Along with an overall uptick in abstract submissions, RSNA’s science and education committee chairs reported stronger international participation, an increase in technology-driven sessions and a steady focus on keeping “Patients First.” RSNA 2012 attendees can choose from a wide range of education exhibits and scientific sessions, refresher courses, self-assessment modules (SAMs), applied science, integrated science and practice sessions and workshops encompassing every subspecialty.

“RSNA 2012 attendees will see even more high-quality education exhibits,” said Isaac R. Francis, M.D., Education Exhibits Program Committee chair. “Attendees visiting the Lakeside Learning Center can learn at their own pace, network with friends and colleagues and earn CME credit by reviewing specific exhibits and correctly answering Cases of the Day.”

Dr. Francis urged attendees to stop by the Bistro RSNA Table Discussions (see Page 38) and join hot-topic and contemporary conversations led by experts from several radiology disciplines, the American Board of Radiology and Resident Review Committee.

Scientific abstracts submitted for RSNA 2012 reflect a growing interest in functional oncologic imaging, neurodegenerative disease and quantitative imaging in the chest and musculoskeletal systems, said Scientific Program Committee chair Matthew A. Mauro, M.D. “Diffusion imaging is finally making its way into the abdomen, where it has clinical applications, particularly in oncologic imaging,” he added. “All of the hot topic and other special sessions are thought-provoking and will forecast standard of care imaging in the future.”

Continued on next page
CHEST RADIOLOGY

Jane P. Ko, M.D., Scientific Program Chest Subcommittee chair, observed a trend toward abstracts pertaining to lung nodules, radiation dose reduction and thoracic malignancy. Chest abstracts at RSNA 2012 will be presented in separate vertical series courses on pulmonary arterial imaging and lung nodules. “The series course will interweave informative refresher course presentations with scientific abstracts on similar topics,” she said.

Scientific oral and poster presentations will address noninvasive CT characterization of subdiaphragmatic adenocarcinoma, which are challenging to manage and are of increasing clinical interest in light of molecular imaging and changes in classification,” Dr. Ko said. Additionally, abstracts span a range of methods for CT evaluation of ventilation and perfusion of the lung and malignancy.

In terms of education exhibits, “the trend toward correlating with other specialties continues—surgical techniques, staging, correlating CT with clinical scores,” said Sanjeev Bhatia, M.D., Education Exhibits Chest Subcommittee chair. “Radiologists interpret chest radiographs and CTs for non-cardiac indications,” she said. “Finally, we have high-level technical and clinical exhibits focused on enhancing the practice of dedicated cardiac imagers.”

Scientific Program Cardiac Subcommittee Chair Arthur E. Stillman, M.D., Ph.D., noted many abstracts focusing on dose reduction, particularly with iterative reconstruction. Transcatheater valve implantation is a “must see” topic this year and attendees should pay special attention to coronary CT angiography for patients presenting with chest pain in the emergency department, Dr. Stillman said.

GASTROINTESTINAL RADIOLOGY

Most of this year’s submissions focus on new MR contrast agents and MR imaging techniques for diagnosing and staging hepatocellular carcinoma and other liver tumors, said Lisa M. Hu, M.D., Education Exhibits Gastrointestinal Subcommittee chair. “Advances in MR imaging for rectal cancer staging and MR enterography for evaluation of inflammatory bowel disease are also popular topics.”

CT dose reduction was the greatest area of interest for gastrointestinal scientific submissions, said David H. Kim, M.D., Scientific Program Gastrointestinal Subcommittee chair. “In addition to newer iterative reconstruction techniques, researchers are investigating a number of ‘lower tech’ interventions,” he said. “The abstracts paint a widespread, encompassing effort to minimize dose while maintaining the obvious diagnostic benefits to CT.”

Another popular topic is hepatic steatosis and fibrosis, underscoring the growing frequency of non-alcoholic steatohepatitis, Dr. Kim added. “Excellent abstracts were submitted regarding the use of MR and ultrasound, and considerable research into renal MR evaluation of cancer continues,” Dr. Kim noted. “This is an increasingly important area in oncologic management decisions. Also, trial results in CT colonography performance continue to emerge and reinforce the ability of this modality to detect important colorectal polyps.”

GENITOURINARY/RADIODIOLOGY

Genitourinary science submissions increased by 20 percent this year, said Julia R. Fielding, M.D., Scientific Program Genitourinary Subcommittee chair, with interest focused particularly on prostate and diffusion imaging and MR imaging methods that assess renal blood flow and function.

RSNA 2012 will feature a full prostate series highlighting presentations of three prostate scoring systems developed in Europe. “Prostate remains one of the top three fatal cancers in men yet we cannot tell which tumors will progress,” Dr. Fielding said. “This is part of the reason the national health task force no longer recommends prostate-specific antigen tests.”

Diffusion imaging is another popular topic, Dr. Fielding noted. “Diagnosis and staging are critically important roles for diffusion and diffusion imaging is everywhere—for gynecologic tumors, specifically adenomatous and cervical cancers, and, once again, prostate cancer,” she said.

MR imaging of the prostate is starting to dominate education exhibits as well, said Ayelet Otto, M.D., Education Exhibits Genitourinary Subcommittee chair. “For the first time, the total number of prostate exhibits exceeded the number of kidney exhibits,” he said. Along with paying special attention to prostate and kidney neoplasms imaging, Dr. Otto recommends that attendees explore the prostate MR exhibits and those on imaging-guided interventions, as well as exhibits on renal cell carcinoma imaging.

