Plan Your RSNA 2016 Itinerary

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QIBA® Expands at RSNA 2016 and Internationally
The Evolving Role of RAs, RTs in Patient Care
Exploring Chicago on a Budget

Plan Your RSNA 2016 Itinerary
Strategic Radiology Donates $800,000 for RSNA R&E Research Seed Grants

Strategic Radiology (SR), a consortium of 26 practice groups from around the nation representing more than 1,400 radiologists, has committed $800,000 to fund 26 Strategic Radiology Research Seed Grants through the RSNA Research & Education (R&E) Foundation. SR is the second Visionaries in Practice donor to fund a named grant award via the Foundation’s “Funding the Future.”

SR’s commitment will be funded by annual donations from its practice group members. The award is due in large part to the efforts of Gregory C. Karnaze, MD, who brought the idea of the named grant award to SR practice groups and the board of governors.

Dr. Karnaze is treasurer for the Foundation’s Board of Trustees and also president of Austin Radiological Association (ARA), a member group of SR.

“The creation of a Strategic Radiology Research Seed Grant is another step in investing directly in the future of our profession and we couldn’t be happier to be associated with RSNA and the R&E Foundation,” said SR chairman Adi Van Moor, MD. “They share our commitment to innovation, to what is best for our patients and to being a positive example in our profession. We are proud of our partnership and look forward to future collaborations.”

Formed in 2009, Strategic Radiology was established when like-minded practice groups realized they shared many of the same visions, values and goals. SR member groups use a common data sharing and analytics platform to share radiology best practices. By demonstrating the technical capabilities to move imaging studies among members, SR is in the process of creating a reading network. SR has also centralized purchasing of certain supplies, medical malpractice insurance and equipment maintenance contracting. For more information on the R&E Foundation, go to RSNA.org/Foundation.

Annual International Day of Radiology

Breast imaging and the essential role that radiologists play in the detection, diagnosis and management of diseases of the breast is the focus of this year’s International Day of Radiology (IDoR) set for Nov. 8.

IDoR is sponsored by RSNA, the European Society of Radiology (ESR) and the American College of Radiology (ACR), with a Radiology (IDoR) set for Nov. 8.

Writing a Competitive Grant Proposal Workshop

March 10 – 11, 2017
RSNA Headquarters
Oak Brook, IL

Registration is open for the Writing a Competitive Grant Proposal workshop, designed for researchers in radiation oncology, nuclear medicine and related sciences who are interested in actively pursuing funding from the federal government, societies or foundations. The course fee is $225. Register online at RSNA.org/CGP. Contact Fiona Miller at afbr@rsna.org or 1-630-590-7741 for more information.

Numbers in the News

101
Number of projects funded by the RSNA R&E Foundation which provided more than $4 million for grant funding in 2016 - a record level for the Foundation. Read about R&E funded grant projects in 2016 starting on Page 41.

550
Approximate number of print, broadcast and online media stories tracked in the first 24 hours of the August release of a special Radiology report on the Zika virus. Read more on Page 51.

3,298
Number of trees saved during RSNA 2015. Read more about recycling projects for RSNA 2016 and how you can help on Page 16.

RSNA News to be Delivered Digitally to Residents & Fellows in 2017

In response to the general reading and mailing preferences of RSNA members-in-training, beginning in January 2017 RSNA News will be distributed to training members digitally via the monthly RSNA Insider email and can be accessed anytime from RSNA News Digital First postings and RSNA.org/News.

This change also supports the Society’s ongoing efforts to be environmentally conscientious. Training members who want to receive the print version of RSNA News can “opt in” at any time to continue or begin receiving the monthly magazine in their postal mail.

To opt in to the print magazine, call 1-630-571-7873 or 877-776-2636 (toll free in the U.S.) or email membership@rsna.org and supply your eight-digit membership number from the mailing label on this issue of RSNA News.

Have You Renewed Your RSNA Membership?

RSNA Membership renewal for 2017 is currently underway. Renew online, at RSNA.org/Renew or by mail with the invoice sent in early October.

Renewing members also have the option of signing up for automatic membership renewal, which guarantees that membership benefits don’t lapse. For questions about automatic membership renewal, please contact membership@rsna.org.

2017 R&E Grant Application Process Opens This Month

Individuals interested in obtaining RSNA Research & Education (R&E) Foundation grants for 2017 can begin submitting their applications in October. For more information, go to RSNA.org/Foundation or contact Scott A. Walters, MS, Assistant Director, Grant Administration, at 1-630-571-7816 or swalter@rsna.org.

Education Grants
Deadline: Jan. 10
• Education Scholar Grant
• RSNA/AUR/APDR/SCARD Radiology Education Research Development Grant

Research Medical Student Grant
Deadline: Feb. 1

Learn about the 2016 R&E Foundation grant recipients and their projects starting on Page 41.

RSNA President-Elect Ehman Receives AOSR Gold Medal

Richard I. Ehman, MD, RSNA president-elect was awarded the Asian Oceanian Society of Radiology (AOSR) gold medal during the recent Asian Oceanian Congress of Radiology (AOCR) in Beijing, China.

Gold medals were also awarded to Bernd-Heinz Dieter Hamm, MD, and Byung Il Choi, MD, PHD.

