Glad You're Here" program, Mayor Richard M. Daley and the Chicago Convention and Tourism Bureau (CCTB) plan a citywide welcome for attendees and exhibitors at the RSNA 93rd Scientific Assembly and Annual Meeting. The welcome includes:

- Complimentary bottled water and hot beverages Monday and Tuesday from 5:30 p.m. to 6:30 p.m. at the transportation gates (while supplies last).
- A searchable calendar, highlighting special events and attractions taking place in Chicago during the meeting, located at www.meetinchicago.com/event_calendar.html.
- "We're Glad You're Here" banners posted in about 250 locations including O'Hare International Airport and on streets including Michigan Avenue, Fort Dearborn Drive, Martin Luther King Drive, Columbus Drive, Ohio Street, North Water Street and Stetson Drive.
- Welcome Centers at O'Hare and Midway Airports providing information about the city and RSNA.
- Ambassador Meet and Greet program at Terminals 1 and 3 at O'Hare Airport to direct attendees to Welcome Centers.
- Welcome signs displayed throughout O'Hare, at retail outlets, restaurants and cultural attractions and on taxicabs and shuttle buses.



For more information on CCTB and the City of Chicago, go to www.meetinchicago.com/rsna.



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- Employers may find you when you post your résumé
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**THE Web site for all radiology professionals,
including YOU!**

Career Connection

RSNA.org/Career



RSNA R&E Foundation Announces 2007 Grant Recipients

THE RSNA Research & Education Foundation funded 61 new and continuing grant projects for the 2007-08 academic year, totaling more than \$1.7 million.

Abstracts for these projects will be on display at RSNA 2007 in the R&E Foundation Pavilion in RSNA Services, Level 3, Lakeside Center.

Research Grants

RESEARCH SCHOLAR GRANT

Patrick J. Bolan, Ph.D.
Radiology, University of Minnesota,
Minneapolis
*Monitoring Chemotherapy
Response in Metastatic Liver
Lesions with Quantitative 1H MRS*



William Copen, M.D.
Radiology, Massachusetts General
Hospital, Boston
*Beyond the Diffusion-Perfusion
Mismatch: MR Imaging of Oxidative
Metabolism in Acute Stroke*



Michael D. Kuo, M.D.
Radiology, University of California,
San Diego
*Assessing Global Gene Expression
Programs of Cancer Using
Non-Invasive Imaging*



Alexis V. Nees, M.D.
Radiology, University of Michigan,
Ann Arbor
*Assessment of Emerging Technol-
ogy: Comparison of Breast
Tomosynthesis and Digital Mam-
mography in the Evaluation of
Heterogeneously Dense and
Extremely Dense Breasts*



Ashok Panigrahy, M.D.
Radiology, Children's Hospital
Los Angeles
*Quantitative Proton MR Spectro-
scopy of Perinatal White Matter
Injury: Correlation with Neurodevel-
opmental Outcome, Axonal Injury
and Cytokine Inflammation*



Scott B. Reeder, M.D., Ph.D.
Radiology, University of Wisconsin,
Madison
*Quantification of Hepatic Steatosis
with Magnetic Resonance Imaging*



Bachir Taouli, M.D.
Radiology, New York University Medical
Center, New York
*Correlation Between Perfusion
Metrics Measured with Perfusion-
Weighted MRI and Tissue Oxygena-
tion Measured with BOLD MRI with
VEGF Expression and Microvessel
Density in Hepatocellular Carcinoma*

SIEMENS

Antonio Carlos Westphalen, M.D.
Radiology, University of California,
San Francisco
*Advanced MR Imaging After
External Beam Radiation Therapy
of Prostate Cancer*



RESEARCH FELLOW GRANT

Jeffrey Anderson, M.D., Ph.D.
Radiology, University of Utah,
Salt Lake City
*Contribution of Visual Attention and
Imagery to Nonlinearity of fMRI
Response to Paired Stimuli*

Despina Kontos, Ph.D.
Radiology, University of Pennsylvania,
Philadelphia
*Computer-Assisted Risk Estimation
(CARE) from Breast Tomosynthesis
Images*

SIEMENS

Zhen Jane Wang, M.D.
Radiology, University of California,
San Francisco
*Urinary Oxygen Tension Measure-
ment in Humans Using MR Imaging*

PHILIPS

RESEARCH RESIDENT GRANT

**Michelle Alonso-Basanta, M.D.,
Ph.D.**
Radiation Oncology, New York University
School of Medicine, New York
*Combination Immunotherapies for
Pediatric Glioma*

TOSHIBA

Omer Aras, M.D.
Radiology, University of Maryland
Medical Center, Baltimore
*Imaging Cardiac Angiotensin-
Converting Enzyme (ACE) Activity
with ^{99m}Tc-Lisinopril in Transgenic
Rats Overexpressing Cardiac ACE*

PHILIPS

Joseph Contessa, M.D., Ph.D.
Radiation Oncology, University of Michi-
gan, Ann Arbor
*Radiosensitization of Gliomas
Through Targeting of the N-linked
Glycosylation Pathway*

HITACHI

Marka Crittenden, M.D., Ph.D.
Radiation Oncology, Oregon Health and
Science University, Portland
*Combining Total Body Irradiation
with Immunotherapy to Generate
Therapeutic Anti-Tumor Immune
Responses*

PHILIPS

Maximilian Diehn, M.D., Ph.D.
Radiation Oncology, Stanford University
School of Medicine, Calif.
*Investigating the Mechanism of
Cancer Stem Cell Radioresistance*

PHILIPS

Clifton D. Fuller, M.D.
Radiation Oncology, The University of
Texas Health Science Center,
San Antonio
*Human-Computer Interface
Differentials in Target Delineation:
A Multi-Institutional Study*

Justin P. Hart, M.D., Ph.D.
Radiation Oncology, The University of
Texas M.D. Anderson Cancer Center,
Houston
*Radiation-Induced Immunotherapy:
Characterization of the Systemic,
Anti-Tumor Immune Response
Generated Following Coadministration
of an Immunoadjuvant,
CpG-Oligodeoxynucleotides, with
Radiation Therapy*

COOK*

Daniel R. Karolyi, M.D., Ph.D.
Radiology, Emory University School of
Medicine, Atlanta
*Computational Fluid Dynamic
Modeling of Upstream Flow
Modifiers on Coiled Intracranial
Aneurysm Recurrence*

Randall J. Kimple, M.D., Ph.D.
Radiation Oncology, University of North
Carolina Hospitals, Chapel Hill
*Characterization of HER4, a Multi-
functional Signaling Protein
Involved in Breast Cancer Radiation
Response*

PHILIPS

Jeffrey Lin, M.D., Ph.D.
Radiology, Mallinckrodt Institute of Radi-
ology, Washington University School of
Medicine, St. Louis
*Noninvasive Characterization of
NFkB Activation in Non-Alcoholic
Fatty Liver Disease*

TOSHIBA

Tasha McDonald, M.D.
Radiation Medicine, Oregon Health and
Science University, Portland
*Determining the Relationship
Between IL-1beta, TNF-alpha, and
IL-6 Response to External Beam
Radiation Therapy and Treatment
Related Fatigue in Patients with
Prostate Cancer*

TOSHIBA

Michael Spiotto, M.D., Ph.D.
Radiation Oncology, Stanford University,
Calif.
*The Role of Hypoxia During the
Induction of Immune Responses
In Vitro and In Vivo*

Samuel Wang, M.D., Ph.D.
Radiation Medicine, Oregon Health and
Science University, Portland
*Cost-Effectiveness Analyses of
Radiotherapy for Gastrointestinal
Malignancies*

Christopher Whitlow, M.D., Ph.D.
Radiology, Wake Forest University,
Winston-Salem, N.C.
*Percutaneous Femoroplasty for
Preventing Hip Fracture: Procedural
Development and Finite Element
Analysis*

RSNA Presidents Circle Research Award

Eddy Shih-Hsin Yang, M.D., Ph.D.
Radiation Oncology, Vanderbilt Univer-
sity School of Medicine, Nashville, Tenn.
*Role of Lithium and Specific GSK-
3B Inhibitors in Neural Protection
During Cranial Irradiation*

Takeshi Yokoo, M.D., Ph.D.
Radiology, University of California,
San Diego
*Diagnosis and Staging of Liver
Fibrosis by Quantitative Texture
Analysis of Contrast-Enhanced
Magnetic Resonance Images*

Continued on next page

Continued from previous page

RESEARCH SEED GRANT

Arvind P. Pathak, Ph.D.

Radiology, Russell H. Morgan Department of Radiology and Radiological Science, The Johns Hopkins University School of Medicine, Baltimore
Vascular Phenotyping of Brain Tumors Using Magnetic Resonance Microscopy

TOSHIBA

Bensheng Qiu, Ph.D.

Radiology, University of Washington School of Medicine, Seattle
Instant Magnetosonoporation (MSP) Cell Labeling for MRI Tracking of Stem Cell Migration

FUJIFILM

Marilyn Siegel, M.D.

Radiology, Washington University, St. Louis
Hyperpolarized Helium-3 MRI Assessment of Bronchiolitis Obliterans in Pediatric Lung Transplant Recipients

PHILIPS

RESEARCH MEDICAL STUDENT GRANT

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

Radiation Oncology, Washington University School of Medicine, St. Louis
Determination and Utilization of Optimum Oblique Cutplanes of the Prostate for Use in Radiotherapy Contouring

David M. Chacko, M.Phil.

Radiation Oncology, University of Pennsylvania School of Medicine, Philadelphia
Cosmetic Outcomes and Complications After Breast Conservation Treatment in Early-Stage Breast Cancer: Electron Boost Versus Iridium Implant

Michael Chan, B.S.

Radiology, University of California School of Medicine, San Diego
Validation of Non-Invasive Imaging Surrogates for Gene Expression Modules in Human Glioblastoma Multiforme

Heather Clark, B.A.

Radiology, Wake Forest University School of Medicine, Winston-Salem, N.C.
Detection of Skeletal Muscle Denervation in Living Aging Rodents with Positron Emission Tomography

Michael P. Greenbaum, Ph.D.

Radiation Oncology, The University of Texas M.D. Anderson Cancer Center, Houston
Evaluation of Iocoregional Recurrence (LRR) Before and After Implementation of a Computed Tomography (CT)-Based Treatment Planning in Post-Mastectomy Radiation Therapy (PMRT)

FUJIFILM

Susie Yi Huang, Ph.D.

Radiology, Massachusetts General Hospital, Harvard Medical School, Boston
Designing Active Feedback-Enhanced Contrast for Improved Lesion Detection by MRI

George L. Lin, M.S.

Radiology, Northwestern University Feinberg School of Medicine, Chicago
Analysis of Cardiac MR Imaging Sequences for Optimal Detection of Intracardiac Thrombi

Ken Y. Lin, B.S.

Biophysics and Health Sciences and Technology, Massachusetts General Hospital, Harvard Medical School, Boston
Imaging Pancreatic Cancer Vascular Phenotypes to Determine Tumor Genotype-Specific Responsiveness to TGF- β Inhibitor Using Intravital Fiber-Optic Confocal Microcatheter and Fractal Analysis

Ryan Lo, B.A.

Radiology, Northwestern University Feinberg School of Medicine, Chicago
Predicting Patient Responsiveness to Stroke Therapy Using Diffusion Tensor Imaging

Matthew R. McCurdy, Ph.D.

Radiation Oncology, The University of Texas M.D. Anderson Cancer Center, Houston
(Dr. McCurdy is enrolled at Baylor College of Medicine, Houston)
Taxanes Increase the Radiation Pneumonitis Response in Esophageal Cancer Patients

Nisha Mehta, B.S.

Radiology, University of Pennsylvania, Philadelphia
Utility of an Open Source Web-Based Application for Radiology Decision Support and Operational Efficiency

PHILIPS

Mathieu W. Nader, B.S.

Radiology, Louisiana State University Health Sciences Center, Shreveport
Biliary Spills and Collections: Causes, Diagnosis, and Management by Interventional Radiology

Neel K. Naik, B.S.

Radiology, Northwestern University Feinberg School of Medicine, Chicago
MRI Assessment of Diffusion Changes in Hepatocellular Carcinomas Post Chemoembolization

Suneet Pramanik, B.S., B.A.

Radiology, University of California, David Geffen School of Medicine, Los Angeles
Quantitative Analysis of FDG-PET-MRI Fusion and DTI to Determine the Epileptogenic Region in Children with Tuberous Sclerosis

Cyrus A. Raji, B.S., B.A.