HEALTH SERVICES EDUCATION, RESEARCH, POLICY AND PRACTICE

Education Exhibits Policy and Practice Subcommittee Chair Dean K. Shbata, M.D., noted the “quality improvement” category, reflecting the burgeoning importance of this area for radiologists, both in academic and private practice settings. “Highlights include exhibits on surgical foreign body identification, the role of PACS in medical error, and exhibits on quality improvement methodology to help radiologists establish programs in their own practice,” he said.

Other innovative topics focus on creating a milestone-based curriculum for residents and improving the quality of radiology reports. “As usual, there will be several particularly timely exhibits reflecting the world beyond radiology, including an exhibit on the impact of the Affordable Care Act on radiologists and how to discuss radiation risks with your patients,” Dr. Shbata said. “There will definitely be something for everyone in this year’s Policy and Practice exhibits.”

In the future, interest remains strong in the use of mobile devices for clinical and educational use as well as image sharing across institutional boundaries, said David S. Hirschorn, M.D., Scientific Program Informatics Subcommittee chair.

Ana M. Kelly, M.D., Scientific Program Health Services Policy and Research Subcommittee chair, noted a continuing rise in international submissions and an increased focus on alternative teaching methods such as videoconferencing and open-access materials.

“Topical issues such as the medicolegal aspects of radiology, including standardized reporting, the issuing of a second opinion on outside studies, proper documentation and communication of results remain as popular as ever,” Dr. Kelly said. “With the changes in healthcare reform, many have looked at the resultant trends in advanced imaging modalities with some interesting and unexpected findings. The future of radiology as a specialty and patient-centered imaging—including screening—are popular issues. Teleradiology continues to attract many differing opinions, leading to lively debates,” Dr. Kelly said.

INFORMATION

Interest remains strong in the use of mobile devices for clinical and educational use as well as image sharing across institutional boundaries, said David S. Hirschorn, M.D., Scientific Program Informatics Subcommittee chair.
Virtual Meeting Returning to RSNA 2012

Returning to RSNA 2012 is the Virtual Meeting – a fascinating 2D environment, available via the Internet, offering education opportunities and virtual technical exhibits.

The Virtual Meeting delivers even more content this year, you will have access to live streaming courses, Cases of the Day, complete with expert discussion and new opportunities to earn CME credit up to 78.5 AMA PRA Category 1 Credits.

In addition, “on demand” courses and sessions, scientific presentations, education exhibits, and virtual technical exhibits will be available throughout the week. Learn about new products being displayed in the Exhibitor Product Theater.

You can access the Virtual Meeting from any Internet connection, on your own time during RSNA 2012. It’s available for your Mac or your PC. Content will be available directly in the 2D world. It’s free for RSNA members and registered attendees.

It’s a smart educational investment even if you’re not a member or not attending the physical meeting. Non-member, non-attendee registration is only $350, and gives you the opportunity to experience meeting highlights and earn continuing education credits, no matter where you are.

RSNA has an exciting lineup of courses, presentations and live sessions planned for this year’s Virtual Meeting.

Explore another dimension of RSNA 2012! New this year: If you’re an RSNA member or have already registered for RSNA 2012, you’re automatically registered for the Virtual Meeting. Visit RSNA.org/Virtual_Meeting.aspx to log in with your member/badge number when the Virtual Meeting goes live!

Educational Program Schedule

Saturday, November 24
1:00 pm – 5:00 pm
SPSF81 (CIR) / Emergency Radiology Session of the Interamerican College of Radiology (presented in English and Spanish)

Sunday, November 25
8:30 am – 10:15 am
PS10 Opening Session (President’s Address and Opening Session Panel)
10:45 am – 12:15 pm
SSA11 Breast (Ultrasound: Diagnostic and Screening)
SSA14 Musculoskeletal (Arthritis)
2:00 pm – 3:30 pm
RC101 Hot Topics in Thoracic Imaging
RC104 Sinonasal Imaging: A Practical Approach
4:00 pm – 5:45 pm
PS12 Afternoon Plenary Session (Image Interpretation Session)

Monday, November 26
8:30 am – 10:00 am
RC22 Sarcoïdosis from Head to Toe (In Conjunction with the American Institute for Radiologic Pathology)

Tuesday, November 27
8:30 am – 10:00 am
MSES31 Essentials of Cardiac Imaging

Wednesday, November 28
8:30 am – 10:00 am
MSES41 Essentials of Ultrasound
RC18 Advances in Cross-sectional Oncologic Imaging
10:30 am – 12:00 pm
SSB71 Neuroradiology (SpinE)
MSES42 Essentials of Chest Imaging
1:30 pm – 2:45 pm
PS45 Wednesday Plenary Session (Annual Oration in Radiation Oncology)
1:30 pm – 3:00 pm
MSES53 Essentials of Musculoskeletal Imaging
3:00 pm – 4:00 pm
SSM02 Breast (MRI and Digital Mammography Topics)
3:30 pm – 5:00 pm
MSES54 Essentials of Pediatric Imaging
4:30 pm – 6:00 pm
SPSC43 V/Q Scans versus CT for Pulmonary Embol

Thursday, November 29
8:30 am – 10:00 am
MSES51 Essentials of Nuclear Medicine Minicourse: Current Topics in Medical Physics—Practice Quality Improvement: Basics and Issues for Medical Physicists
10:30 am – 12:00 pm
SSS01 Cardiac (Quantitative Imaging)
MSES52 Essentials of Gastrointestinal Imaging
1:30 pm – 2:45 pm
PS39 Tuesday Plenary Session (Annual Orations in Diagnostic Radiology)
1:30 pm – 3:00 pm
MSES53 Essentials of Neuro Imaging
3:00 pm – 4:00 pm
SSJ16 Musculoskeletal (Shoulder)
3:30 pm – 5:00 pm
MSES54 Essentials of Gastrointestinal Imaging
4:30 pm – 6:00 pm
RC42 How to Avoid Failure: Qualities of a Successful Leader