Dr. Choi received RSNA honorary membership in 2007. He served on the RSNA Assembly Faculty and is a former chair of the RSNA International Advisory Committee.

Dr. Ehman received the RSNA Outstanding Researcher Award in 2016. Other RSNA involvement includes serving on the Radiology Editorial Board and the RSNA Research & Education (R&E) Foundation Board of Trustees. He was elected to the RSNA Board of Directors in 2010 and served as Board chair in 2013. Dr. Hamm is first vice president of the European Society of Radiology and chair of the Department of Radiology at Charité Humboldt Universität in Berlin.
OPENING SESSION LECTURES

Sunday, Nov. 27, 8:30 a.m. — Arie Crown Theater

Digital Revolution in Radiology — the Good and the Bad

In this two-part Opening Session lecture, Keith J. Dreyer, DO, PhD, and Robert M. Wachter, MD, will each address topics related to the digital revolution underway in radiology. Dr. Dreyer’s presentation, “When Machines Think: Radiology’s Next Frontier,” will explore the state of clinical data science in medical imaging and its potential to improve the quality and relevance of radiology as well as the lives of patients.

Dr. Dreyer is vice chair of radiology and director of the Center for Clinical Data Science at Massachusetts General Hospital and associate professor of radiology at the Harvard Medical School.

An internationally renowned informatics expert, Dr. Dreyer served as a member of the RSNA Radiology Informatics Committee and the RadiLex® Steering Committee and chaired the RSNA Scientific Program Committee’s Radiology Informatics Subcommittee. Dr. Dreyer presented the New Horizons Lecture at RSNA 2012, and has served as a faculty member at many RSNA annual meetings. He served on the Radiographics Editorial Board and as associate editor on the Radiology Editorial Board.

Dr. Dreyer has authored hundreds of scientific papers, presentations, chapters, articles and books. He has lectured worldwide on clinical data science, cognitive computing, clinical decision support, clinical language understanding, digital imaging standards and implications of technology on the quality of healthcare and payment reform initiatives.

ANNUAL ORATION IN DIAGNOSTIC RADIOLOGY

Monday, Nov. 28, 1:30 p.m. — Arie Crown Theater

Healthcare Transformation: Driving Value through Imaging

In the evolution from fee-for-service healthcare to value-driven population health, healthcare systems must learn to embrace patient-centered, value-focused practices, and the leaders of these systems must be committed to building these cultures, says Vivian S. Lee, MD, PhD, MBA.

As a centralized core of experts informing care pathways and practices, radiology must play a key role in both understanding and defining value for providers and their patients. At the University of Utah and elsewhere, engaged radiologists are tapping into their health systems’ culture of value to evolve the way providers engage with imaging specialists to improve patient expectations, create real and measurable cost efficiencies. The transformation of healthcare requires engaged radiologists to produce more cost-effective, quality outcomes.

Dr. Lee is a professor of radiology, senior vice president for health sciences, dean of the school of medicine and CEO of University of Utah Health Care. She oversees an integrated academic health sciences campus that is committed to healthcare transformation through a value-driven precision medicine and population health strategy.

A recognized leader in academic medicine and health sciences, Dr. Lee serves on the Council of Councils of the National Institutes of Health (NIH), the Administrative Board of the Council of Deans for the Association of American Medical Colleges (AAMC), the Journal of the American Medical Association Journal Oversight Committee, the Health Care Delivery System Reform Advisory Committee of The Commonwealth Fund, and the Scientific Advisory Board of Massachusetts General Hospital. She also serves on the board of directors of the American Association of Rhodes Scholars.

In his lecture, “Hope, Hype, and Harm as Medicine Enters the Digital Age: Lessons From (and For) Radiology,” Dr. Wachter will describe what radiologists got right—and wrong—in their computerization journey, and why radiology was, to a large degree, a canary in the digital coal mine.

Dr. Wachter spent a year studying the digitization of healthcare in researching his 2015 New York Times best-selling book, The Digital Doctor: Hope, Hype and Harm at the Dawn of Medicine’s Computer Age, which he says is ultimately a hopeful story. The experiences of other industries demonstrate that it often takes a decade or more to obtain the promised benefits from automation—and that these improvements emerge only after the technology improves and the work has been reimagined for a digital environment.

Dr. Wachter is professor and interim chair of the Department of Medicine at the University of California, San Francisco, where he also directs the division of hospital medicine. Author of 250 articles and six books, he coined the term “hospitalist” in 1996 and is generally considered the father of the hospitalist field, one of the fastest growing specialties in the history of modern medicine. He is past president of the Society of Hospital Medicine and past chair of the American Board of Internal Medicine. In 2015, Modern Healthcare magazine ranked him as the most influential physician-executive in the U.S., his eighth consecutive year in the top 50.
Beyond Imaging – Radiology of Tomorrow

Cancer care — along with imaging — is on the brink of profound change, according to Hedvig Hricak, MD, PhD, Dr (hc). Over the last quarter century, researchers have been assembling the biological syntactic and semantic that are now starting to shape modern oncology. Shifting public expectations and technological innovations are also interlaying progress toward precision medicine.