Radiology, University of Pittsburgh School of Medicine
Development of Reader Criteria for Early Diagnosis of Alzheimer's Disease Using Arterial Spin Labeled MRI

Jacob Shabason, B.A.

Radiation Oncology, University of Pennsylvania School of Medicine, Philadelphia
Characterizing and Modulating the Cancer Stem Cell Phenotype

Kiran Sheikh, B.A.

Radiology, New York University Medical Center, New York
(Sheikh is enrolled at the University of Michigan Medical School, Ann Arbor)
Perfusion MR Imaging Methods for Characterization of Prostate Cancer: Preliminary Experience

Canon

Jeffrey Shyu, B.S.

Radiology, New York University School of Medicine, New York
MRI of Neural Stem Cell Migration in Response to Excitotoxic Injury in the Adult Mouse Brain

Navneet Singh, B.H.Sc.

Radiology, University of Toronto
Relationship of Cerebrovascular Outcomes and Carotid Intraplaque Hemorrhage Detected By Magnetic Resonance Direct Thrombus Imaging

Christopher R. Spencer, M.S., B.S.

Radiation Oncology, Washington University School of Medicine, St. Louis
Identification of Molecular Markers Associated with Poor Prognosis in Tumors of the Uterine Cervix

Christopher Takehana, B.S.

Radiology, Northwestern University, Feinberg School of Medicine, Chicago
TRIP-MRI Monitoring of Hepatic Tumor Perfusion Changes Following TheraSphere and SIR-Sphere Radioembolization

Ricky T. Tong, Ph.D.

Radiology, Stanford University, Calif.
The Mighty Mouse: Ubiquitous Expression of Tri-Fusion Imaging Multimodality (Bioluminescence, Fluorescence, PET) Reporter Gene in Transgenic Mouse

Anna M. Weyand, B.A.

Radiation Oncology, Baylor College of Medicine, Houston
Critical Functional Pathway Sparing Approach in Brain Radiotherapy

Alex Yeung, M.S.

Radiology, University of Toronto
(Yeung is enrolled at Queen's University, Toronto)
Utility of Silicone Rubber Contrast-Enhanced MicroCT in Evaluating the Angioarchitecture of Malignant Prostatectomy Specimens

Education Grants

EDUCATIONAL SCHOLAR GRANT

Ivy Petersen, M.D.

Radiation Oncology, Mayo Clinic, Rochester, Minn.
Technical and Professional Skill Development Within Radiation Oncology



FELLOWSHIP TRAINING GRANT

Roi Lotan, M.D.

Radiology and Radiological Sciences, The Johns Hopkins University, Baltimore
Johns Hopkins University Cardiovascular Imaging Fellowship

Andrew J. Misselt, M.D.

Radiology, Mayo Clinic, Rochester, Minn.
Clinical Fellowship in Cardiovascular Imaging: Cardiac MR and CT Emphasis

Luciano M. Prevedello, M.D.

Radiology, Brigham and Women's Hospital, Harvard Medical School, Boston
Radiologic Informatics Fellowship Program at Brigham and Women's Hospital

Humberto Wong, M.D.

Radiology, Stanford University Medical Center, Calif.
Fellowship in Cardiovascular Imaging



EDUCATION SEED GRANT

Omar Zeidan, Ph.D.

Radiation Oncology (Physics), M.D. Anderson Cancer Center, Orlando
Towards a Comprehensive and Accurate 3D Visual Simulation Tool for External Beam Radiation Therapy Planning

PHILIPS

RSNA/AUR/APDR/SCARD RADIOLOGY EDUCATION RESEARCH DEVELOPMENT GRANT

Michael Robbins, Ph.D.

Radiation Oncology, Wake Forest University Health Sciences, Winston-Salem, N.C.
Training the Trainers: How to Answer Radiation Biology Questions Before, During, and Following a Radiation Terrorism Event



Research & Education Foundation Donors

THE The Board of Trustees of the RSNA Research & Education Foundation and its recipients of research and education grants gratefully acknowledge the contributions made to the Foundation July 14–August 17, 2007.

The Foundation now recognizes donors for their cumulative giving. These donors will be recognized for achieving giving milestones through the Foundation's Visionary Donor Program.

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David W. Stoller, M.D.

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Julia R. Fielding, M.D. & Keith P. Mankin, M.D.
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Joan & Howard L. Hudson, M.D.
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Jean Jeudy Jr., M.D.
Thomas R. Jones, M.D.
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Bansari Y. & Yashwant D. Patel, M.D.
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Joseph & Mellie Villahermosa Pouwels, M.A.
In memory of Justo L. Sibala, M.D.
Michael J. Quinn, M.D.
Yammanuru Ramulu, M.D.
Richard R. Reece, M.D.
John H. Rhee, M.D.
Brittmarie Ringertz, M.D. & Hans G. Ringertz, M.D., Ph.D.
Marshall Rowen, M.D.
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■ Celebrating 25 years, the RSNA R&E Foundation provides the R&D that keeps radiology at the forefront of medicine. Support your future, donate today. (RSNA.org/campaign)

Deadlines for 2008 Grant Applications

THE DEADLINE for education grants from the RSNA Research & Education (R&E) Foundation is January 10. The deadline for research grants from the R&E Foundation is January 15.

Posters outlining the R&E Foundation grant programs were mailed to department chairs in October and are available for download at RSNA.org/Foundation/GrantPosters.

Posters will also be available at RSNA 2007 in the R&E Foundation Pavilion in RSNA Services.



Journal Highlights

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

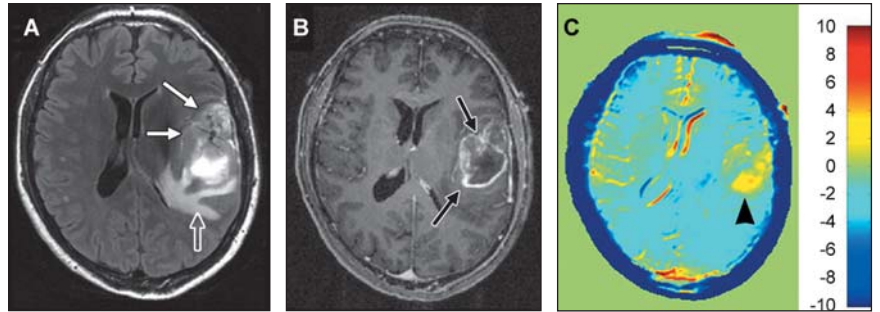
Molecular Neuroimaging: From Conventional to Emerging Techniques

THE USE of molecular imaging techniques in the central nervous system has a rich history—while the blood-brain barrier limits access of many

Radiology

potential molecular imaging agents to the brain, functional and molecular neuroimaging have been successfully performed and have provided a framework for applying quantitative imaging to other organs and diseases.

In an article in the October issue of *Radiology* (RSNA.org/radiologyjnl), part of the Molecular Imaging Series, Dima A. Hammoud, M.D., John M. Hoffman, M.D., and Martin G. Pomper, M.D., Ph.D., review the current state and clinical applications of molecular neuroimaging. Specifically they address:



59-year-old patient with a left temporal glioblastoma.

(a) transverse fluid-attenuated inversion recovery image shows a left frontal mass (*white arrows*) with adjacent hyperintense white matter (*open arrow*). (b) Transverse contrast material-enhanced T1-weighted magnetization-prepared rapid gradient-echo image shows heterogeneous enhancement (*arrows*). (c) Amide proton transfer image shows increased signal intensity in the tumor, particularly posteriorly at the site of the highest signal intensity on a. In a series of 10 patients, amide proton transfer imaging was used to distinguish between a tumor and normal-appearing white matter or peritumoral edema and performed better than standard MR contrast material.

Images courtesy of C.K. Jones, Ph.D., The Johns Hopkins University. (*Radiology* 2007;245:21–42) © RSNA, 2007. All rights reserved. Printed with permission.

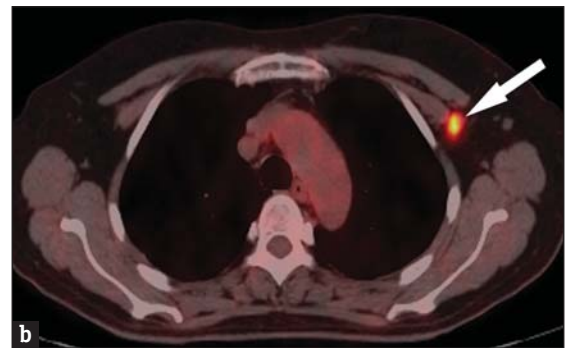
- Conventional molecular imaging
- Basic neurochemistry and receptor-based imaging
- Examples from common neuropsychi-

- atric disorders including Alzheimer disease and Parkinson disease
- Receptor occupancy

Continued on Page 37

FDG PET/CT for the Detection and Evaluation of Breast Diseases: Usefulness and Limitations

PROVIDING information that cannot be obtained with PET or CT alone, combined PET/CT is rapidly assuming a critical role in disease staging and evaluating treatment efficacy for patients with breast cancer. Equivocal CT findings can be better evaluated with the help of the additional functional information provided by fluorine 18 fluorodeoxyglucose (FDG) PET, while subtle metabolic findings at FDG PET—findings that could be confused with normal physiologic uptake—may be clarified as pathologic sites of FDG accumulation when combined with findings at CT.



RadioGraphics

Local metastasis at PET-CT performed for pretreatment staging of invasive ductal carcinoma in a 65-year-old woman.

(a) Axial CT image shows an enlarged lymph node (*arrow*) in the left axillary area, a finding that was not considered to represent metastasis. (b) Axial PET-CT image shows high FDG uptake in the lymph node (*arrow*), a finding suggestive of metastasis. Metastasis was confirmed at pathologic analysis.

(*RadioGraphics* 2007;27:197–213) © RSNA, 2007. All rights reserved. Printed with permission.

Continued on Page 37

Radiology in Public Focus

Press releases have been sent to the medical news media for the following articles appearing in the October issue of *Radiology* (RSNA.org/radiologyjnl):

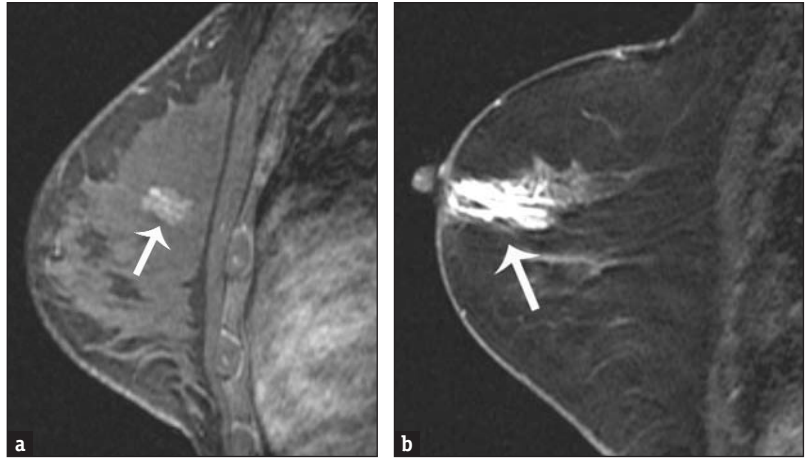
Proton MR Spectroscopy (^1H MRS) of Non-Mass Enhancement Lesions in the Breast

USING MR spectroscopy in conjunction with MR imaging of non-mass-enhancing breast lesions may spare many women from breast biopsy, researchers have found.

Lia Bartella, M.D., of the Memorial Sloan-Kettering Cancer Center in New York, and colleagues evaluated proton MR spectroscopy (^1H MRS) for diagnosis in 32 women with suspicious or biopsy-proven malignant lesions measuring 1 cm or larger at MR imaging. The researchers found that ^1H MRS had a sensitivity of 100 percent and a specificity of 85 percent for differentiating non-mass enhancing lesions.

Dr. Bartella and colleagues stated that in lesions with unknown histologies, ^1H MRS would have significantly increased the positive predictive value of biopsy from 20 percent to 63 percent. They further stated that if biopsy had been performed only on lesions with positive choline findings at ^1H MRS, biopsy may have been spared in 68 percent of lesions and no cancers would have been missed.

MR spectroscopy “appears to be able to eliminate at least some of the false-positive biopsy recommendations generated” by breast MR imaging, the researchers concluded.



Results in two women, ages 20 and 60.