Friday, November 30
8:30 am – 10:00 am
RC19 Breast US
8:30 am – 12:00 pm
VYAI1 Vascular Imaging Series: MR Angiography: Principles and Technique Optimization
10:30 am – 12:00 pm
SSI03 ESR. Chest (Lung Nodules III)
12:45 pm – 2:15 pm
SPP06 Friday Imaging Symposium: High Level Interpretation of Breast Imaging—Distinguishing Yourself from the Crowd

Exhibitor Product Theater Presentations

Watch exhibitor product presentations by Agfa Healthcare, GNAX Health, Philips Healthcare, Siemens Healthcare and Terarecon. These exhibitors will show you the latest in medical imaging technology with live demonstrations at 10:30 a.m., 12:45 p.m. and 3:00 p.m. on Monday, Tuesday and Wednesday. For a complete schedule of exhibitor presentation topics, dates and times, visit RSNA.org/Attendee.aspx.
Molecular Imaging

"Attendees will see the translational efforts of molecular imaging: cutting-edge technologies developed in basic sciences and their clinical applications, i.e., oncology, neurology, cardiovascular diseases, inflammation, and other medical conditions," said Satoshi Minoshima, M.D., Ph.D., who chairs the Education Exhibits and Scientific Program Molecular Imaging Subcommittees.

Integrated Science and Practice (ISP) sessions on Sunday, Monday and Wednesday will discuss new technologies and the future of molecular imaging, standardization of quantitative molecular imaging, and multi-modal molecular imaging, Dr. Minoshima said. "In collaboration with the RSNA Nuclear Medicine section, a special session on the emerging field of 'theranostics' is planned for Thursday."

Hot topics sessions include molecular imaging of Alzheimer disease and Parkinson disease in collaboration with the Neuroradiology Subcommittee, and an existing PET-MR session, he added.

Musculoskeletal Radiology

This year, RSNA received a high number of submissions on musculoskeletal imaging and complications related to metal-on-metal hip arthroplasties, said Jon A. Jacobsen, M.D., Scientific Program Musculoskeletal Imaging Subcommittee chair.

"While the first topic is certainly not new, the high number of abstracts indicates the continued difficulties in diagnosis," Dr. Jacobsen said. "The second topic is very timely given the more recently recognized complications related to metal-on-metal hip arthroplasties and the importance of diagnostic imaging."

Musculoskeletal Education Exhibits Subcommittee chair Susanna E. Anderson, Ph.D., B.Med., noted trends including a focus on patient interaction and clinically oriented work. "This goes beyond imaging, to diagnosis, treatment and post-treatment clinical regimes with clinical guidance," Dr. Anderson said. "There is strong input for imaging and treating tendon pathologies around joints in both elite sports and aging groups."

"Use of 'advanced in tumor imaging, such as diffusion-weighted imaging, and an increased activity in muscle metabolomics and molecular biomarkers at the clinical translation level with diffusion-tensor imaging and proton MR spectroscopy are popular topics," said Atsushi Kato, M.D., Ph.D., who presents injury and trauma-related abstracts, she noted an increase in a new subcategory of bone marrow-related abstracts.

Neuroradiology/Head and Neck

This section includes morphologic and functional imaging for normal anatomy, pathophysiology and various diseases, said Education Exhibits Neuroradiology Subcommittee chair Susan J. Trerotola, M.D., M.S.E.E. "As more clinical experience is acquired in the brain, head and neck spine, more researchers are applying advanced imaging or techniques for clinical applications and more detailed discussion of the pros and cons of each technique for various diseases," he said.

With the improvement of anatomic and functional imaging, more presentations explore the smaller structures such as the hypothalamus and limbic system, Dr. Kato added. "Additionally, there are several sessions related to cerebrospinal fluid (CSF) dysfunctions, including CSF pathophysiology and flow interpretation and management of diseases such as CSF hypertension and hypertensin."

"There is special focus on aging patients with dementia and techniques including MR, FDG-PET and Pittsburgh compound B (FDG-PET)," Dr. Kato said. "The inclusion of the head and neck abstracts covering a broad spectrum this year is cancer diagnosis and staging for parotid, thyroid and rare tumors."

There is an substantial number of presentations on topics including benign tumors, infection, trauma, congenital malformations including vascular malformations, temporal bone disease processes, skull base and cranial nerve anatomy and disease processes and new methods of disease detection," Dr. Kato said.

Physicians and diagnostic radiologists to get education on radiation dose reduction trends observed this year is the use of integrated simultaneous acquisition techniques, reconstruction for PET quantification and shorter MR acquisition times," he said.

Theranostic techniques, or the use of the same or similar molecular imaging agent for both diagnosis and therapy—for example, Gallium 68 PET imaging of somatostatin receptors and therapy using beta emitters or alpha emitters with somatostatin receptor antagonists—is another exciting topic, Dr. Macapinlac said.

Obstetric/Gynecologic Imaging

Trends include more emphasis on MR in fetal imaging and ovarian and uterine cervical carcinoma diagnosis and cutting-edge diffusion and perfusion imaging techniques that are on their way to becoming clinically valid tools, said Robert D. Harris, M.D., M.P.H., Education Exhibits Obstetric/Gynecologic Imaging Subcommittee chair. "Fetal 3D imaging and the finding that second trimester MR is to be a big topic, too," said Dr. Harris, adding that the number of international presenters is also increasing.