In the next 10 years, radiologists will be able to take advantage of new molecular imaging probes and techniques as well as computer tools for pattern recognition, deep learning and artificial intelligence (AI). These new techniques and tools will put imaging at the center of the evolving paradigm of precision oncology, offering an unprecedented opportunity to once again reshape and enhance the specialty.

As a speciality of technical innovations, radiologists have always embraced new technologies. But radiologists are also key participants in patient-centered care. In the last 50 years, the specialty has gone through a number of transformations, always emerging as more clinically essential than before. In the next 10 years, radiologists must and will continue to evolve — becoming not only stewards of the ever-increasing demand for imaging and image-guided therapies, but highly valued clinical consultants and innovators in the era of precision medicine.

Dr. Hricak is chair of the Department of Radiology at Memorial Sloan-Kettering Cancer Center, professor of radiology at Weill Cornell College of Medicine, and Professor at Gershaner Sloan-Kettering Graduate School of Biomedical Sciences, all in New York. She is a renowned genitourinary imaging authority who helped develop the use of MRI and CT for gynecological cancers and the use of MRI for prostate cancer. Dr. Hricak is a member of the National Academy of Medicine and has received numerous honors for her research and her efforts to promote international education and collaboration in radiology. She received the RSNA Gold Medal in 2015 and served as RSNA president in 2010.

ANNUAL ORATION IN RADIATION ONCOLOGY

Prostate Cancer: Improving the Flow of Research

As with breast cancer for women, prostate cancer for men is the second-leading cause of cancer death in the U.S. This fact alone should cause nationwide concern and result in a push for improved screening and treatment for men plagued with this disease. Colleen A. Lawton, MD, says: For example, over the past three decades, we have seen screening with prostate-specific antigen (PSA) come and go, and treatment for localized disease improve — but at a relative snail’s pace. Dr. Lawton adds. Treatment for locally advanced disease has seen progress, but the tempo of substantially lagging and adoption of the advances not universal. Recently there has been a large influx of treatment options for metastatic patients, which is progress, but in the end these patients will likely die of their disease, she says.

In her lecture, Dr. Lawton will review what radiologists have learned from prostate cancer research over the past three decades, including a review of the research on imaging for accurate staging along with research on screening and treatment options. She will examine where radiology has succeeded and where much work is still needed. Finally, Dr. Lawton will explore opportunities to increase the flow of research so as to brighten the future for prostate cancer patients.

Dr. Lawton is professor and vice chair in the Department of Radiation Oncology and the associate director of the Radiation Oncology Medical Residency Program at the Medical College of Wisconsin in Milwaukee. She is also director of clinical operations in radiation oncology at Froedtert Memorial Lutheran Hospital & Medical College Clinical Cancer Center. Dr. Lawton was one of the original faculty for the RSNA Bolstering Oncoradiologic and Oncoradiotherapeutic Skills for Tomorrow (IBORDST) Program. She has also served on the Refresher Course Committee and as a member of the RSNA Scientific Program Committee Radiation Oncology Subcommittee. In 2015, Dr. Lawton received the Lifetime Service Award from the American Board of Radiology (ABR).

RSNA/AAPM Symposium

Precision Imaging in Medicine

In this symposium presented in conjunction with the American Association of Physicists in Medicine (AAPM), Maryellen L. Giger, PhD, and Daniel C. Sullivan, MD, will help radiologists and medical physicists further understand what their roles will be within the precision-medicine initiative (PMI), which was introduced by President Obama in his 2015 State of the Union address. Dr. Giger will review the methods needed to adapt to the PMI from a research-based perspective, while Dr. Sullivan will speak on what the PMI means to radiology and the medical imaging physics fields.

Dr. Giger is the A.N. Pritzker Professor of Radiology, the Committee on Medical Physics, and the College at the University of Chicago (UC). A pioneer in the development of computer-aided diagnosis (CAD), Dr. Giger has conducted research on CAD and quantitative radiomics in the areas of breast cancer, lung cancer, prostate cancer and bone diseases for 30 years. Her research in computational image-based analyses of breast cancer for risk assessment, diagnosis, prognosis and response to therapy has yielded various translated components, and she is now using these image-based phenotypes in radiomics-genomics association studies for cancer discovery and implementation through the development of digital virtual biopsies.

Dr. Sullivan is professor emeritus at the Department of Radiology at Duke University Medical Center in Durham, N.C. His areas of clinical and research expertise are in nuclear medicine and oncologic imaging, in particular focusing on improving the use of imaging as a biomarker in clinical trials and facilitating translational research involving new and established imaging methods. While at the National Cancer Institute (NCI) from 1997 to 2007, Dr. Sullivan had key roles in designing and implementing the National Lung Screening Trial and the Digital Mammography Imaging Screening Trial.

Dr. Sullivan founded and chaired RSNA’s Quantitative Imaging Biomarkers Alliance (QIBA), and served as RSNA science advisor from 2007 to 2015. He currently serves as the QIBA external relations liaison. In 2014, he was appointed to a three-year term on the National Advisory Council for Biomedical Imaging and Bioengineering at National Institutes of Health.