(a) Suspicious lesion detected at screening in 20-year-old woman with family history positive for breast cancer. Postcontrast sagittal fat-suppressed T1-weighted MR image of left breast shows focal clumped enhancement (arrow) in upper inner quadrant. Spectroscopy did not depict a choline resonance peak. MR-guided biopsy yielded fibroadenomatoid change and breast parenchyma. (b) Postcontrast sagittal fat-suppressed T1-weighted MR image of left breast in 60-year-old woman with history of contralateral lumpectomy for DCIS shows ductal clumped enhancement (arrow) in retroareolar region. No choline resonance peak was detected at spectroscopy. Excision yielded fibrocystic change and ductal hyperplasia.

(*Radiology* 2007;245:80–87) © RSNA, 2007. All rights reserved. Printed with permission.

Radiology Article Questions FDA Black Box Decision

A group of physicians write in a *Radiology* opinion piece, now available online, that they disagree with the U.S. Food and Drug Administration (FDA) treating all five FDA-approved gadolinium-based MR contrast agents equally in a request for a black box warning regarding the potential risk of nephrogenic systemic fibrosis (NSF) in patients with renal failure.

In the piece available now at radiology.rsnajnl.org/cgi/content/full/2461071267v1 and to be published in the January 2008 issue of *Radiology*, Emanuel Kanal, M.D., and colleagues note that data suggest certain agents—namely Omniscan™ and Magnevist®—

possess a seemingly greater risk for precipitating NSF than do others.

“We are concerned as to how the implication of equivalent risk among gadolinium-based contrast agents may impact agent selection for renally impaired patients,” the authors write. “As such, we provide ... information so that all healthcare providers may make a more fully informed decision regarding the selection of contrast agents for use in patients with renal impairment.”

Among the points made by Dr. Kanal and colleagues: a retrospective review of the Yale NSF Registry, containing nearly 250 patients, showed that

approximately 85 percent of patients had been administered Omniscan and the rest had been administered Magnevist.

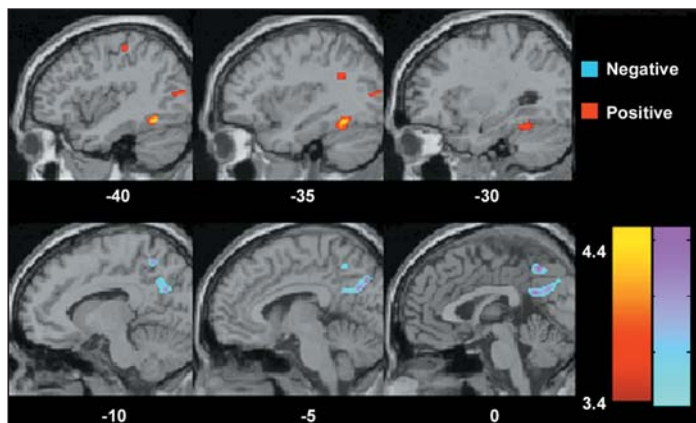
The authors urge all MR practitioners to remain well-informed about issues surrounding NSF and gadolinium-based agents. “We believe it to be premature to conclude that the relative risk among agents is equivalent,” they write. “We believe that to do so ignores the available data and also foregoes an opportunity to minimize risk among patients with renal disease for whom the use of gadolinium-based contrast agents is unavoidable or possibly life saving.”

Cortical Deactivation in Mild Cognitive Impairment: A High-Field fMRI Study

FUNCTIONAL changes in the postero-medial cortex (PMC) may be a better MR imaging marker of memory impairment than those previously identified in the hippocampus, and may also be a more sensitive early marker of Alzheimer disease (AD), according to researchers.

Jeffrey R. Petrella, M.D., of Duke University Medical Center in Durham, N.C., and colleagues studied functional MR images obtained during presentation of stimuli—face-to-name recognition—to 13 individuals with AD, 34 individuals with amnesic mild cognitive impairment and 28 healthy elderly controls. They found that along the spectrum from controls to individuals with AD, activation decreased in the medial temporal lobe, including the hippocampus, parahippocampal and fusiform gyri. Activation increased in the posteromedial cortices (PMC), primarily in the precuneus and posterior cingulate gyrus.

Reduced activation of the medial temporal lobe, as measured by functional MR imaging, has been proposed as an early marker of neuronal dysfunction in Alzheimer disease, said Dr. Petrella and colleagues, but patients with amnesic mild cognitive impair-



Results of correlation analysis between magnitude of functional MR imaging signal intensity and CVLT delayed recall score.

Regions that had significant correlation between magnitude of functional MR imaging signal and California Verbal Learning Test (CVLT) delayed recall score, on the basis of voxelwise correlation coefficient analysis, are demonstrated in color overlays superimposed on sagittal views of T1-weighted Montreal Neurological Institute (MNI) canonical brain template (images come from across-group comparison of all study subjects). Light blue indicates a negative correlation, whereas red indicates a positive correlation. Color scale is in units of t score. Numbers under each image are x-axis values in MNI coordinates. Negative-to-positive values indicate left-to-right hemisphere.

(*Radiology* 2007;245:224–235) © RSNA, 2007. All rights reserved. Printed with permission.

ment—often considered a prodromal form of AD—have demonstrated both increased and decreased hippocampal activity compared to that of controls. The researchers stated that functional MR-detected activation within the PMC during memory-related tasks correlates more reliably with the degree of memory impairment.

Dr. Petrella and colleagues concluded that functional MR imaging “has potential both as a surrogate marker of [Alzheimer] disease progression and from a diagnostic and treatment monitoring standpoint, as an adjunct to other types of imaging, genetic studies and neuropsychological testing.”

October Public Information Activities Focus on Breast Cancer, Back Pain

To highlight Breast Cancer Awareness Month in October, RSNA will distribute public service announcements (PSAs) focusing on the importance of regular screening mammograms.

In addition to sending the PSAs, the RSNA Public Information and Media Relations Department will distribute “60-Second Checkup” radio programs addressing breast cancer detection and back pain assessment. Breast cancer topics will include the use of breast MR on high-risk women, image-guided biopsy to evaluate breast abnormalities and computer-aided diagnosis to help detect breast cancer. Back pain segments will focus on the use of spine CT and MR to determine causes of pain.

Media Coverage of *Radiology*

In August, media outlets carried 304 news stories generated by articles appearing in *Radiology*. These stories reached an estimated 156 million people.

News releases promoted findings from studies on MR neuroimaging of patients with schizophrenia (*Radiology* 2007;244:549-556) and the use of CT angiography to detect intracranial aneurysms (*Radiology* 2007;244:532-540). In addition, a video news release was distributed highlighting a study comparing MR imaging, ultrasound and mammography in women at high risk for breast cancer (*Radiology* 2007;244:381-388).

Resulting coverage included print

placements in the *Chicago Tribune*, *Orlando Business Journal*, *Diagnostic Imaging* and *Las Vegas Review-Journal*. Broadcast placements included such shows as *FOX News Edge*, *Primer Impacto* (nationwide via Univision), *WMAQ-TV* (Chicago), *WBBM-TV* (Chicago) and numerous regional television stations. Prominent Web placements included Yahoo! News, *iVillage*, *aol.com*, *msn.com*, *healthcentral.com*, *drkoop.com*, *docguide.com* and *healthscout.com*.

Molecular Neuroimaging: From Conventional to Emerging Techniques

Continued from Page 34

- Molecular imaging in neurooncology
- Small-animal molecular neuroimaging including conventional probes and techniques and cell trafficking
- Molecular-genetic imaging
- New MR and metabolic imaging methods

“As in any organ system, the data obtained with molecular neuroimaging must be carefully validated not only against appropriate histologic markers, but also against relevant clinical parameters, so that these imaging techniques can become true biomarkers of disease,” the authors conclude. “Such studies are

under way in small-animal models and, with the advent of image-guided brain tumor resection, are beginning to be realized in clinical practice.”

FDG PET/CT for the Detection and Evaluation of Breast Diseases: Usefulness and Limitations

Continued from Page 34

In an article in the October special issue of *RadioGraphics* (RSNA.org/radiographics), a monograph on breast imaging, Hyo Soon Lim, M.D., of Chonnam National University in Gwangju, South Korea, and colleagues detail the function of FDG PET/CT in diagnosing breast cancer. Specifically they address:

- Normal physiologic pattern of FDG uptake in the breast and pathologic

patterns of FDG uptake in various breast diseases

- Diagnosis of primary tumors
- Evaluating regional lymph node status
- Initial preoperative staging
- Treatment monitoring
- Detection of recurrences
- Limitations, including false-positive uptake, false-negative uptake and detection of an unexpected primary cancer

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

- FDG PET/CT in benign breast disease
“PET/CT plays an important role in the staging of breast cancer, in the evaluation of the therapeutic response and in monitoring for recurrence,” Dr. Lim and colleagues conclude. “An understanding of the principles of PET/CT and recognition of its limitations are important for the optimal use of this imaging modality.”

RSNA MEMBER BENEFITS



RSNA Participates in Molecular Imaging Conference

Lee Rosen, Ph.D., *left*, and RSNA Science Advisor Daniel C. Sullivan, M.D., visited at the RSNA booth at the Joint Molecular Imaging Conference sponsored by the Academy of Molecular Imaging (AMI) and Society for Molecular Imaging (SMI). RSNA was also on-hand for a pre-conference symposium it sponsored along with AMI, SMI and SNM.

RSNA next travels to Nanjing, China, Oct. 19–21 for the 14th annual Chinese Congress of Radiology.

Working For You

RSNA Committees

RSNA News continues its series highlighting the work of RSNA's volunteer committees with a look at the *Daily Bulletin* Editorial Board.

Daily Bulletin Editorial Board

PUBLISHED each day of the RSNA annual meeting, the *RSNA Daily Bulletin* is the official meeting newspaper. The *Daily Bulletin* alerts attendees to special features and services at the annual meeting while also providing coverage of plenary sessions and select scientific papers and posters and education exhibits. A separate section each day includes announcements about new products and services offered by companies exhibiting at the meeting.

Overseeing the content and policy of the publication is the *Daily Bulletin* Editorial Board. In addition to providing medical review of articles during the meeting, the editorial board helps plan in advance the topics to be covered and also reviews announcements included in the New Products & Services section, said Kavita Garg, M.D., editorial board chair.

Continually seeking to ensure that the *Daily Bulletin* is

engaging and comprehensive for attendees, said Dr. Garg, the editorial board has made a number of changes over the past few years, including posting each day's edition online and offering radiation safety tips. The *Daily Bulletin* evolves along with the needs of meeting attendees, she said.

"All the improvements are made possible by our hardworking support staff and editorial board members," said Dr. Garg.

For information about volunteering for the editorial board, or for other RSNA committees, visit RSNA.org/About/whoswho/committees.



Kavita Garg, M.D.

Working for you COMMITTEE PROFILE

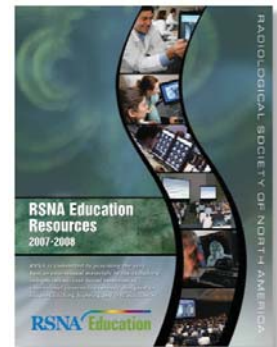
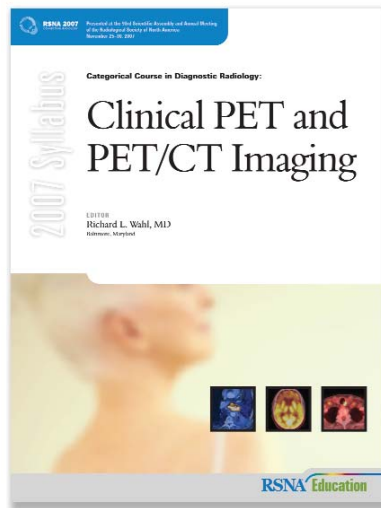
New Syllabus Available at RSNA 2007

A new syllabus, *Categorical Course in Diagnostic Radiology: Clinical PET and PET/CT Imaging*, will be available for purchase at the RSNA Education Store during RSNA 2007. The cost for members to purchase the syllabus, which includes more than 20 chapters on various PET/CT topics with accompanying *AMA PRA Category 1 Credits™*, is \$85 (print copy with companion CD) and \$45 (CD only). Non-members pay \$110 for the print copy with CD and \$60 for the CD only.