Pediatric Radiology

"Pediatric education exhibits have something for everyone covering a broad spectrum of topics from the standard pictorial essay pathology-focused exhibit to newer teaching methods, CT radiation safety and the technical side of imaging and imaging optimization," Education Exhibits Pediatric Subcommittee Chair Craig E. Barnes, M.D., noted.

Hot topics include markers of adult disease found in children and imaging of brown fat, said Marvin D. Nelson Jr., M.D., Scientific Program Pediatric Imaging Subcommittee chair.

"There is a strong focus on practicing in vascular imaging and less toward interventional oncology than expected, said David C. Madoff, M.D., Education Exhibit Vascular/Interventional Subcommittees chair. "There were many submissions on technological advances as they relate to interventional radiology and numerous submissions on novel approaches to general embolotherapy, hepatobiliary diseases, oncology and venous disease," Dr. Madoff said.

RSNA 2012's scientific and educational program has "something for everyone," with a record-high number of diverse offerings, Dr. Mauro said. He encouraged attendees to pay special attention to novel trends and hot topics. "These special sessions prove to be thought-provoking and will broadcast the standard of care for imaging in the future."
Since January 2009, Dr. Pomahac Burn director at the BWH Burn Center, performed the first successful bilateral upper extremity transplant, says Bohdan Pomahac, M.D. Moreover, facial transplantations performed at transplant recipients, developed during four dates and post-operative imaging of face processing algorithms for the pre-operative arterial and venous studies must be satisfactory results. Dr. Pomahac led the surgical team in performing the first two full face transplants and first combined face and bilateral hand transplant procedure in the U.S. and the first successful bilateral upper extremity transplantation in the Northeast. 

**The Doctor As Patient, The Patient As Advocate**

The National Lung Cancer Screening Trial was terminated in fall 2010 when the trial's Data and Safety Monitoring Board notified the National Cancer Institute that accumulate data provided a statistically convincing answer to the study's primary question and those in the control arm must be advised. Subsequent analyses of national and international studies indicate a mortality reduction of 20 percent or more can be achieved with a protocol encompassing screening and a continuum of care in a multidisciplinary setting—an approach in which the radiologist is the linchpin. The advent of lung cancer screening presents challenges—remodeling the system of care, incorporating collection of outcome data to continuously refine the protocol, among others—but also an opportunity to redefine radiology's role in healthcare. This presentation comes from the viewpoint of Sheila Ross and Karen E. Aescott, D.O., M.S., both lung cancer survivors and advocates with the Lung Cancer Alliance. 

Twelve years into a 20-year career as a staffer with the U.S. Congress, Ross was diagnosed with Stage II lung cancer. She returned to work within weeks but her annual chest X-ray failed to pick-up the tumor growing behind her sternum. A night pneumonectomy and some creative work on the left bronchi by her thoracic surgeon and her radiologist saved her life, says Ross, now a 12-year survivor. Dr. Aescott is a Clinical Associate Professor in Clinical Sciences at Commonwealth Medical College in Scranton, Pa., and was formerly director of the Physician Assistant Program at Marywood University in Scranton. Dr. Aescott underwent surgery after being diagnosed with stage IIA lung cancer in 2006, 16 months later, she received chemotherapy, radiation and underwent more surgery for stage IIB lung cancer. The Lung Cancer Alliance aims to change public health policies by engaging with organizations in support of biomedical and imaging research and working on Capitol Hill to promote the role of imaging in improving health outcomes. The Alliance asserts that recent scientific validation of the benefits of CT screening is the turning point for lung cancer and an opportunity for radiologists to change patient treatment and diagnosis.

**EUGENE P. PENDERGRASS NEW HORIZONS LECTURES**

Monday, November 26 • 1:30 p.m.

The Future of Imaging Informatics: Meaningful Use and Beyond

Evolution of the Internet, creation of high-definition mobile devices and recent enaction of federal healthcare IT programs such as Meaningful Use are changing radiology practice and fueling a revolution of new opportunities and challenges, says Keith J. Dreyer, D.O., Ph.D. Further, the advancement of computational algorithms is providing new pathways for innovation, including nationally standardized clinical decision support for ordering physicians and interpreting radiologists, natural language processing for real-time information access, clinical data mining, simulated training, and competency/validation testing, and cloud computing for speech recognition and image sharing across enterprise boundar-ies with secure access to remote providers and patients. Dr. Dreyer will explore current and future use of innovative informa-tion technologies, the impact on radiology practice and the federal policies and regulations in the way that promote and oversee their use. Dr. Dreyer is vice-chair of radiology at Massachusetts General Hospital and associate professor of radiology at Harvard Medical School. His long history as an RSNA volunteer includes current service as a member of the Radiology Informatics Committee. Dr. Dreyer also holds numerous positions with the American College of Radiology, Society for Imaging Informatics in Medicine and global healthcare corpora-tions. Dr. Dreyer has authored hundreds of scientific papers, presentations and books and has lectured worldwide on digital imaging standards, image sharing, clinical decision support, meaningful use and electronic health record initiatives.