RSNA 2016 Dedications

Herbert L. Abrams, MD – The Meeting Program of the 102nd Annual Meeting and Scientific Assembly will be dedicated to the memory of Dr. Abrams, a pioneer and renowned authority on cardiovascular imaging, a devoted teacher and a passionate advocate for peace.

Gerald D. Dodd Jr., MD – The New Horizons Lecture will be dedicated to the memory of Dr. Dodd, a revered leader in the field of diagnostic imaging whose efforts to standardize mammography as a diagnostic tool earned him international acclaim.

Edward B. Singleton, MD – The Annual Oration in Diagnostic Radiology will be dedicated to the memory of Dr. Singleton, a beloved teacher and luminary radiologist known for his extensive research of rare pediatric disorders.
RSNA 2016 offers educational courses in a variety of formats across all career levels and subspecialties. Here are just a few courses that you might want to include in your meeting agenda for the week.

**Saturday**
- AAPM/RSNA Physics Tutorial (Sessions 1 and 2)
- NIH Grantsmanship Workshop
  This workshop walks through the NIH grants process including the elements of a competitive grant application, insight into the review process and a mock study section.
- RSNA/ARR Study Section Reviewers Workshop — What it Takes to be an Expert Reviewer for the NIH. The Peer Review Process Demystified
  This workshop will review the NIH study section review process. The workshop includes a panel discussion for questions and answers, and a mock study section.

**Monday**
- The Netherlands Presents: Advances in Neuro-degenerative and Neuro-vascular Diseases
  Presenters will discuss developments in the detection and treatment of neurological disease. Topics include prediction of stroke and dementia based on population imaging, hemodynamic contributions to age-related cognitive decline, high-resolution brain imaging in old age, and treatment of acute ischemic stroke.

**Tuesday**
- Turkey Presents: The Meaning of Evolution for Radiology and Advances in Neuroradiology
  Presentations will cover the evolution of medicine and implications for radiology education. A neuroradiology session will focus on underlying hemodynamic factors leading to aneurysm formation and the biochemical definition of endovascular aneurysm treatment.

**Wednesday**
- RSNA/AOSSM Joint Symposium: The Role of Imaging in Liver Transplantation
  A special symposium presented by RSNA and the Asian Oceania Society of Radiology (AOSR).

**Friday**
- Novel Concepts in Hepatobiliary Tumor Imaging Symposium
  An all-day symposium focused on imaging liver tumors, presented in collaboration with the Society of Abdominal Radiology (SAR), Japanese Society of Abdominal Radiology (JSAR), Korean Society of Abdominal Radiology (KSAR), and French Society of Abdominal Radiology (FSARD).
Breast Imaging

Machine learning is by far the newest and most important topic in breast imaging at this year’s meeting, said Linda Moy, MD, the Scientific Program Breast Subcommit-tee chair. “The concept is that machine learning can be trained to assess images very quickly. This artificial intelligence is used widely and is beginning to be adopted into medical imaging,” Dr. Moy said.

Other trends in breast imaging include continued interest in a shorter MRI exam, the use of digital breast tomosynthesis (DBT) in a diagnostic setting, incorporating DBT and breast ultrasound (US) into the screening and diagnostic workflow, and the role of automated breast US.

This year’s education exhibits include a multiple modality approach to breast cancer management as well as case-based and pictorial reviews of benign and malignant entities of the breast, according to Susan J. Ackerman, MD, Education Exhibits Committee chair. Dr. Ackerman added that other topics of interest include indications, obstacles and outcomes of radioactive seed localization, and analysis of breast tumor vascularity using various techniques such as contrast-enhanced US.

Cardiac Radiology

Diagnostic techniques of adult cardiovascular disease—especially coronary artery disease—remains a common theme, according to Robert M. Steiner, MD, the Scientific Program Cardiac Subcommit-tee chair. Methowations, and analysis of breast tumor vascularity using various techniques such as contrast-enhanced US.

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functional imaging with hepatobiliary CM, and the role of computer-aided detection (CAD) in enabling detection of flat colon lesion in CT colonography as noteworthy topics.

Attendees will find exhibits on liver elastography, dual-energy and spectral CT, and further evolution of the UL-RADS classification system, said Kevin J. Chang, MD, chair of the Education Exhibits Gastrointestinal Subcommittee.

A new full-day liver symposium will be offered on Friday. The symposium, an international collaboration of abdominal imaging societies, will look at screening and diagnosis guidelines and review state-of-the-art imaging techniques.

Genitourinary Radiology/Uro Radiology

Multiparametric prostate MRI, prostate imaging reporting and data system version 2 (PRI-S2D2) performance, and prostate intervention and outcome are all hot topics in 2016, said Zhen Jiang, MD, chair of the Scientific Program Genitourinary Radiology Subcommittee. As with several other specialties, Dr. Wang said DECT remains a popular topic.

“There are a significant number of presentations on DECT material decomposition and spectral imaging,” she said. “A new topic related to DECT is imaging with photon-counting CT with research ongoing in initial human studies.”

Look for presentations about using texture analysis to grade tumors and predict treatment response and MRI with advanced quantitative techniques such as diffusion and perfusion for renal tumor and gynecological tumor evaluation. Education exhibits will highlight neoplastic prostate, according to Sheila Sheth, MD, chair of the Education Exhibits Uro Radiology Subcommittee.