The 2006 syllabi, *Categorical Course in Diagnostic Radiology: Genitourinary Radiology* and *Categorical Course in*

Diagnostic Radiology Physics: From Invisible to the Visible—The Science and Practice of X-ray Imaging and Radiation Dose Optimization, are still available and can also be purchased at the annual meeting. These syllabi are also available online at RSNA.org/education or by calling the RSNA Education Center at 1-800-272-2920 or 1-630-368-3753 (from outside the U.S. and Canada).

For a complete listing of available syllabi, visit RSNA.org/education. For questions about educational courses or products, call the RSNA Education Center.



2007-2008 Product Catalog Released

The RSNA Education Center mailed its 2007-2008 product catalog with the October special issue of *RadioGraphics*. The newly formatted brochure makes product descriptions even easier to find. To access the brochure online, go to RSNA.org/education/catalog.

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

Program and Grant Announcements

NIH Grantsmanship Workshop

November 24 • McCormick Place, Chicago

RSNA will hold a National Institutes of Health (NIH) Grantsmanship Workshop on Saturday November 24, from 1:00 to 5:00 p.m. at the McCormick Place Convention Center in Chicago prior to RSNA 2007.

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. Register online at RSNA2007.RSNA.org. There is a \$35 registration fee.



Facilitated by: **Lee Rosen, Ph.D.**,
NIH Center for Scientific Review

Speakers: **John Haller, Ph.D.**,
NIH, National Institute of Biomedical Imaging and Bioengineering

Reed A. Omary, M.D.,
Northwestern University, Chicago

Warren Grundfest, M.D.,
University of California, Los Angeles

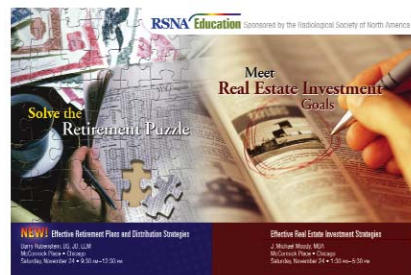
Xiang-Ning Lee, M.D. Ph.D.,
NIH Center for Scientific Review

Financial Education Seminars

November 24 • McCormick Place, Chicago

Two comprehensive financial seminars—“Effective Retirement Plans and Distribution Strategies” and “Effective Real Estate Investment Strategies”—will be held Saturday, November 24, at the McCormick Place Convention Center in Chicago just prior to RSNA 2007.

Attendees receive textbooks written specifically for each course. The cost is \$129 for the morning course and \$159 for the afternoon course, or \$269 for both. Register by going to RSNA2007.RSNA.org and clicking Registration, Housing & Courses. These seminars do not qualify for *AMA PRA Category 1 Credit*[™]. For more information, contact the RSNA Education Center at 1-800-381-6660 x7772 or ed-ctr@rsna.org.



IHE[®] Connectathon 2008

January 28–February 1, 2008 • Hyatt Regency Chicago—Wacker Drive

The Integrating the Healthcare Enterprise (IHE[®]) Connectathon offers participating companies a unique opportunity to test the interoperability of their health information systems by exchanging information with complementary systems from multiple vendors.

Since the first Connectathon was held in 1998, thousands of vendor-to-vendor connections have been tested, with tens of thousands of transactions passed among the systems. Participating companies report that the Connectathon helps them address important issues in

their product development plans.

The 2008 Connectathon will include a one-day conference on Wednesday, Jan. 30, featuring presentations from leaders of national healthcare information technology organizations as well as an introduction to IHE and the Connectathon process and a tour of the event. More than 120 healthcare leaders and industry representatives attended the 2007 conference.

For more information, go to www.ihe.net/events/Connectathon/index.cfm.

Writing a Competitive Grant Proposal

February 1–2, 2008 • RSNA Headquarters, Oak Brook, Ill.

This 1½ day, intermediate-level course is for researchers in the field of radiology and related sciences interested in pursuing federal funding. Guided by a faculty experienced in all aspects of grant application and funding processes, the program will be a combination of didactic and interactive small-group sessions, focusing on realistic expectations and tools for getting started.

For more information, including cost and application deadline, go to RSNA.org/grantwriting. Questions can be directed to Fiona Miller at fmiller@rsna.org or 1-630-590-7741.



News about RSNA 2007

Final Advance Registration

THE FINAL advance registration, housing and course enrollment deadline for RSNA 2007 is **November 5**.

North Americans who register in advance will have their registration materials mailed to them prior to the meeting. International attendees whose registration

forms are received by **October 26** will have their registration materials mailed to them. If registered after October 26, international attendees can pick up their materials onsite at Professional Registration in the Lakeside Center Ballroom, Desk A.

Registration Fees

Registration fees are \$100 higher onsite for most registration categories.

BY 11/5 ONSITE

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

Registering for RSNA 2007

There are four ways to register for RSNA 2007:

1 Internet

Go to RSNA.org/register

Use your member ID number from

Fastest way to register!

the *RSNA News* label or meeting flyer sent to you. If you have questions, send an e-mail to rsna@experient-inc.com.

2 Fax (24 hours)

1-800-521-6017
1-847-940-2386

3 Telephone

(Monday–Friday,
8:00 a.m.–5:00 p.m. CT)
1-800-650-7018
1-847-940-2155

4 Mail

Experient/RSNA 2007
108 Wilmot Rd.,
Suite 400
Deerfield, IL 60015-5124
USA

Onsite Registration

Those who register in advance can wear their badge at the McCormick Place Convention Center and proceed directly into the exhibit halls and classrooms. Those who must register onsite should proceed to Professional Registration in the Lakeside Center Ballroom.

Hours of Operation

Saturday (November 24) 12:00 p.m. – 6:00 p.m.
Sunday – Thursday (November 25–29) 7:00 a.m. – 5:00 p.m.
Friday (November 30). 7:30 a.m. – 12:00 p.m.

Housing

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

United Airline Discounts

United.com offers a 10 percent discount on select United Airlines, United Express and TED qualifying flights. Use promotional code 553SB.

Important Dates for RSNA 2007

- Oct. 26** International deadline to have full-conference badge and tickets mailed in advance
- Nov. 5** Final advance registration, housing and course enrollment deadline
- Nov. 25–30** RSNA 93rd Scientific Assembly and Annual Meeting



RSNA 2007
CONNECTING RADIOLOGY
93rd Scientific Assembly
and Annual Meeting
November 25–30, 2007
Chicago

■ For more information about registration at RSNA 2007, visit RSNA2007.RSNA.org, e-mail reginfo@rsna.org, or call 1-800-381-6660 x7862.

Navigating RSNA 2007

To get the most out of the annual meeting, you should be familiar with some RSNA 2007 publications, procedures and features.

Name Badge

Names badges ❶ must be worn at McCormick Place to attend courses or events or enter the exhibit halls. This year, RSNA will track attendance in the Technical Exhibit Halls and Lakeside Learning Center using radiofrequency identification, also known as RFID. RFID badge scanning is a noninvasive way to track attendance and exhibit booth participation. No personal information is stored on the RFID chip, only an identification number. Badges will be scanned to obtain total attendance counts, exhibit booth participation and exhibit floor traffic flow through the entrances.

ExpoCard™

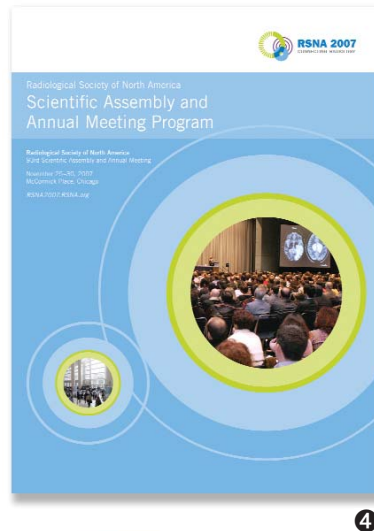
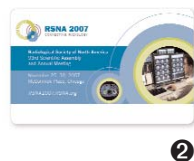
ExpoCard™ ❷ is an electronically personalized business card attendees can use in the technical exhibition to request exhibitor information. The card is encoded with the holder's name, institution, address, e-mail address, phone/fax numbers and radiologic specialty. Attendees who prefer that exhibitors contact them at a different address than the one used during advance registration should provide the alternate information directly to the exhibitor at the point of contact. They may also visit either Help Center at McCormick Place to change their registration and ExpoCard detail.

Pocket Guide

The RSNA 2007 *Pocket Guide* ❸ is an important, easy-to-use reference guide for the annual meeting. It includes two main sections:

Overview of the RSNA Scientific Assembly and Annual Meeting

- Complete A-Z listing of everything available to attendees
- Room assignments for scientific



- sessions, refresher courses, plenary sessions and multisession courses
- Floor plans for each building and each floor of McCormick Place

Traveling to and from McCormick Place

- Shuttle bus schedules, routes and boarding locations
- Taxi fees and loading and unloading areas
- Airport transportation service with times and cost and boarding information
- Complete Metra Electric Train System schedule outlining station locations, times and drop-off destinations
- Parking lot locations, hours and fees

Transportation information is also available online at RSNA2007.RSNA.org by clicking Transportation in the left-hand column.

RSNA Meeting Program, Official Meeting Bag and Lanyard

One complimentary copy of the *RSNA Meeting Program* ❹, official meeting bag ❺ and lanyard ❻ are available with presentation of a voucher ❼ at the Distribution Counters located in the Grand Concourse or Lakeside Center, Level 3. Additional copies of the *Meeting Program* will be available to RSNA members for \$15 each and non-members for \$50 each at the Education Stores.

The *RSNA Meeting Program* is also available at RSNA2007.RSNA.org. The online version makes it quick and easy to search the entire program and customize your RSNA 2007 schedule. The program will remain online after the meeting.

Continued on next page

MONDAY

Daily Bulletin

RSNA 2006

Serve the Public First

When radiologists are seen as serving themselves before the public, they will be considered a service community to be bought, sold and traded, said RSNA President Robert R. Harvitz, M.D., during his RSNA 2006 address.

R&E Time Machine Pays Tribute to 20 Years of Radiology Research

The RSNA 2006 address will feature a special tribute to radiology research. The address will be given by Dr. Robert Harvitz, M.D., RSNA President, and Dr. Robert Harvitz, M.D., RSNA President.

Tip of the Day

Today's Moment

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MEETING GUIDE

YOUR GUIDE TO MCCORMICK PLACE DURING RSNA 2006

RSNA 2006

WELCOME TO RSNA 2006!

The RSNA annual meeting is the premier international forum for radiologic science and technology, offering scientific and educational presentations in all radiologic subspecialties and technical exhibits showcasing the latest products and services.

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The *Daily Bulletin* is the official newspaper of the annual meeting. It is also available for download year-round at RSNA.org/bulletin.

Continued from previous page

Daily Bulletin

The *Daily Bulletin* is the official newspaper of the RSNA annual meeting. It features overnight news from the meeting, as well as announcements about new products and services from some technical exhibitors. The newspaper can be found in bins throughout McCormick Place. Each day's edition will also be available online at RSNA.org/bulletin.

Meeting Guide

The RSNA 2007 *Meeting Guide* features floor maps of McCormick Place, various program schedules and transportation schedules and a comprehensive listing of technical exhibitors, including company contact information and booth number. The *Meeting Guide* will be available in bins adjacent to the *Daily Bulletin*.



Transportation

RSNA offers complimentary shuttle bus service to and from McCormick Place. A dedicated bus lane makes the trip quick and easy, even during rush hours. Routes servicing 35 hotels in the RSNA block use the dedicated lane. Be sure to check signs in the hotels and at McCormick Place Convention Center for exact pick-up and drop off locations.

Ride the Metra Electric train for free using the Metra ticket located in your registration wallet. Trains run from downtown Chicago stations (Millennium Station and Van Buren Street) to the McCormick Place Convention Center Station in just 7 minutes. Stations are located within walking distance to many hotels. The ticket must be shown to the conductor when requested.



For more information about shuttle bus service and Metra, including arrival and departure schedules, go to RSNA2007.RSNA.org and click Transportation in the left-hand column.

Services for International Attendees

- **Certificate of Attendance** – Use computers in the Internet Zones to print a personalized certificate.
- **Foreign Currency Exchange Services** – Exchange foreign currency and cash foreign or U.S. denominated traveler's checks. Located across from the Business Center on the Grand Concourse, Level 2.5.
- **Interpretation Services** – Find assistance at the Help Centers and at Professional Registration in the following languages: Chinese, Dutch, French, German, Italian, Japanese and Spanish.
- **Travel Services** – ESA Voyages, the official RSNA 2007 international travel provider, will be available at the Help Center (Grand Concourse, Level 3) and at Professional Registration (Desk A, Lakeside Center Ballroom) to answer questions.