Meaningful IT Innovation to Support the Radiology Value Proposition

Radiology practices have undoubtedly benefited from the adoption of electronic-based information technology. However, electronic tools such as PACS, RIS, and speech recognition are still relatively immature and arguably support only “commodity-level” capability. These technologies can and have been exploited to commoditize and “outsourcing” radiology services. Paul J. Chang, M.D., says that unless radiologists are willing to dramati-cally re-arrange their attitudes and practices, they will not only fail to effectively use these electronic tools, but will also facilitate the perceived devaluation of radiology and participate in its marginalization. Radiolo-gists, he says, must be “value innovators” who leverage information technology to ensure their relevance and value to patient care through measurable improvements in quality, efficiency and safety.

Professor and vice-chair of radiology informatics and medical director of pathology informatics at the University of Chicago School of Medicine, Dr. Chang is also medical director of Enterprise Imaging and the informatics architect for the Service Oriented Architecture initiative at the University of Chicago Hospitals. Dr. Chang founded the Division of Radiology Informatics at the University of Pittsburgh Medical Center and is active in numerous research and development projects related to imaging informatics and enterprise-wide informatics integration issues. A longtime RSNA volunteer, Dr. Chang is a member of the Public Information Advisors Network, served on the Radiology Informatics Committee from 1995 to 2008 and is an informatics consultant for myRSNA.

**ANNUAL ORATIONS IN DIAGNOSTIC RADIOLOGY**

Tuesday, November 27 • 1:30 p.m.

The Story Behind the Image

Using today’s imaging technologies, radiologists can visualize aspects of human form and function that would have astounded Roentgen and Curie. Imaging equipment serves as a kind of crystal ball, enabling the resolution of diagnostic uncertainty and increasing the quality of patient care. Richard B. Gunderman, M.D., Ph.D., says radiologists play an almost parochial role within contemporary medicine, bridging the gap between the invisible and the visible, the unknown and the known. Yet to achieve their full potential, Dr. Gunderman says, radiologists must attend to the invisible aspects of their craft—the unseen but vital features of patients not revealed by images. Without images, we are blind. He says, but with images alone, we cannot see as deeply or comprehensively as needed.

Dr. Gunderman is a professor and vice-chair of radiology at Indiana University (IU), where he also is a professor of pediatrics, medical education, philosophy, liberal arts, and philanthropy. Dr. Gunderman is a fellow of the Tobin Center for Leadership Excellence and chairs the faculty steering committee of the IU School of Medicine. Dr. Gunderman was named RSNA Outstanding Educator in 2008 and chairs the Education Study Section of the Research & Education Foundation Grant Program Committee. He has authored more than 280 scholarly articles and published seven books including Achieving Excellence in Medical Education. We Make a Life by What We Give and Leadership in Healthcare.

To Disclose or Not to Disclose Radiologic Errors—Should “Patient First” Supersede Radiologist Self-Interest?

Whether to disclose every radiologic error to patients presents a dilemma for many radiologists. Reluctance or refusal to disclose, says Leonard Berin, M.D., is driven by fear—of being considered incompetent, of reduced or revoked privileges, of malpractice suits. However, medical organizations’ codes of ethics mandate that physicians deal honestly with patients.
inform them of mistakes and offer “professional and compassionate concern” toward those who have harmed, regardless of whether the harm was caused by physician error. Surveys of physicians in all specialties show that a majority believe all errors “should be disclosed to patients, but only a minority add this advice to patients.” All too often, says Dr. Berlin, are ethics and morally obligated to place the needs of their patients first.

Dr. Berlin is a radiologist with Skokie Hospital, formerly Northwestern Memorial Center, where he chaired the Department of Radiology for 31 years, and a professor of radiology at Rush Medical College and the University of Illinois College of Medicine. Author of Major Practice Issues in Radiology, Dr. Berlin has lectured nationally and internationally on radiologic malpractice and risk management. Dr. Berlin’s service to RSNA includes chairmanship of the Professional Committee to chairmanship of the RSNA-American College of Radiology Task Force to Develop a Core Curriculum on Professionalism for Radiation Residents and as a member of the Public Information Advisors Network. Dr. Berlin has served as president of the Chicago and Illinois radiological societies.

ANNUAL ORATION IN RADIATION ONCOLOGY Wednesday, November 28 • 1:30 p.m.
Radiation Oncology and Radiation—Should We Feel Lucky Then? In the early 20th century, diagnosis and therapy were two sides of the radiology coin. By mid-century, however, radiation oncologists had forged a unique identity, reflecting increased understanding of radiation as a therapy and specialization of some practitioners. Radiation oncology residents’ programs were created and journals and clinical practice styles developed. Now, says Anthony L. Zietman, M.D., both specialties are changing again—while the burgeoning field of medical oncology has taken some patient care responsibility away from radiation oncologists and allowed them more time for increasingly complex treatment techniques, diagnostic radiology has developed its own therapeutic branch, interventional radiology. A reorientation has begun as interventional radiologists develop consultation clinics and radiation oncologists move toward radiologic ablation. Dr. Zietman will discuss the overlap and contemplate novel treatment tracks combining the specialties.

Dr. Zietman is the Janet W. and William U. Shively Professor of Radiation Oncology at Harvard Medical School. He has authored more than 100 original articles and reviews on gaitentered oncology, with particular research interests in the roles of active surveillance, brachytherapy, hormonel therapies and proton beam therapy in prostate cancer treatment. He also has a long-standing interest in the organ-sparing management of bladder cancer. Dr. Zietman serves as editor-in-chief of the International Journal of Radiation Oncology, Biology, Physics, is a trustee of the American Board of Radiology and formerly served as president and chair of the American Society for Radiation Oncology.