“This reflects the continuous growth in prostate MRI,” she said, adding that other high-profile exhibits focus on penile imaging and contrast US.

Research of prostate cancer screening and treatment will also be the focus of the Annual Oration in Radiation Oncology, presented Wednesday by Colleen A. Lawton, MD.

Heath Service, Policy and Research/Policy and Practice

Education continues to be a popular topic, said Paul Cronin, Research/Policy and Practice Subcommittee, said that the policy and practice of patient care.

“Errors in radiology of successful root cause analysis and quality improvement relating to contrast reactions, contrast-induced nephropathy, and CT and MR safety are popular topics and of continued interest,” Dr. Madan said.

One of this year’s interesting exhibits focuses on the use of big data analytics to explore the most frequent reason for patient no-shows in a large multicenter academic radiology institution, he said.

Informatics

Image segmentation and measurement is a popular topic in 2016, said Ravi R. Shrestha, MD, MBA, chair of the Scientific Program Radiology Informatics Subcommittee.

“This encouraging trend is reflective of the overall increased interest and work being done in the space of image segmentation and leveraging newer technologies to analyze imaging data,” he said.

Other topics of high interest are quantitative imaging, computer-aided diagnosis (CAD), 3-D printing and machine learning (ML). Sunday’s Opening Session will address, “The Digital Revolution in Radiology,” and presenters of a Controversy Session on Wednesday will also discuss the role of computer-aided diagnosis and ML in radiology.

Key topics in education exhibits include creating unique radiology decision support web apps, using original graphic illustrations in medical education, and methods for advanced 3-D printing using freeware and low-cost printers, according to Marc D. Kohli, MD, chair of the Education Exhibits Radiology Informatics Subcommittee.

A new 3-D printing theater in the Learning Center will house posters on the topic as well as demonstrations throughout the year.

Dr. Kohli also noted topics related to ML, or deep learning, including a primer on deep learning for radiologists, deep learning-based electronic cleansing for single- and dual-energy CT colonography, and a ML algorithm for image analysis in radiology.

Molecular Imaging

Multimodal imaging will figure prominently in molecular imaging presentations, said Alexander Drzega, MD, the Scientific Program and Educational Exhibits Molecular Imaging Subcommittee chair.

“To unfold the full potential of these technologies, new concepts by means of application of multimodal tracers would be of utmost value,” Dr. Drzega said.

He added that many new studies concerning nanoparticle imaging in atherosclerosis will also be featured.

“This also represents a field of interest with currently still unresolved diagnostic issues, regarding early diagnosis/progression of atherosclerosis,” he said.

Education exhibits of interest include expanding the spectrum of successful applications of peptide receptor radionuclide therapy (PRRT) to thyroid cancers, understanding how the blockbuster new procedure of PMSA/PROT PET imaging can aid detection of vital prostate cancer tissue, and addressing the new options and methods in utilizing the ventilation-perfusion (VQ) scan for molecular imaging of the chest.

Those topics and more will also be covered in Monday’s Molecular Imaging Symposium.
TRENDING TOPICS

Musculoskeletal Radiology
This year’s presentations trend away from simple sports medicine and clinical series and toward more presentations on quantitative imaging using dual-energy CT and US and MRI techniques, said Christine B. Chung, MD, the Scientific Program Musculoskeletal Radiology Subcommittee chair. “A number of presentations will address nerve evaluation from brachial plexus to peripheral nerve, and intervention with imaging guidance,” Dr. Chung said.

Other musculoskeletal topics of interest include MRI neuroradiology-guided intervention, the use of imaging as a surrogate for nerve electrodiagnostic testing, 4-D musculoskeletal imaging and metal artifact reduction techniques.

An impressive array of pathologic-radiologic correlations will appear in presentations in all musculoskeletal subcategories, but particularly in tumor imaging and arthritis, according to Kambiz Motamedi, MD, chair of the Education Exhibits Musculoskeletal Radiology Subcommittee.

“There are excellent exhibits on imaging of joint internal derangements and pathology as a road map for arthroscopy,” Dr. Motamedi said, adding topics also include the utility of mesenchymal stem cells in regeneration of joints and tendons.

Neuroradiology
Advanced MR imaging — such as chemical exchange saturation transfer MRI — that can enable assessment of substantia nigra in Parkinson’s disease is among the hot neuroradiology topics for 2016, according to Ashok Srinivasan, MD, chair of the Scientific Program Neuroradiology Subcommittee.

Studies of particular interest include using CT perfusion-based wavelet transformed angiography to predict response to IV thrombolysis in acute stroke, measuring vestibular effects after PT scanning, while matter structure revealed by correlation-time diffusion synthetic MRI, and diagnostic performance of American Thyroid Association and the Society of Radiologists in Ultrasound thyroid nodule classification algorithms.

Popular topics in the education exhibits include 4-D CT parathyroid imaging, arterial spin labeling, perfusion, iterative reconstruction and diffusion-tensor imaging, said Valerie L. Jewells, DO, chair of the Education Exhibits Neuroradiology Subcommittee.