Exhibitor News

New Hands-on Computer Workshop Classes Added

THREE additional healthcare companies, Apple, Inc., Barco Medical Imaging and Siemens Medical Solutions, have reserved classroom space in the Lakeside Learning Center at RSNA 2007. They join AGFA HealthCare, Confirma, U-Systems, Philips and GE Healthcare for a total of eight companies offering nine hands-on

workshops on their respective proprietary computer systems. To view these new sessions and the entire schedule of hands-on courses being offered at RSNA 2007, go to RSNA2007.RSNA.org and click Hands-on Computer Workshops under Attendees.

Advance online registration is required for hands-on computer work-

shops. Each session accommodates up to 30 participants, so you are encouraged to reserve a seat as soon as possible. When registering, be sure to use the code number corresponding to the date and time desired. *AMA PRA Category 1 Credit™* is not available for these workshops.

Internet Zones Available in Technical Exhibits Halls

In addition to the Internet Zones located in the Grand Concourse, Lakeside Learning Center and lobby of the Arie Crown Theater, additional terminals will be available for attendees to access e-mail, meeting messages and the Internet at Internet Zones within the Technical Exhibition. These zones will be located in the North Building at Booth 8368 and the South Building near Café A1 and A2.

View Current Exhibitor List Online

As the list of participating companies at RSNA 2007 continues to grow, don't forget to review the list of Technical Exhibitors by visiting RSNA.org/showcase. The database includes names of technical exhibitors along with booth numbers and contact and company information, as well as an interactive floor plan.

RSNA Education Store in Publishers Row

In addition to its location inside the Lakeside Ballroom, the RSNA Education Store will be located in Booth 1200 in the South Building in Publishers Row. The RSNA Education Store provides a range of print and electronic educational materials for radiologists and other healthcare professionals to enhance their knowledge of the radiologic sciences. The Education Store carries print syllabi going back four years, as well as *RadioGraphics* special issues and the *RSNA Meeting Program*.



RSNA 2007
CONNECTING RADIOLOGY
93rd Scientific Assembly
and Annual Meeting
November 25–30, 2007
Chicago

Technical Exhibit Hours

Sunday – Wednesday
(November 25–28)
10:00 a.m. – 5:00 p.m.

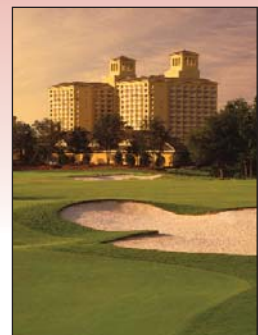
Thursday, November 29
10:00 a.m. – 2:00 p.m.

MEETING WATCH RSNA HIGHLIGHTS

RSNA Highlights™ 2008: Clinical Issues

REGISTRATION continues for RSNA Highlights™ 2008: Clinical Issues, to be held February 18–20, 2008, in Orlando, Fla., at the Ritz-Carlton/JW Marriott Orlando, Grande Lakes. The program features a series of refresher courses, including some unique to Highlights 2008, as well as electronic education exhibits and hot topics sessions from

RSNA 2007. Courses will focus on thoracic radiology, cardiac imaging, head and neck radiology and breast imaging, while hot topics sessions will address the latest developments PET/CT and body MR imaging. For more information and to register now, go to RSNA.org/Highlights.



Product News

FDA CLEARANCE

Mobile Mammography System

GE Healthcare (www.gehealthcare.com) has received U.S. Food and Drug Administration (FDA) approval for the Senographe® Essential mobile mammography system. The new mobile unit will feature the largest digital detector in the mammography market, advanced ergonomic design for the technologist, optimized patient comfort and seamless workflow connectivity, according to the company. The company said its digital detector delivers the industry's highest detective quantum efficiency, or DQE, which is the standard for quantifying digital X-ray image quality at low doses.

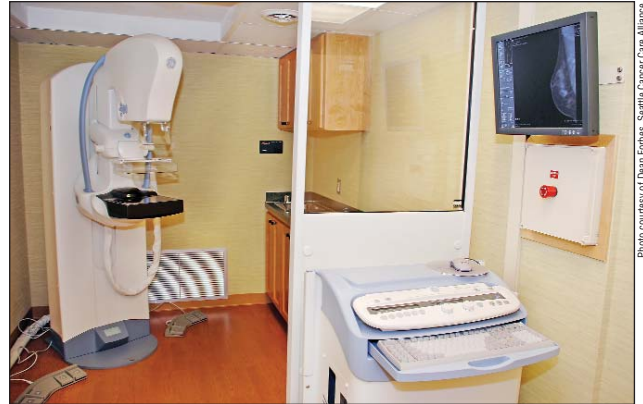


Photo courtesy of Dean Fortes, Seattle Cancer Care Alliance.

NEW PRODUCT

Multi-Probe System for IGRT

NORTH American Scientific, Inc. (www.nasmedical.com) has introduced the BATCAM™ Multi-probe, a multi-probe-capable ultrasound system for the company's image-guided radiation therapy (IGRT) product, BATCAM. The new system features an updated abdominal ultrasound probe with color doppler ultrasound, enabling IGRT for liver and pancreas treatments in addition to prostate and gynecology. Optional add-ons to the system include a bi-planar rectal probe for prostate volume studies and prostate brachytherapy and a wideband, linear probe for verification of accelerated partial breast irradiation (APBI) brachytherapy devices.

PRODUCT UPGRADE

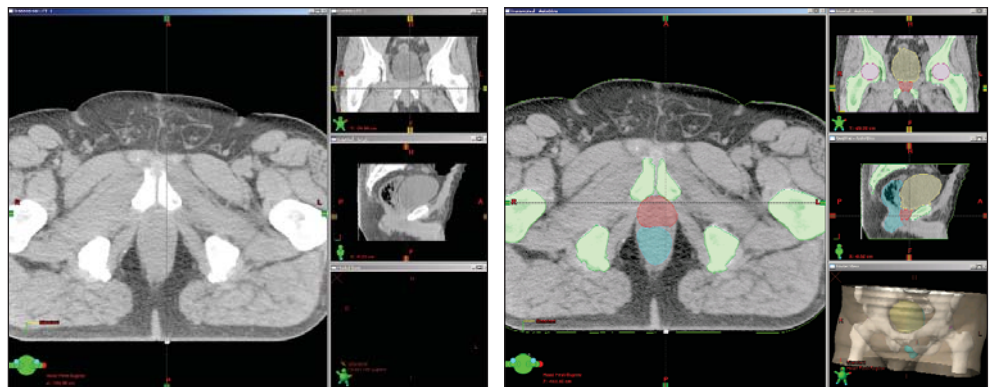
Enhanced fMRI Acquisition

Neurognostics (www.neurognostics.com) has released Version 2.0 of its Functional Data Acquisition Device (fDAD™), designed to standardize the acquisition and processing of functional MR imaging (fMRI) data. fDAD 2.0 adds numerous block and event-related tasks, including four developed specifically for study of Huntington disease, to an existing library of stimulation paradigms. Other enhancements were made to the patient response device, patient-specific study report and archiving procedures.

FDA CLEARANCE

Radiotherapy Planning Tool

Varian Medical Systems (www.varian.com) has received U.S. Food and Drug Administration (FDA) clearance for a radiotherapy treatment planning tool designed to significantly reduce the amount of time clinicians need



to plan treatments including intensity-modulated radiation therapy (IMRT) and image-guided radiation therapy (IGRT). The new Smart Segmentation™ feature, added to Varian's Eclipse™ treatment planning product, uses intelligent software to identify and outline organs and other structures within diagnostic images of the thorax and male pelvis. Traditionally this contouring has been done by hand, but Smart Segmentation can automatically identify all structures of interest in less than 45 seconds, the company said.

RSNA.org

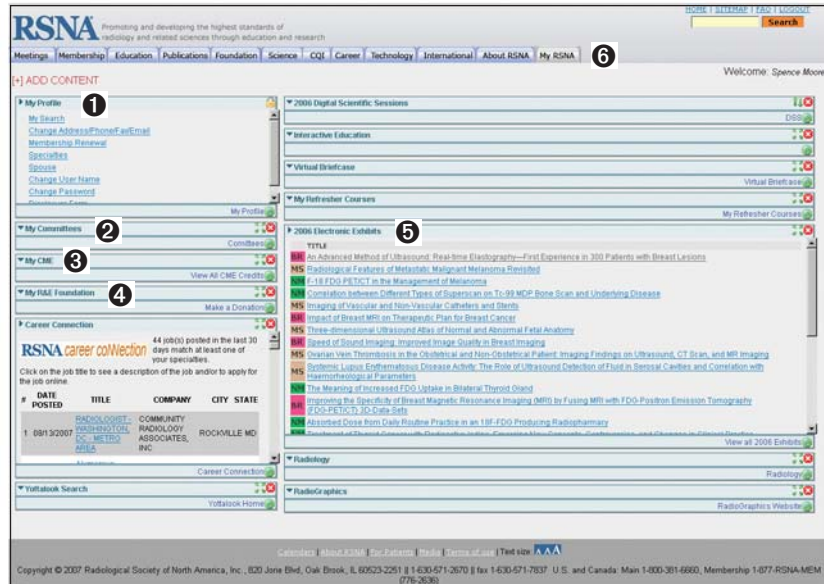
MyRSNA™

RSNA 2007 attendees are invited to test and offer feedback on the new design of *RSNA.org* and personalized features of MyRSNA™, slated to debut later this month.

The design is based on discussion and ideas from the RSNA Radiology Informatics Committee and RSNA Board of Directors. A focus group of radiologists is currently testing the Alpha version of the design and providing feedback on refinements.

When members log in to the new *RSNA.org*, they will be directed to MyRSNA, a collection of mini-applications, or applets. The design will feel familiar to users of *iGoogle™* or My Yahoo!®, the personalized Web pages on which MyRSNA was modeled.

Among the applets is “My Profile,” ❶ which contains the user’s account information and always appears on the page to allow easy updates. Other applets can be removed or added and can also be expanded, collapsed and moved around the page. These other applets give RSNA members quick access to personal data, as in My Committees ❷, My CME ❸, and My R&E Foundation ❹. As the annual meeting approaches, applets can be added to provide listings of all refresher courses,



scientific papers, education exhibits ❺ and other meeting content related to the subspecialties in which the user has indicated interest.

A new look and feel for all of *RSNA.org* will be rolled out with the MyRSNA service. In response to usability feedback gathered at RSNA 2005 and RSNA 2006, a horizontal navigation bar replaces the vertical navigation bar throughout the new *RSNA.org* ❻. Navigation and formatting have also been streamlined throughout the site.

RSNA 2007 attendees will have the

opportunity to try out the Beta version of MyRSNA in the online demonstration area of RSNA Services. A limited number of testers will be able to log in and create their own MyRSNA pages, with RSNA Web personnel on hand to guide users and gather their suggestions. As feedback is important in ensuring MyRSNA the site is optimally useful for members, RSNA will reward participants in the annual meeting demonstration with a small gift.

connections

Your online links to RSNA

RSNA.org

Radiology Online
RSNA.org/radiologyjnl

Radiology Manuscript Central
RSNA.org/radiologyjnl/submit

RadioGraphics Online
RSNA.org/radiographics

RSNA News
rsnanews.org

Education Portal
RSNA.org/education

RSNA CME Credit Repository
RSNA.org/cme

CME Gateway
CMEgateway.org

InterOrganizational Research Council
radresearch.org

RSNA Medical Imaging Resource Center
RSNA.org/mirc

RSNA Career Connection
RSNA.org/career

RadiologyInfo™
RSNA-ACR patient information Web site
radiologyinfo.org

RSNA Press Releases
RSNA.org/media

My RSNA Profile & Benefits
RSNA.org/memberservices

RSNA Research & Education Foundation
Make a Donation
RSNA.org/donate

R&E Foundation Silver Anniversary Campaign
RSNA.org/campaign

Community of Science
RSNA.org/cos

CQI Initiative
RSNA.org/quality

Membership Applications
RSNA.org/mbrapp

RSNA Membership Directory
RSNA.org/directory

Register for RSNA 2007
RSNA.org/register

RSNA 2007
RSNA2007.RSNA.org

RSNA Highlights™ 2008
RSNA.org/Highlights

Chicago Restaurants Have a Lot on Their Plates During RSNA 2007

CHICAGO'S widely varied restaurants offer a respite after a full day of meeting, learning and walking through the extensive technical exhibition at RSNA 2007. Additional information about Chicago and its many attractions is available from the Chicago Convention and Tourism Bureau Web site at www.meetinchicago.com/RSNA.