RSNA/APR Symposium: Imaging Speed Demons Thursday, November 29 • 1:30 p.m.
Breaking Angiographic Speed Limits: Accelerated 4D MRA and 4D USA Using Undersampled Acquisition and Constrained Reconstruction Accelerated angiographic methods in MRA, using novel non-Cartesian k-space sampling schemes combined with constrained reconstruction, have led to acceleration factors up to 1000 relative to Nyquist requirements. Related approaches have permitted the extension of X-ray data to full 4D modality, providing 3D vascular volumes 200 times faster than conventional rotational DSA. Fast 4D angiographic techniques, according to Charles A. Mistretta, Ph.D., are useful for evaluation of dynamic phenomena such as arteriovenous malformations—in-the X-ray case, the availability of all views at all times eliminates the need for the X-ray exposures and contrast dose associated with repeat injections. Undersampled acquisition and constrained reconstruction, Dr. Mistretta says, will play a major role in a wide variety of medical imaging applications leading to improved diagnosis, greater interventional flexibility and dose reduction.

Dr. Mistretta is the director of the International Center for Accelerated Medical Imaging at the University of Wisconsin, where he also serves as John R. Cameron Professor of Medical Physics and vice-chairman of the Department of Medical Physics. In 2010 RSNA named Dr. Mistretta “Outstanding Researcher in recognition of his decades of research into DSA—his team’s DSA technique has been distributed worldwide and is still the gold standard against which the image quality of new angiographic techniques is measured.

Ultrasound Goes Supersonic: Very-High-Speed Plane Wave Transmission Imaging for New Morphological and Functional Imaging Modes Advances in ultra-high-speed ultrasound imaging employ the concept of plane wave transmissions rather than line-by-line scanning beams. The frame rate reaches the theoretical limit of physics dictated by the ultrasound speed and an ultrasonic map can typically be provided in tens of micro-seconds. This leap in frame rate, says Michel Tanter, Ph.D., makes it possible to track in real time the transient vibration regimes such as shear waves—propgating through organs. Such “human body seismology” provides quantitative maps of local tissue stiffness, of which the added diagnostic value has been recently demonstrated. For blood flow imaging, ultrafast Doppler permits high-precision characterization of complex vascular and cardiac flows and enables detection of subtle blood flow in very small vessels. In the brain, such ultrafast Doppler paves the way for full-scale functional ultrasound), offering unprecedented spatial and temporal resolution compared to MRI.

Dr. Tanter is a research professor at the French National Institute for Health and Medical Research and holds the Physics Methods for Biomedical Imaging and Therapy unit at Institut Langevin in Paris. He is a co-founder of SuperSonic Imagine, a French medical imaging and therapy company, and a member of the technical board of the IEEE Ultrasounds, Ferroelec- trics and Frequency Society. Dr. Tanter contributes to the Journal of the Acoustical Society of America, Wave Motion, IEEE Transactions on Ultrasounds, Ultrasound in Medicine and Biology, Physical Review Letters and Applied Physics Letters.

Saturday Courses
RADIOLOGIA DE URGENCIAS: SESION DEL COLEGIO INTERAMERICANO DE RADIOLOGIA (CIR)—AN EMERGING ADVANCED IMAGING TECHNOLOGY The Physics Tutorial for Residents looks at the physics of tomosynthesis, as well as reconstruction methods and quality control considerations. Immediately following is the Tutorial on Equipment Selection, which will explain commercially available systems, clinical features and challenges and building a business case for tomosynthesis.

WORK-LIFE BALANCE: SURVIVAL STRATEGIES FOR THE BUSY RADIOLOGIST This highly interactive workshop engages physicians at all career stages and emphasizes both didactic and experiential learning.

GRANTMASTERS WORKSHOPS Two workshops examine the National Institutes of Health (NIH) grant application process from different perspectives. The “NH Grantmanship Workshop” helps applicants understand the process for preparing a competitive research or training grant application. “RSNARR/ ARK Study Section Reviewers Workshop—What It Takes to Be an Expert Reviewer for the NIH” The Peer Review Process Demythified prepares reviewers with an overview of grant mechanisms and evaluation criteria. Both sessions give attendees the opportunity to learn from a mock study session.

Special Courses
SPECIAL INTEREST, HOT TOPIC, CONTROVERSIES/GAME SESSIONS Discover radiology’s late-breaking or controversial or offered in a game format (Controversies/Game), or programs the RSNA Board deems of particular importance (Special Interest). High levels of audience interest and opinion are expected.

Sunday
7:15–8:15 a.m.
Controversy Session: Preoperative Imaging: Do the Numbers Really Mean?

8:30–10:15 a.m.
Controversy Session: How Should We Manage Radiation Dose in Medical Imaging: What Do the Numbers Really Mean?

12:45–3:15 p.m.
Friday Imaging Symposium

Workshop to be announced.

Monday
7:15–8:15 a.m.
Controversy Session: Stereotactic Radia-

8:30–10:15 a.m.
Controversy Session: How Should We Deal with Outside Images?

9:45–11:00 a.m.
Hot Topic Session: Current Controversies

9:45–11:00 a.m.
Hand-held Ultrasound: Is It a Threat to Radiology?

9:45–11:00 a.m.
Relaxity Contrast Agents: Understanding the Advantages and Limitations

9:45–11:00 a.m.
V/Q Scans versus CT for Pulmonary Emboli

9:45–11:00 a.m.
Imaging of the Acute Abdomen in Practice

9:45–11:00 a.m.
Controversies (An Interactive Session)

9:45–11:00 a.m.
Screening for Diseases (Breast, Lung, etc.). Current Controversies

Tuesday
7:15–8:15 a.m.
Controversy Session: Strictures for the Busy Radiologist

7:15–8:15 a.m.
Controversy Session: What is What in the Future

7:15–8:15 a.m.
Controversy Session: What Is Relevant to the Future

7:15–8:15 a.m.
Controversy Session: The Radiologist as Gatekeeper: Should We Take a More Active Role?