A large percentage of exhibits continue to come from the international community, including research on the Zika virus, Dr. Jewells said.

“The international submissions are often a good source of infectious disease studies. Noteworthy exhibits will focus on the Zika virus outbreak and its effects upon the developing fetal brain,” she said.

The Hot Topic Session, “Zika — What the Radiologist Needs to Know,” (GPSH11) will be moderated by Deborah Levine, MD.

Nuclear Medicine
A hot topic in nuclear medicine is PET imaging of Gallium-68-labeled compounds for imaging neuroendocrine tumors and prostate cancer as well as other emerging targeted radiotracers, said Chadwick L. Wright, MD, PhD, the Scientific Program Nuclear Medicine Subcommittee chair.

“Given that such agents are not yet FDA-approved for clinical use and there are relatively few U.S. sites participating in the related clinical trials, the majority of this work is performed outside of the U.S.,” Dr. Wright said. “Such human clinical studies using novel targeted radiotracers have the potential for advancing precision/personalized medicine, which is very exciting for nuclear medicine.”

He added that the category is PET-centric, likely because PET is now a hybrid modality coupled with CT or MRI.

Obstetric/Gynecologic Radiology
Courtney A. Woodfield, MD, chair of the Education Exhibits Obstetrics/Gynecology Subcommittee encouraged attendees of all experience levels to review exhibits covering core topics commonly encountered across subspecialties, particularly in the emergency room setting, including imaging first trimester pregnancy complications, ectopic pregnancies, adrenal torsion, and post-partum complications.

Attendees should also pay special attention to novel exhibits on detecting, characterizing and staging the spectrum of gynecologic malignancies with the latest classification systems and advanced imaging techniques including PET/MRI, MR with DWI and dynamic contrast enhancement, imaging fetal complications with both US and MRI, imaging placental complications with US and MRI, and the use of 3-D US in the female pelvis, she said.

Pediatric Radiology
Dose-reduction strategies continues to be an important topic in pediatric radiology, according to Robert Orth, MD, PhD, the Scientific Program Pediatric Radiology Subcommittee chair.

“Most common factors investigated were various automated tube current techniques, reconstruction techniques and methods for lowering tube voltage,” Dr. Orth said.

He pointed to several high-interest topics including the association between Vitamin D levels and fractures — particularly relating to suspected child abuse — the limitations of US for genitourinary imaging in infants, and football-related brain injuries.

The issue of decreasing sedation in pediatric imaging is increasingly becoming a hot topic,” Dr. Orth said. It will be the subject of a Controversy Session on Tuesday.

Sonography topics in education exhibits have increased and include novel color Doppler techniques, contrast use in the liver and urinary tract, and dynamic studies, according to Kate A. Feinstein, MD, chair of the Education Exhibits Pediatric Radiology Subcommittee.

“All attendees should be able to find interesting exhibits,” she said. “There is something for residents, practicing radiologists, and academic experts.”

RSNA 2016 Highlights

SCIENTIFIC PROGRAM

• Selective 3-Tesla MR Neurography-guided Noninvasive Genitofemoral Nerve Blocks for the Diagnosis of Genitofemoral Neuralgia. — SSTD-06-05

• Musculoskeletal Applications of Bone Marrow Derived Mesenchymal Stem Cells. — MK142-ED-X

NEUROSURGERY

• White Matter Structure Revealed by Correlation-Time Diffusion Synthetic MRI: Age Effect. — SSC12-01

• Standing Cone Beam CT Myelography of the Spine. — NR144-ED-MOB9

• Hot Topic Session: Zika — What the Radiologist Needs to Know. — Moderated by Deborah Levine, MD — SPSH21

NUCLEAR MEDICINE

• Evaluation of a Fast 68Ga-DOTATOC PET/MRI Protocol for Whole-Body Staging of Neuroendocrine Tumors: A comparison with 68Ga-DOTATOC PET/CT. — SUC10-03

• Additional Role of Gallium 68 DOTANOC Positron Emission Tomography/Computed Tomography Enurethography (PET/CTE) in Diagnosis and Staging of Gastric Esophage Pancreatic Neuroendocrine Tumors(GEP-NET)S. — SSSC10-07

PEdiatRIC RADiOLOGY

• Major indicators of dose development in pediatric chest computed tomography - An analysis of 2138 CT scans. — SSD16-03

• Utility of Contrast Enhanced Ultrasound for Assessment of Pediatric Focal Liver Lesions. — P0134-ED-TH47

Go to My Agenda at Meeting.RSNA.org

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TRENDING TOPICS

Physics
As with other subspecialties, DECT continues to be a popular area for physics, according to Chris C. Shaw, PhD, chair of the Scientific Program Physics Subcommittee. He described an increased focus on physics related to MR, diagnostic x-rays and nuclear imaging.

“Trend is also an interesting emergence of the use of photon-counting detector technology in CT, which may help improve image quality and reduce patient dose in CT and mammography,” Dr. Shaw said.

Radiation Oncology and Radiobiology
Using imaging to identify targets for radiation dose escalation or sparing is one of the consistent themes this year, said Edward Y. Kim, MD, chair of the Scientific Program Radiation Oncology and Radiobiology Subcommittees. Another popular theme is examining the use of radiotherapy in combination with immune therapies, including both pre-clinical and clinical presentations, Dr. Kim said.