312 CHICAGO

136 N. LaSalle; 1-312-696-2420
Situating in the heart of the Loop Theater District, the inviting and sophisticated 312 Chicago offers an Italian-influenced American menu with specialties such as artichoke and provolone tortellini and old standards. *Expensive*

437 RUSH

437 N. Rush; 1-312-222-0101
This Italian steakhouse, a block off Michigan Avenue, offers steak, lobster and regional fare in a classic setting. *Expensive*

676 RESTAURANT AND BAR

676 N. Michigan; 1-312-944-7676
This Omni Chicago Hotel restaurant overlooks the Magnificent Mile and boasts a moonscape mural on the ceiling. Menu highlights include flatbreads, a raw bar and "charcuterie," a selection of antipasto meats. *Expensive*

AIGRE DOUX

230 W. Kinzie; 1-312-329-9400
The French translation of Aigre Doux is sweet and sour, said to describe both the relationship between the husband and wife chef-owners and the menu. Pastry chef Malika Ameen's sticky toffee is the talk of the town. *Expensive*

ALINEA

1723 N. Halsted; 1-312-867-0110
Unique food preparation, pairings and presentation highlight meals of 12-plus courses and several hours. Wine tasting progressions matched to each menu are recommended, as are reservations made well in advance. *Very Expensive*

ARIA

200 N. Columbus; 1-312-444-9494
The Fairmont Hotel has recreated Aria as a Pan Asian restaurant, with an emphasis on seafood. A glass-enclosed private dining room adds to Aria's flair. *Expensive*

ARUN'S THAI RESTAURANT

4156 N. Kedzie; 1-773-539-1909
Personalized 12-course Thai dinner designed by the chef for each table, with no menu. *Expensive*

AVEC

615 W. Randolph; 1-312-377-2002
At this restaurant popular enough to

enforce a no-reservation policy, interesting vintages are paired with rustic cheeses and in-house made sausages. Big meat dishes share the menu with tapas like fried sardines with ham. *Expensive*

AVENUE M

695 N. Milwaukee; 1-312-243-1133
At this colossal steakhouse, lounge crowds sip colorful drinks and nosh on Kobe beef burgers in the hip, bi-level lounge while diners enjoy traditional steak, pasta and seafood in the formal dining room. *Expensive*

AVENUES

108 E. Superior; 1-312-573-6754
This elegant, leather-accented restaurant in the Peninsula Hotel offers a view of Chicago's famous Water Tower along with European fish served French style. Some fish are boned tableside, adding to the drama. *Very Expensive*

BALLO

445 N. Dearborn; 1-312-832-7700
This latest incarnation of Chicago restaurant group Rosebud serves classic vats of homemade pasta and wood-fired pizzas. Vintage mafia flicks on big screens, throbbing music and a disco ball complete the scene. *Moderate*

BEN PAO

52 W. Illinois; 1-312-222-1888
Artistically lit black slate and red accents are juxtaposed with cascading water and still pools in this elegant Asian restaurant. Vegetarians will delight in the menu, which also features seafood, duck, beef and chicken. *Moderate*

BIG BOWL

6 E. Cedar; 1-312-640-8888
60 E. Ohio; 1-312-951-1888
A casually elegant Asian restaurant with good vibes. A large, square bar fronts the dining room and an open kitchen occupies the back. *Moderate*

BISTRO CAMPAGNE

4518 N. Lincoln Ave.; 1-773-271-6100
This straightforward Bistro serves country French emphasizing organic ingredients. Expect expertly prepared escargot, goat cheese salad, onion soup, onion tart, steak frites and crème brûlée. Located in the Lincoln Square neighborhood, Bistro Cam-

pagne is about 15 minutes north of North Michigan Avenue. *Moderate*

BLACKBIRD

619 W. Randolph; 1-312-715-0708
This trendy hot spot serves contemporary American cuisine with seasonal emphasis. *Expensive*

BLUE WATER GRILL

520 N. Dearborn; 1-312-777-1400
Steps from Michigan Avenue, this Manhattan transplant is all about fish with occasional beef offerings for the carnivores. Shellfish platters, sushi rolls and creative seafood entries are the mainstays. *Expensive*

BOKA

1729 N. Halsted; 1-312-337-6070
The theme under the unique fabric stretched ceiling is seafood. Start with seared Maine scallops with cauliflower puree, tartar of Atlantic salmon or the raw bar and add an entrée such as steak or pan-seared grouper. *Expensive*

BRASSERIE JO

59 W. Hubbard; 1-312-595-0800
Authentic French in every way, Brasserie Jo serves favorites such as steak frites, endive and blue cheese salad, escargot, steak béarnaise and six preparations of fish, all accompanied with wonderful wines. *Moderate*

BUTTER

130 S. Green; 1-312-666-9813
The new hot spot for trend-watching foodies, this West Loop restaurant features the self-described new American cuisine of famous restaurant alumnus Chef Ryan Poli. *Expensive*

CAFÉ BA-BA-REEBA!

2024 N. Halsted; 1-773-935-5000
At this festive DePaul hotspot, rhythmic Spanish music greets guests before the hosts do. Café Ba-Ba-Reeba! specializes in paella, sangria and tapas. *Inexpensive*

CALITERRA

633 N. St. Clair; 1-312-274-4444
California meets Italy in this restaurant tucked away in the Wyndham Chicago Hotel. Views include the city and the open kitchen, where activity revolves around woks, brick ovens and grills. *Expensive*

CAPE COD ROOM

140 E. Walton; 1-312-787-2200
The Cape Cod Room at the venerable Drake Hotel serves fresh seafood in a comfortable, cozy setting reminiscent of a seaside saloon. *Expensive*

CAPITAL GRILLE

633 N. St. Clair; 1-312-337-9400
In the dark wood and leather interior, complete with oil paintings, waiters in white aprons offer robust wines, oversize steaks and side orders as large as entrées. This restaurant is one for a hearty appetite. *Expensive*

CHARLIE TROTTER'S

816 W. Armitage; 1-773-248-6228
Reservations are scarce but Charlie Trotter's is an experience that can't be duplicated. Choose between the grand menu and the vegetarian menu to begin the parade of imaginative dishes. *Very Expensive*

CARNIVAL

702 W. Fulton Market; 1-312-850-5005
Attention-grabbing décor, music and menu all contribute to a festive ambiance. Enjoy ceviches along with heartier fish and meat creations from Brazil, Colombia, Cuba and Puerto Rico. *Expensive*

CHAISE LOUNGE

1840 W. North; 1-773-342-1840
Pastels, mirrors, sheer curtains and candles contribute to romance. A seasonal, eclectic American menu includes both the expected, like pan seared snapper, as well as the surprising, such as chicken under a brick. *Moderate*

CHEZ JOEL

1119 W. Taylor; 1-312-226-6479
This pretty French bistro is blossoming in the middle of Little Italy. *Moderate*

CHICAGO CHOP HOUSE

60 W. Ontario; 1-312-787-7100
At this restaurant featuring 1,400 photos of musicians, gangsters and every Chicago mayor, the first level allows cigar, pipe and cigarette smokers. The second floor is cigarettes-only and the third-floor "Skybox" is nonsmoking. *Expensive*



CHICAGO FIREHOUSE RESTAURANT

1401 S. Michigan; 1-312-786-1401
At this restaurant housed in a turn-of-the-century firehouse complete with the original fire poles, escargot and vegetable strudel share the appetizer menu. Casual or formal dining is available and wines are mostly American. *Expensive*

CHINA GRILL

230 N. Michigan; 1-312-334-6700
A haven for trendy city-hoppers, the Hard Rock Hotel gave new life to the neglected Carbide and Carbon Building. Stop by for a drink at Hard Rock's Base bar or dine at the China Grill, an Asian-influenced restaurant. *Expensive*

CHOCOLATE BAR AT THE PENINSULA HOTEL

108 E. Superior; 1-312-337-2888
Heaven on Earth for some and certainly not an experience to be duplicated, the Peninsula hotel offers a magnificent \$20 all-you-can-eat chocolate buffet on Friday and Saturday evenings. *Moderate*

CITÉ

Lake Point Tower, 505 N. Lake Shore; 1-312-644-4050

From the rooftop of Lake Point Tower, experience Chicago's sophisticated side. Offering French/Italian fare, Cité is one of the few Chicago establishments to require jackets in both restaurant and bar. *Very Expensive*

COCO PAZZO

300 W. Hubbard; 1-312-836-0900
Tuscan cuisine served in a fabric-draped studio, complete with a beautiful bar. *Expensive*

COPPERBLUE

Lake Point Tower, 505 N. Lake Shore; 1-312-527-1200

This jewel is a small, elegant restaurant insulated from the clamor of nearby Navy Pier. An outstanding wine list and an experienced staff accompany the French-Mediterranean fare. *Very Expensive*

CUATRO

2030 S. Wabash; 1-312-842-8856
Hidden behind an 8-foot tall salt-water aquarium, Cuatro's kitchen pumps out dishes emphasizing seafood and Caribbean and Latin American preparations. A Latin jazz Sunday brunch is popular with the locals. *Moderate*

CUSTOM HOUSE

500 S. Dearborn; 1-312-523-0200
The name of this Printer's Row restaurant inside Hotel Blake comes from the Custom House Levee District, former home of bordellos, gambling parlors and saloons. The focus is on steak and local farm-raised foods. *Expensive*

DAVID BURKE'S PRIMEHOUSE

616 N. Rush; 1-312-660-6000
At this ultramodern steakhouse, dry-aged steaks are displayed in a special temperature and humidity controlled salt cave. Appetizers such as angry lobster share the menu with unreasonably large steaks. *Expensive*

DECERO

814 W. Randolph; 1-312-455-8114
This lively restaurant on Randolph Street restaurant row offers regional Mexican specialties in a stylized Roadhouse décor. Creative tacos featuring braised duck and sautéed salmon are excellent for sharing. *Moderate*

NEW DELACOSTA

465 E. Illinois; 1-312-464-1700
As much a restaurant as it is a nightclub. Exposed brick walls are tempered with a harlequin motif accented with modernistic chandeliers. The most popular dish on the fish-focused menu is chorizo in a blanket. *Expensive*

DEVON SEAFOOD GRILL

39 E. Chicago; 1-312-440-8660
Here, Michigan Avenue shoppers get a break from seemingly mandatory department store restaurant lunches and North Michigan Avenue hotel guests a break from hotel bars. A wraparound bar is a local favorite. *Moderate*

D'VINE RESTAURANT & WINE BAR

1950 W. North; 1-773-235-5700
Sleek wine bar serves a fusion of French, Asian and Mediterranean influenced dishes. *Expensive*

NEW ERBA

4520 N. Lincoln; 1-773-989-4200
Tuscany has appeared in Lincoln Square at Erba, where the chef turns out innovative Italian fare with skill and finesse. Dishes are cleverly named, as is the restaurant—Erba translates as "fresh herbs." Plan on a 15-minute taxi ride from downtown. *Moderate*

EVEREST

440 S. LaSalle; 1-312-663-8920
Enjoy Alsatian emphasis in French cuisine served on the 40th floor with a dramatic city view. *Very Expensive*

FOGO DE CHÃO

661 N. LaSalle; 1-312-932-9330
At this Brazilian "churrascaria"—all-you-can-eat meat carved table-side—waiters carry long skewers of chicken, filet mignon, leg of lamb, pork loin, pork ribs, rump steak and sausages. *Expensive*

FOLLIA

953 W. Fulton; 1-312-243-2888
Food and fashion unite at this Italian restaurant serving timeless Italian risottos, pastas and entrées cooked to order. Mannequins in the windows

wear haute couture designed by local students and available for purchase. *Moderate*

FRANCESCA'S FORNO

1576 N. Milwaukee; 1-773-770-0184
At this triangular restaurant, floor-to-ceiling windows overlook the busy six-point intersection defining the Wicker Park neighborhood.