7:15–8:15 a.m.
Hot Topic Session: Whole Body Diffusion MRI for Malignancy

7:15–8:15 a.m.
Hand-held Ultrasound: Is it a Threat to Radiology?

7:15–8:15 a.m.
High Relaxity MR Contrast Agents: Understanding the Advantages and Limitations

7:15–8:15 a.m.
V/Q Scans versus CT for Pulmonary Emboli

8:30–10:00 a.m.
Controversial or offered in a game format (Controversies/Game), or programs the RSNA Board deems of particular importance (Special Interest). High levels of audience interest and opinion are expected.

12:45–3:15 p.m.
Friday Imaging Symposium

Workshop to be announced.

Sunday
7:15–8:15 a.m.
Controversy Session: Preoperative Imaging: Do the Numbers Really Mean?

8:30–10:15 a.m.
Controversy Session: How Should We Deal with Outside Images?

9:45–11:00 a.m.
Hot Topic Session: Current Controversies

9:45–11:00 a.m.
Hand-held Ultrasound: Is It a Threat to Radiology?

9:45–11:00 a.m.
Relaxity Contrast Agents: Understanding the Advantages and Limitations

9:45–11:00 a.m.
V/Q Scans versus CT for Pulmonary Emboli

9:45–11:00 a.m.
Imaging of the Acute Abdomen in Practice

9:45–11:00 a.m.
Controversies (An Interactive Session)

9:45–11:00 a.m.
Screening for Diseases (Breast, Lung, etc.). Current Controversies

Tuesday
7:15–8:15 a.m.
Controversy Session: Strictures for the Busy Radiologist

7:15–8:15 a.m.
Controversy Session: What is What in the Future

7:15–8:15 a.m.
Controversy Session: The Radiologist as Gatekeeper: Should We Take a More Active Role?

7:15–8:15 a.m.
Hot Topic Session: Whole Body Diffusion MRI for Malignancy

7:15–8:15 a.m.
Hand-held Ultrasound: Is it a Threat to Radiology?

7:15–8:15 a.m.
High Relaxity MR Contrast Agents: Understanding the Advantages and Limitations

7:15–8:15 a.m.
V/Q Scans versus CT for Pulmonary Emboli

8:30–10:00 a.m.
Controversial or offered in a game format (Controversies/Game), or programs the RSNA Board deems of particular importance (Special Interest). High levels of audience interest and opinion are expected.

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Healthcare coverage to its nearly 200 million people, the Kingdom as the world’s sixth largest economy in 2012. And while it still must improve in several areas, including corruption and overall public service delivery, it has a track record of economic growth, with its state-of-the-art technology, research, quality of care and continued demand for radiologists and sonographers.

To be covered in the session:
- Parameters and Trade-offs in MRI (1.5 and 3.0 T)
- Congenital Posterior Fossa Malformations — New Concepts
- The Role of Advanced MRI Techniques in Demyelinating Diseases
- MRI of Hypervascular Lesions in the Cirrhotic Liver: A Diagnostic Dilemma
- Advances in Fetal 3D MRI

RSNA 2012 offers more than 300 refresher courses covering traditional and cutting-edge topics. Refresher courses are scheduled for time blocks ranging from several hours to several days, to allow flexibility to participants.

INTERACTIVE GAME COURSES

Attendees of select refresher courses will be able to interact with the course material via their personal digital devices. See listings for RC114, RC215, RC303, RC405, RC412, RC607, RC609, RC701, RC704 and RC829.

QUALITY CERTIFICATES OF COMPLETION

RSNA will award Quality Essentials Certificates of Completion to RSNA 2012 attendees who successfully participate in Session II and/or Session III of the Quality Improvement Symposium, MSQ212, MSQ303 on Tuesday, 10:30 a.m. to 12:00 p.m. or 1:30-3:00 p.m. Participants who achieve a score of 80 percent or higher on the SAM test questions will be eligible to receive the certificates.

Lakeside Learning Center

The Lakeside Learning Center is home to education exhibits and scientific informal (posters) presentations, grouped according to subspecialties. Many authors of posters and education exhibits are scheduled to give lunchtime presentations of their work, see the RSNA Meeting Program in Brief for days and times. New this year, select backboard panel education exhibits in each subspecialty will contain QR codes that, when scanned with a smartphone, will take users to an electronic version of the poster and supplemental materials. Copies of the panels will be located in the “Enhanced Education Exhibits” area near the entrance to the Lakeside Learning Center and copies from each subspecialty will be located in the individual subspecialty communities.

RSNA BISTRO TABLE DISCUSSIONS

Special tables at the Lakeside Learning Center RSNA Bistro are reserved for attendees to participate in discussions with representatives of various subspecialties. Topic facilitators are present at Bistro tables Monday through Wednesday, 12:15-1:15 p.m.

Radiology Informatics

IMAGE SHARING DEMONSTRATION

Visit the INE™ Image Sharing Demonstration in the Lakeside Building, Hall D, Booth 1628, to see how medical images and reports can be shared through personal health record (PHR) accounts using standards defined by the Healthcare Information Technology. These same methods are in clinical use in the RSNA Image Share pilot project, funded by the National Institute of Biomedical Imaging and Bioengineering (NIBIB). The demonstration also includes standards-based methods for dose reporting, ordering and scheduling of radiology procedures using the RSNA RadLex™ Playbook, reporting, using structured templates developed by the RSNA Reporting Committee and authoring teaching files using the RSNA MIRC™ Teaching File Software.