Some provocative new ideas this year include a model of cognitive and neuroinflammatory consequences of radiation and immunotherapy, a study of radiation dose-dependent changes in the hippocampus and the effect of tumor contouring on the predictive performance of using radionics.

A Hot Topic Session on Thursday will look at challenges posed by radiation and immune therapy.

Vascular/Interventional Radiology
Attendees can look for two primary topics of interest in this section — interventional oncology and CT angiography — according to Charles T. Burke, MD, chair of the Scientific Program Vascular and Interventional Radiology Subcommittees.

“Within interventional oncology, there is an emphasis on ablation technology, both in and out of the liver. This is very similar to previous years in which interventional oncology and non-invasive imaging have been the primary focus,” Dr. Burke said.

Bariatric embolization is a popular topic in the category, he said. He described an increased focus on physics related to MR, diagnostic x-rays and nuclear imaging.

Radiology
Radiology Collaboration-ECG Gated CT and Radiation Therapy: Saving Coronary Arteries One Heart Beat at a Time. — R0107-ED-SUAS

Vascular Interventional Radiology
Thermal Ablation: Induction of Tumorigenesis Factors by in Vitro Hyperthermia. — V50D41-01

Minimally Invasive Low Voltage Pulsed Electric Fields of the Fundus of the Stomach as a Weight-Loss Intervention. — SSM23-01

Go to My Agenda at RSNA.org

RSNA 2016 Highlights

RSNA 2016 Attendees Can Do
- Recycle paper, bottles, cans and general waste in receptacles throughout McCormick Place.
- Use QR codes, apps and mobile-optimized tools as an alternative to printed materials.
- Ride the complimentary Metra train and shuttle buses to/from McCormick Place or share a cab with fellow attendees. Use the discounted airport shuttle service via Go Airport Express.
- Bring your own refillable coffee mug or beverage bottle and receive 25 cents off any fresh brewed drip coffee or fountain beverage purchase at food outlets in McCormick Place (excluding Connie’s Pizza and McDonald’s).
- Fill your water bottle at McCormick Place EZH2O filling stations, which minimize plastic bottle waste. Stations have a Green Ticker display that counts the quantity of bottles saved from waste.

What RSNA Vendors are Doing
- Minimizing energy by reducing lights, power, escalators and HVAC (heating, ventilating and air conditioning) during move-in/move-out in the exhibit halls and meeting rooms.
- Utilizing ECA (Electro-Chemical Activation) devices which allow the convention center to produce its own detergents and sanitizers using only tap water, salt and electricity.
- Implementing a green purchasing policy.
- Creating a massive rooftop garden at McCormick Place – the largest in the Midwest – to provide six to eight thousand pounds of produce. The vegetables are incorporated into dishes served in catering and restaurants.
- Reserving five percent of parking in McCormick Place Lot A for low-emitting and fuel-efficient vehicles.
- Sorting garbage into compost, recycling and landfill.
- Donating food to local charities.

Together, We Made a Difference at RSNA 2015
Thanks to a joint effort, RSNA 2015 recycling initiatives created a facility diversion rate of 64 percent. The diversion rate — the percentage of waste that is diverted from landfill for recycling — is a key indicator in a successful recycling program. Other 2015 data is outlined below.

<table>
<thead>
<tr>
<th>Diversion Rate</th>
<th>64.3%</th>
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</thead>
<tbody>
<tr>
<td>Water Conserved</td>
<td>1,357,860 Gallons</td>
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<tr>
<td>Electricity Saved</td>
<td>775,920 kWh/Ton</td>
</tr>
<tr>
<td>Oil Conserved</td>
<td>15,324 Gallons</td>
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<tr>
<td>Total Pounds Recycled</td>
<td>387,960</td>
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<td>Total</td>
<td>301.7 tons</td>
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<tr>
<td>Recycled</td>
<td>194 tons</td>
</tr>
<tr>
<td>Landfilled</td>
<td>107.7 tons</td>
</tr>
</tbody>
</table>

Source: McCormick Place
Tracking the Dramatic Evolution of RSNA’s Diagnosis Live™

BY LYNN ANTONOPOULOS

Since the first, large-audience, rapid-fire gaming sessions at RSNA 2011, RSNA’s Diagnosis Live™ (RDL) has undergone many changes in design, infrastructure and scale. However, RSNA’s primary goal — to create a mobile-based, audience response technology specifically designed to meet, and evolve with, the unique needs of radiologists — has remained the same. Through RDL’s ever-improving functionality and expansion into the global community, the application has become an invaluable educational tool and an increasingly popular draw at RSNA annual meetings. And Diagnosis Live is just getting started.

A popular draw at past RSNA annual meetings, Diagnosis Live will support RSNA 2016 courses including seven rapid-fire sessions conducted by Adam Flanders, MD, Paul Chang, MD, and colleagues.

“We have barely scratched the surface of what Diagnosis Live can do,” said Adam Flanders, MD, chair of RSNA’s Radiology Informatics Committee (RIC), and an early collaborator on Diagnosis Live who continues to play a key role in its evolution. “It has enormous potential for transforming radiology education as we know it.”