Francesca restaurants are known for delicious pasta and long waits for tables. *Very Expensive*

FRONTERA GRILL

445 N. Clark; 1-312-661-1434
Mexican food is taken to a new level in this festive restaurant five blocks from Michigan Avenue. *Moderate*

FULTON'S ON THE RIVER

315 N. LaSalle; 1-312-822-0100
Although Fulton's can please everyone—seafood, steaks and sushi are all on the menu—this beautiful riverside restaurant has possibly the best oysters in the country. Carefully matched wines round out the offerings. *Inexpensive*

THE GAGE

24 S. Michigan; 1-312-372-4243
Housed in a 1930s hat factory across from Millennium Park, The Gage enjoys an atmosphere created by brass, leather and subway tile. Comfort food is paired with 30 bottled beers and interesting small-batch whiskeys. *Moderate*

GENE & GEORGETTI

500 N. Franklin; 1-312-527-3718
Thoroughly lacking in pretension, this classic steakhouse offers ungarished steaks served by waiters who appear to have worked there since its inception. This is authentic Chicago—expect to hear thick accents and perhaps catch sight of a local alderman. *Expensive*

GINO'S EAST OF CHICAGO

633 N. Wells; 1-312-943-1124
162 E. Superior; 1-312-266-3337
Considered a top 10 pizzeria in the nation, Gino's East provides the most authentic Chicago-pizza—sauce on top, ingredients and cheese underneath. Slices weigh in at nearly 1/2 pound, so order carefully. *Inexpensive*

GIOCO

1312 S. Wabash; 1-312-939-3870
A big-portioned, contemporary Italian feast in a Prohibition-era speakeasy. In line with a trattoria, the menu offers tortellini, beef and octopus carpaccios, pizza, veal scaloppini, rabbit, mussels, and seafood. *Moderate*

GRILLROOM CHOPHOUSE AND WINE BAR

33 W. Monroe; 1-312-960-0000
The specialty at this Loop Theater District steakhouse is wet-aged certified angus beef. Location and flexibility of the service make this restau-

rant a good choice for a pre-theater dinner or drink. *Expensive*

THE GRILL ON THE ALLEY

909 N. Michigan; 1-312-255-9009
The Westin Hotel's rendition of the famous Beverly Hills Grill on the Alley serves large steaks and seafood in a clubby, leather-bound atmosphere. A pianist plays nightly in the lounge. *Expensive*

GREEN ZEBRA

1460 W. Chicago; 1-312-243-7100
Vegetarians rarely have much choice in fine dining but Green Zebra has turned the tables, offering upscale vegetarian dishes in a fine dining setting. Carnivores will often find chicken and fish on the menu. *Expensive*

NEW HABANA LIBRE

1440 W. Chicago; 1-312-243-3303
This real Cuban food may be worth practicing some Spanish. Try the rellenas—ground beef encased in fried bread—as well as mashed potatoes with mango sauce and crusty empanadas with guava paste and cheese. *Inexpensive*

HACKNEY'S PRINTERS ROW

733 S. Dearborn; 1-312-461-1116
At this pub located in one of the oldest buildings in Printers Row, a neighborhood as famous and historic as the Hackney burger, try the popular deep-fried onion loaf with one of the many imported tap beers. *Inexpensive*

HEAT

1507 N. Sedgwick; 1-312-397-9818
The ultimate in fresh sushi and sashimi cut to order, sometimes from live fish swimming in the three salt-water tanks. *Expensive*

HEAVEN ON SEVEN ON RUSH

600 N. Michigan; 1-312-280-7774
Spicy Cajun and Creole dishes served steps from Michigan Avenue, up a steep escalator. "Feed me" fixed price menus, dependent on the chef's whims, are unforgettable. Sunday features a New Orleans-style brunch. *Moderate*

IL MUNO NEW YORK

1150 N. Dearborn; 1-312-440-8888
Creamy, garlicky dishes from Italy's Abruzzo region served in the rooms of the former Biggs Gold Coast mansion. Priced well above other Italian eateries, Il Muno is lauded by many as the best they've experienced. *Very Expensive*

INDIA HOUSE

59 W. Grand; 1-312-645-9500
The 150-item menu offers a vast array of India's offerings, from standard fare to street fair delicacies. A glass-enclosed kitchen encourages proud chefs to perform. Specialty drinks allow the adventuresome to experiment. *Moderate*

Continued on next page



Continued from previous page

JAPONAIS

600 W. Chicago; 1-312-822-9600
Combining industrial and chic decor in a converted industrial building, Japonais offers traditional Japanese sushi, smoked duck and, to finish, the Tokyo Tower—a huge helping of ice cream, sorbets and cookies.
Expensive

JOE'S SEAFOOD, PRIME STEAK AND STONE CRAB

60 E. Grand; 1-312-379-5637
This Miami offshoot serves Florida stone crab claws with mustard sauce and steaks in a dining room decorated with vintage black and white photographs.
Expensive

KEVIN

9 W. Hubbard; 1-312-595-0055
Kevin delivers an excellent fusion of Asian and French cuisine in a contemporary dining room with Asian influences such as Shoji screens, brick walls and hardwood floors.
Expensive

LANDMARK

1633 N. Halsted; 1-312-587-1600
Steppenwolf and Royal George patrons meet in the blue dining room to partake in contemporary American fare. The main bar features a mezzanine level catwalk and the downstairs houses a Moroccan style lounge.
Expensive

LE BOUCHON

1958 N. Damen; 1-773-862-6600
Small, authentic French bistro located in the fashionable Bucktown neighborhood.
Moderate

LE COLONIAL

937 N. Rush; 1-312-255-0088
In the heart of Rush Street nightlife district, this French-Vietnamese masterpiece looks back in time to colonial Vietnam. Sugar cane wrapped shrimp, sea bass and filet mignon grace the sophisticated menu.
Expensive

LE LAN

749 N. Clark; 1-312-280-9100
With Vietnamese spring rolls, smoked squab, Vietnamese sea bass and poached lobster, this restaurant invokes the time when French colonists first discovered how well their fare complements Asian flavors.
Moderate

LES NOMADES

222 E. Ontario; 1-312-649-9010
Flawless French food served in a downtown mansion with a picturesque entrance so entrancing, it is occasionally used as the setting for movie scenes.
Very Expensive

MARCHE

833 W. Randolph; 1-312-226-8399
Over-the-top décor makes this French restaurant a popular “see and be seen” spot. Be prepared for loud techno music.
Expensive

MARIGOLD

4832 N. Broadway; 1-773-293-4653
Named for the traditional Indian festival flower, Marigold is anything but traditional. This different breed of Indian restaurant, with slick modern décor and French influences, offers a narrow menu and serious wine list. Plan on a 10-minute taxi ride from North Michigan Avenue.
Moderate

MAY STREET MARKET

1132 W. Grand; 1-312-421-5547
True farmer's market ingredients are used for the seasonal American dishes at May Street Market, a very earthy restaurant with stone walls, marble floors and copper bar.
Expensive

MEIJI

623 W. Randolph; 1-312-887-9999
Try the tempura appetizer made with vegetables from the Japanese mountains or haru maki with three types of fish, crab and avocado. Patrons and chefs socialize at this restaurant named for the Japanese Meiji period.
Moderate

MIZU YAKITORI AND SUSHI LOUNGE

315-317 W. North; 1-312-951-8880
Yakitori is similar to the Thai concept of satay (skewered meats), only smaller. Mizu offers small skewers of grilled meats, seafood or vegetables and multiple dipping options including soy sauces, hot mustard and spices.
Moderate

MK, THE RESTAURANT

868 N. Franklin; 1-312-482-9179
Creative contemporary dishes superbly offset by this stylish restaurant. Exposed bricks and beams reflect the building's past as a paint factory.
Expensive

MON AMI GABI

2300 N. Lincoln Park West; 1-773-348-8886
Mon Ami is an informal, raucous French bistro. Steak is served seven ways piled high with Mon Ami's delicious frites. A clever and convenient rolling cart offers wines by glass.
Moderate

MORTON'S, THE STEAKHOUSE

1050 N. State; 1-312-266-4820
65 E. Wacker; 1-312-201-0410
The king of steakhouses is famous for its steak and lobster.
Expensive

MOTO

945 W. Fulton Market; 1-312-491-0058
Tasting menus of seven or 10 very small courses are offered. Moto leans toward raw food, which chef Homaro Cantu defines never seeing temperatures above 108 degrees. Inventive twists accompany each course.
Very Expensive

NAHA

500 N. Clark; 1-312-321-6242
This bright, minimalist restaurant is

making a hit with its Mediterranean-influenced American offerings.
Expensive

NICK'S FISHMARKET

51 S. Clark; 1-312-621-0200
This Loop favorite has fruit reductions and Asian accents to complement exceptional seafood and fish and outstanding service.
Expensive

NINE

440 W. Randolph; 1-312-575-9900
A place to watch for celebrities and professional athletes, Nine also boasts a remarkable interior. The champagne and caviar bar serves beluga by the ounce, while the upstairs Ghost bar pours a must-try specialty martini.
Expensive

NOMI

800 N. Michigan; 1-312-239-4030
The most noteworthy design element in this minimalist French restaurant is the phenomenal view of North Michigan Avenue and Lake Michigan.
Very Expensive

NORTH POND CAFÉ

2610 N. Cannon; 1-773-477-5845
Seasonal Midwestern and French dishes served in well-executed arts-and-crafts-style. A former skaters' warming station, this popular restaurant is in the heart of Lincoln Park on a pristine lagoon with a city skyline view.
Expensive

ONE SIXTYBLUE

160 N. Loomis; 1-312-850-0303
Sophisticated contemporary cuisine served to a sophisticated clientele in a setting to match.
Expensive

OPERA

1301 S. Wabash; 1-312-461-0161
“Hip-hop Asian” with clean flavors and dramatic presentations sum up Opera, where interesting sauces and thoughtful presentations make for a unique experience. The building formerly warehoused film reels, which left small, romantic niches cleverly filled with tables.
Expensive

OSTERIA VIA STATO

620 N. State; 1-312-642-8450
Get the feeling of dining in Italy with waiters swooping in with course after course. Select a main course from a chalkboard menu and let the kitchen decide the rest. Seconds are available on everything but entrées.
Expensive

OYSY

50 E. Grand; 1-312-670-6750
888 S. Michigan; 1-312-922-1127
Chicago fish lovers agree that Oysy means delicious. Two city locations boast creative menus offering more than 50 maki, nigiri and sushi choices as well as tempura. Hot and cold tapas-sized dishes allow experimentation.
Inexpensive

THE PALM

323 E. Wacker; 1-312-616-1000
Mammoth prime steaks, lobsters and

drinks grace the tables at this popular steakhouse. The Palm's personality comes from walls covered with portraits of patrons—the famous as well as the unknown—and cartoons.
Expensive

PARK GRILL

11 N. Michigan; 1-312-521-7275
Chicago's answer to New York's Tavern on 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

PARLOR

1745 W. North; 1-773-782-9000
Upscale comfort food has been done before, but here, the baked-potato soup, macaroni and cheese and meat-loaf are somehow simultaneously traditional and trendy. The restaurant offers Sunday brunch.
Moderate

PENANG

2201 S. Wentworth; 1-312-326-6888
Top-notch Malaysian cuisine served in a simple, cheerful room.
Inexpensive/Moderate

PETTERINO'S

150 N. Dearborn; 1-312-422-0150
Located in the southeast corner of the Goodman Theatre building, Petterino's specializes in quality steaks, pastas and salads. The room and the food are substantial at this recognizably 1940s Loop-style restaurant.
Expensive

PIZZERIA UNO AND PIZZERIA DUE

Pizzeria Uno; 29 E. Ohio; 1-312-321-1000
Pizzeria Due; 619 N. Wabash; 1-312-943-2400

Sixty years of pizza experience culminates in one great tradition split between two mansions across the street from each other at Ohio and Wabash. Chicagoans and tourists agree the pizza is worth the wait.
Inexpensive

POPS FOR CHAMPAGNE

601 N. State; 1-312-266-7677
The success of this nationally renowned lounge prompted a move to River North's historic Tree Studios. Enjoy the raw bar and underground jazz club, choosing from 120 champagnes by the bottle and seven by the glass.
Expensive

QUARTINO

626 N. State; 1-312-698-5000
The Italian small plate experience is the focus of Quartino, an old world-style restaurant. In addition to its featured cured meats and cheeses, Quartino also offers a well-known wine bar.
Inexpensive

RHAPSODY

65 E. Adams; 1-312-786-9911
Conveniently tucked inside Symphony Center with an outside entrance on Adams Street, Rhapsody

boasts a conservatory-style dining room filled with lovers of food, wine and the arts. *Expensive*