RSNA INFORMATICS OVERVIEW

"Decoding the Alphabet Soup (HIE, MIRC, RadLex, Reporting): Whirlwind Tour of RSNA Informatics Projects" is designed for those who want to learn more about, or who are just beginning to use, RSNA informatics products. Presenters will discuss these RSNA-sponsored projects: Integrating the Healthcare Enterprise (IHE), The Medical Imaging Resource Center (MIRC), RadLex comprehensive lexicon, and reporting.

RSNA Education

EARN SAM, CME CREDITS

Forty-in-person, self-assessment module (SAM) courses will be offered at RSNA 2012, allowing participants to obtain both continuing medical education (CME) and SAM credit for each course attended. With the help of SAM faculty, this year’s courses have been designed to cover a wide range of subspecialties.

All SAM courses are qualified by the American Board of Radiology (ABR) in meeting self-assessment criteria toward fulfilling ABR Maintenance of Certification Program requirements. Participants earn 1.5 SAM credits per course attended. In addition, each course has been approved for AOA PPA Category 1 Credit.

RSNA annual meeting in-person SAMs are accredited by the Royal College of Physicians and Surgeons of Canada and approved by the Canadian Association of Radiologists.

Guarantees spots in SAM courses by pre-registering at RSNA.org/Registration_ and_Housing.aspx by November 21. Attendees interested in sold-out SAM courses can go directly to the SAM course room and attendees will be seated on a first-come, first-served basis.

Continued on next page
PATIENTS FIRST

In keeping with the “Patients First” theme of the annual meeting, RSNA will offer a spectrum of programming focusing on patient-centered care, including these refresher courses:

- Vignette-based Disclosure of Medical Error in Radiology (RC216)
- What the Referring Physician Needs to Know (RC316)
- Patient-centered Radiology: It’s Good Business (RC416)

Also being presented at RSNA 2012 is the workshop, Program to Enhance Relational and Communication Skills (PERCS) for Radiologists. The workshop is made possible through a GE Healthcare/RSNA Research & Education (R&E) Foundation Education Scholar Grant.

Attendees should also stay alert for information on the launch of Radiology Cares, RSNA’s new patient-centered radiology campaign to encourage and facilitate radiologists’ meaningful engagement in the patient experience.

Associated Sciences

Associated sciences offerings are tailored to the various disciplines that function within the radiology department.

ACADEMY OF RADIOLOGY LEADERSHIP AND MANAGEMENT

More than three dozen courses at RSNA 2012 count toward the Certificate of Achievement offered by the new Academy of Radiology Leadership and Management (ARLM). RSNA collaborates with the Association of Administrators in Academic Radiology Departments, American Roentgen Ray Society, Association of University Radiologists, and the Society of Chairs of Academic Radiology Departments in the ARLM.

Medical imaging professionals can earn an ARLM certificate by participating in 50 hours of education—including at least 30 in person—across a spectrum of domains including financial, human resources, professionalism, and academic mission.

Learn more about eligible courses by picking up an ARLM subspecialty brochure at McCormick Place and looking for the ARLM in the RSNA Meeting Program. RSNA Store staff can answer questions regarding ARLM achievements or courses.

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RSNA STORE FEATURES CD REFRESHER COURSES, NEW COLLECTIONS, DEMONSTRATIONS

Visit the RSNA Store to experience all the educational products and services that RSNA has to offer and talk to RSNA staff about maintenance of certification, online education and more.

This year, the RSNA Education Center offers 20 new refresher courses for purchase on CD at the RSNA Store, including “Gastrointestinal: Liver,” “Great Cases in Abdominal US” and “Brain Imaging Work-up for Dementia.” Most courses focus on specific imaging challenges and cover a broad range of subspecialty topic areas. Individual CDs are $55 for members and $80 for non-members.

The RSNA Store also features two new CD collections: the Pediatric Gastrointestinal Collection and the Abdominal Collection. Each collection contains a set of refresher course CDs pertaining to a particular subspecialty. The Pediatric Gastrointestinal collection offers 2.75 AMA PRA Category 1 Credits™, while the Abdominal Collection features three CDs offering 4.50 AMA PRA Category 1 Credits™. Collections offer the opportunity to earn multiple CME credits and are priced at a 25 percent discount as compared to individual CD purchases.

CD collections from previous annual meetings will also be available for purchase at the RSNA Store. Collections are priced based on the number of CDs per collection but generally range from $80-$175 per collection.

RadioGraphics special editions from 2008-2012 will be available for browsing and purchase. New this year, the RSNA Store will also feature the print version of Radiology Select Volume I: Pulmonary Nodules and Volume II: Stroke.

RADiologist ASSiStANtS SYmpoSium

Four refresher courses on Sunday designed to meet the educational needs of the radiologist assistant (RA) as defined by ARRT®.

ASSoCiAteD SCieNCeS SYmpoSium

This set of 10 refresher courses over 2½ days begins Monday morning with “Are You Ready: The Business Case for Cultural Competence.”

ASRT @ RSNA 2012

This 10-session course, held Wednesday and Thursday, offers continuing education credits for radiologic technologists. ASRT @ RSNA 2012, offered in collaboration with the American Society of Radiologic Technologists, will feature discussions of such wide-ranging topics as digital radiography image process and challenges in imaging the obese patient.

Associated Sciences

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