RL RESTAURANT RALPH LAUREN

115 E. Chicago; 1-312-475-1100
In a restaurant consistent with Ralph Lauren's American-style clothing and home accessories, the menu is upscale American with Italian accents. The beef is from cattle carefully bred on the Lauren ranch. *Expensive*

RICCARDO TRATTORIA

2119 N. Clark; 1-773-549-0038
Former Bice chef Riccardo Michi opened this small Tuscan restaurant in Lincoln Park. Many have found their way to Riccardo's dining room to enjoy freshly made pasta and hearty meat dishes including tripe Florentine. *Moderate*

ROOM 21

2110 S. Wabash; 1-312-328-1198
Once home to Al Capone's bootleg liquor, this contemporary American restaurant gets its name from the escape tunnel discovered behind a door inscribed "Room 21." A vintage leopard painting adds to the charm. *Expensive*

ROSEBUD

1500 W. Taylor; 1-312-942-1117
A memorable Italian meal served in a comfortable, upscale setting. *Moderate*

ROSEBUD STEAKHOUSE

192 E. Walton; 1-312-397-1000
Located behind the Drake hotel, Rosebud has won the hearts of Chicago steak enthusiasts including Mayor Daley and other local politicians. Excellent Italian preparations of chicken, lamb and seafood also available. *Expensive*

ROY'S CHICAGO

720 N. State; 1-312-787-7599
Combining French and Asian techniques, Hawaiian fusion cuisine includes hibachi-grilled salmon, blackened tuna and barbecued baby back ribs. Watch the exhibition kitchen from the bar or dining room. *Expensive*

RUMBA

351 W. Hubbard; 1-312-222-1226
Upscale restaurant reminiscent of the Tropicana nightclub offers tastes of Cuba, Puerto Rico and South America. Thursday through Sunday, guests can tango to live music and see professional dance performances. *Expensive*

RUSSIAN TEA TIME

77 E. Adams; 1-312-360-0000
Not just a tea house as the name suggests, Russian Tea Time is a full-service restaurant run by natives of the former Soviet Republic of Uzbekistan. *Expensive*

SALTAUS

1350 W. Randolph; 1-312-455-1919
While the fact that it's housed in a former corned beef factory may be this restaurant's most fascinating detail, its internationally influenced menu is also appealing and interesting. *Expensive*

SCHWA

1466 N. Ashland; 1-773-252-1466
On the eight- and 10-course tasting menus, ingredients are listed with no description of how they will be presented. Note that Schwa is BYOB. *Very Expensive*

SEASONS RESTAURANT

120 E. Delaware; 1-312-649-2349
Seven stories above North Michigan Avenue, this restaurant in the Four Seasons Hotel positions its tables far enough apart to create intimacy usually not found in the city. Various tasting menus and wine selections. *Very Expensive*

SEPIA

123 N. Jefferson; 1-312-441-1920
This restaurant in a former print shop is visually spectacular and critically acclaimed for its contemporary menu driven by seasonally available foods. Renovations include a floor-to-ceiling wine rack and Art Nouveau floor. *Moderate*

SHANGHAI TERRACE

108 E. Superior; 1-312-573-6744
The Peninsula Hotel's Asian restaurant sparkles with silver and red lacquer. The fried rice tastes just like the Hong Kong version, with more ambitious offerings such as wok-fried lobster also on the menu. *Expensive*

SHAW'S CRAB HOUSE

21 E. Hubbard; 1-312-527-2722
Many Atlantic, Gulf and Pacific seafood suppliers stocking this restaurant daily are pictured on the walls of the Blue Crab Lounge, a New Orleans-themed oyster bar with blues and torch recordings on the sound system. *Expensive*

SPIAGGIA

980 N. Michigan; 1-312-280-2750
Sophisticated Italian creations are appropriate for this breathtaking room, filled with those desiring to see and be seen. This is an extremely popular destination with white tablecloths, large windows and first-class service. *Very Expensive*

STARFISH

804 W. Randolph; 1-312-997-2433
The sushi and maki choices are as endless as the "oohs" and "aahs" that accompany them. Vibrant green walls and red-orange ceiling perfectly contrast the dark floors and dim lighting, while urban music matches the crowd. *Expensive*

SUSHISAMBA RIO

504 N. Wells; 1-312-595-2300
A New York transplant, SushiSamba

Rio is trendy and flashy. The beef maki roll is a must-try, and braised rabbit with chipotle mole is the answer to the question of how to fuse Japanese and South American flavors. *Expensive*

SWEETS & SAVORIES

1534 W. Fullerton; 1-773-281-6778
This small DePaul storefront has become a favorite among locals craving Continental-inspired creations, especially creative desserts. Noteworthy for the formal tea it serves on weekdays. Reservations required. *Moderate*

TABLE 52

52 W. Elm; 1-312-573-4000
Art Smith, chef to Oprah and best-selling cookbook author, has opened this small, 35-seat restaurant. Heavier weekend menu includes fried chicken, waffles and biscuits and gravy served with chicken gumbo. *Expensive*

TAMARIND

614 S. Wabash; 1-312-379-0970
Chinese, Japanese, Thai and Vietnamese dishes grace the menu at this ambitious South Loop restaurant, where sushi, rolls and sashimi selections—as well as personalized stir-fry—are local favorites. *Inexpensive*

TASTE OF SIAM

600 S. Dearborn; 1-312-939-1179
Located in a converted warehouse in the Printers Row neighborhood, this is the spot for Thai cuisine in the south Loop. The menu is extensive, the food exotic but not too challenging, and the crowd young and urban. *Inexpensive*

TEPATULCO

2558 N. Halsted; 1-773-472-7419
Tepatulco, named for the chef-owners' Mexican hometown, serves regional dishes with contemporary Mexican style. Chef Bahena is famous for his mole sauces. Five-course tasting menu and wine flights available. *Inexpensive*

TIMO

464 N. Halsted; 1-312-226-4300
In Timo's eclectic dining rooms, with their interesting and romantic colors and textures, feast on Italian appetizers and side dishes that accentuate the restaurant's seafood and spit-roasted rabbit, lamb, chicken and pork. *Moderate*

TOPOLOBAMPO

445 N. Clark; 1-312-661-1434
Complex Mexican flavors abound in the upscale restaurant adjacent to its sister, Frontera Grill. *Expensive*

TRATTORIA NO. 10

10 N. Dearborn; 1-312-984-1718
Subterranean fixture in the Loop has it all. Pin lights add drama to a quiet dining room divided into intimate spaces by pillars and Italian-style archways. Chicagoans visit for amaz-

ing pastas, risottos and ravioli dishes. *Expensive*

TRU

676 N. St. Clair; 1-312-202-0001
Considered one of the top restaurants in the city, Tru juxtaposes its flashy, contemporary dishes with a stunning white dining room. This exciting, trendy experience is one block off Michigan Avenue. *Very Expensive*

TUSCANY

1014 W. Taylor; 1-312-829-1990
Fashionable Northern Italian restaurant suitably situated on Taylor Street. *Expensive*

VERMILION

10 W. Hubbard; 1-312-527-4060
Veering far from the traditional path, Vermilion presents a Latin-Indian fusion menu that works surprisingly well. The tapas-style menu includes roasted baby eggplants, fried plantain dumplings and various curries. *Expensive*

VIAND RESTAURANT

155 E. Ontario; 1-312-255-8505
American bistro with a focus on comfort foods is a hit among shoppers as well as the after-work crowd. Order the clever "junk food cart," a miniature shopping cart filled with sweet treats that begs a double take. *Moderate*

WAVE

644 N. Lake Shore; 1-312-255-4460
This Mediterranean restaurant specializing in seafood is appropriately situated on Lake Shore Drive. Sleek lines and vibrant colors contribute to Wave's ultimate chicness. *Expensive*

VIVO

838 W. Randolph; 1-312-733-3379
This chic restaurant offers creative Italian fare. *Expensive*

ZAPATISTA

1307 S. Wabash; 1-312-435-1307
Named for Mexican revolutionary Emiliano Zapata, this upscale venue offers a broad menu including grilled lobster tails and Negro Modelo marinated filet mignon. Pictures of revolutionaries accent the walls. *Moderate*

ZEALOUS

419 W. Superior; 1-312-475-9112
Zealous boasts a two story glassed-in wine tower that can hold 6,000 wine bottles and a kitchen brilliantly combines different foods, textures and flavors. The multiple-course degustation menus are highly recommended. *Expensive*

ZOCALO

358 W. Ontario; 1-312-302-9977
Mexican cuisine has become even more festive at this popular River North restaurant where marinated panela cheese with a shot of mescal is flambéed tableside. *Moderate*



Medical Meetings

November 2007 – March 2008

OCTOBER 28 – NOVEMBER 1

American Society for Therapeutic Radiology and Oncology, (ASTRO), 49th Annual Meeting, Los Angeles Convention Center
• www.astro.org

NOVEMBER 1–4

Chilean Congress of Radiology and 11th Congress of the Latin American Society of Pediatric Radiology, Hotel del Mar, Viña del Mar, Chile • www.sochradi.cl

NOVEMBER 10–14

International Atomic Energy Agency, International Conference on Clinical PET and Molecular Medicine, Convention Center, Chulabhorn Research Institute, Bangkok, Thailand • www.iaea.org

NOVEMBER 11–16

European Society for Therapeutic Radiology and Oncology (ESTRO), Evidence-Based Radiation Oncology Methodological Basis & Clinical Application, Titania Hotel, Athens, Greece
• www.estroweb.org

NOVEMBER 25–30

RSNA 2007, 93rd Scientific Assembly and Annual Meeting, McCormick Place, Chicago • RSNA2007.RSNA.org

DECEMBER 1–3

ESTRO/Latin American Association of Radiation Oncology Therapy (ALATRO), Physics for Clinical Radiotherapy, Casa Pueblo Hotel, Punta del Este, Uruguay • www.estroweb.org

DECEMBER 4–7

ALATRO, 1st Congress, Montevideo, Uruguay • www.alatro.org

DECEMBER 7–8

European School of Interventional Radiology (ESIR), Image-guided Radiofrequency Tumor Ablation Course, Future Inn Plymouth, United Kingdom • www.cirse.org

DECEMBER 9–13

ESTRO, Image-Guided Radiotherapy in Clinical Practice, Erasmus Hogeschool, Brussels, Belgium • www.estroweb.org

JANUARY 17–18, 2008

Society of Interventional Radiology (SIR), Renal Cancer and Renal Masses, Westin Tampa Harbour Island, Florida • www.sirweb.org

JANUARY 17–20, 2008

Indian Radiological & Imaging Association (IRIA), 61st Annual Congress, Bangalore International Exhibition Center, Bangalore, Karnataka • www.iriablr2008.com

FEBRUARY 9–10, 2008

Armed Forces Institute of Pathology (AFIP), 23rd Annual Neuro-radiology Course, Hyatt Regency Denver at Colorado Convention Center • www.afip.org/Departments/edu/upcoming.htm

FEBRUARY 16–21, 2008

SPIE, Medical Imaging, Town and Country Resort & Convention Center, San Diego • spie.org

FEBRUARY 17–22, 2008

Society of Gastrointestinal Radiologists and Society of Uroradiology, Annual Meeting and Abdominal Radiology Postgraduate Course, Westin Mission Hills Resort & Spa, Rancho Mirage, Calif. • www.sgr.org

FEBRUARY 18–20, 2008

RSNA Highlights™, Ritz-Carlton/JW Marriott Orlando, Grande Lakes, Florida • RSNA.org/Highlights

FEBRUARY 25–28, 2008

Healthcare Information and Management Systems Society (HIMSS), Annual Conference and Exhibition, Orange County Convention Center, Orlando, Fla. • www.himssconference.org

FEBRUARY 28–29, 2008

American Brachytherapy Society (ABS), Breast Brachytherapy and Brachytherapy Physics School, Scottsdale Plaza Resort, Arizona • www.americanbrachytherapy.org

MARCH 2–5, 2008

Society of Thoracic Radiology (STR), Annual Meeting, Sanibel Harbour Resort & Spa, Fort Myers, Fla. • www.thoracicrad.org

MARCH 7–11, 2008

European Congress of Radiology (ECR), Annual Meeting, Austria Center, Vienna • www.ecr.org

MARCH 12–15, 2008

American Institute of Ultrasound in Medicine (AIUM), Annual Convention, San Diego Marriott Hotel and Marina
• www.aium.org

RSNANews

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