BY LYNN ANTONOPOULOS

Don’t Miss Diagnosis Live™ Sessions at RSNA 2016

The 2016 lineup of RSNA Diagnosis Live sessions includes:

“Do You Know Your Head and Neck Anatomy?” (An Interactive Session)
Tuesday, Nov. 29, 8:30 - 10 a.m. | RC306

“Keeping Radiology Weird — Spot Diagnoses from the Pacific Northwest”
Wednesday, Nov. 30, 7:15 - 8:15 a.m. | SPDL40

“Peds, IR, Potpourri”
Wednesday, Nov. 30, 8:30 - 10 a.m. | RC306

RSNA’s Diagnosis Live is available for other radiology education conferences or annual meetings. Above: More than 545 radiologists participated in four Diagnosis Live-supported sessions at the Deutsche Röntgengesellschaft’s 97th Röntgen Congress held in May in Leipzig, Germany.

WEB EXTRAS

To request a complimentary license for RSNA’s Diagnosis Live for a residency program, contact the Diagnosis Live team at diagnosislive@rsna.org.
QIBA® Expands at RSNA 2016 and Internationally

BY RICHARD DARGAN

The push to develop quantitative imaging biomarkers has gained momentum in recent years thanks to an expanding and increasingly international alliance of researchers, industry partners and other stakeholders.

RSNA has had a critical role in that expansion through its Quantitative Imaging Biomarker Alliance (QIBA®), which has grown considerably since forming in 2007 with the goal of advancing quantitative imaging and the use of imaging biomarkers in clinical practice.

The growth is also reflected at the RSNA annual meeting, where QIBA hosts a kiosk (see sidebar on page 7) and a mid-week working meeting that last year was attended by more than 150 key researchers from around the globe. Quantitative imaging refers to the extraction of quantifiable features from medical images for assessment of disease, injury or chronic conditions. Clinical radiology has been slow to embrace advanced quantitative measures. A 2012 study from Vanderbilt University found that only two percent of 761 CT and MRI reports contained an advanced quantitative metric, defined as a ‘numerical parameter reporting on lesion function or composition, excluding simple size and distance measurements.”

“Quantitative imaging can provide a consistent measurement of a patient’s disease and response to treatment over time,” said QIBA Chair Edward F. Jackson, PhD, chair of the Department of Medical Physics at the University of Wisconsin School of Medicine and Public Health in Madison.

Daniel C. Sullivan, MD, Dr. Jackson’s predecessor as QIBA chair, first brought the idea of forming QIBA to RSNA while working at the National Institutes of Health, where in the late 1990s attention was shifting to targeted medicine — now also known as precision medicine.

“We knew that if radiology was going to be relevant in precision medicine, the results from imaging scans had to be more quantitative,” Dr. Sullivan recalled.

With support from the RSNA and the National Institute of Biomedical Imaging and Bioengineering (NIBIB), the alliance grew swiftly, from approximately 50 people and three committees in 2007 to more than 800 participants and 12 QIBA Committees today.

QIBA Garners Industry Support

Further evidence of QIBA’s expansion can be found in industry support, which was initially lukewarm, according to Dr. Jackson, but grew over time.

“Now there is strong interest and increasing participation in QIBA from representatives of device vendors,” Dr. Jackson said. “Recently, we presented an update to QIBA to NIBIB leadership and representatives were there from radiology, oncology, imaging device manufacturers, image analysis software companies, imaging contract research organizations and regulatory agencies.

As QIBA has grown, the number of the formation of similar groups outside of North America. A formal collaboration between QIBA and the European Society of Radiology (ESR) was achieved through the establishment of a European Imaging Biomarker Alliance (EIBALL) subcommittee of the ESR Research Committee.

Several QIBA Profiles have made it through the public release and comment stage and are entering the Technically Confirmed and Claim Confirmed steps of development. To aid these efforts, the Clinically Confirmed stage, QIBA leaders are considering various options, including collaborating with societies.

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QIBA Hosts Meet-the-Expert Sessions at RSNA 2016

• Visit the QIBA Kiosk poster area to interact with colleagues, learn about QIBA projects and activities and share ideas.
• Posters will be on display all day, Meet-the-Experts sessions will be held during lunch hour.

Monday, Nov. 27 12:30 – 1:30 p.m.

Sunday, Nov. 26, 12:15 – 1:15 p.m.

RSNA News

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Location: Learning Center, Lakeside East Level, 3

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RSNA News
Radiologist Assistants, Radiologic Technologists Aid Patient-Centered Care

BY MARY HENDERSON

As radiology continues on the path to a value-based, patient-centered care model, the roles of the imaging professionals who are a vital part of that process — including the radiologist assistant (RA) and radiologic technologist (RT) — are evolving right along with the specialty. While the RT traditionally performs in the clinical field, the RA — a mid-level professional between the technologist and radiologist — has considerable potential in extending the reach of radiologist and filling a need in working closely with patients to provide the best care possible. Although there are fewer than 700 RAs practicing across the country, radiology departments and private practice radiology groups that are hiring RAs — experienced, registered radiographers who have obtained additional education and certification — are yielding numerous benefits.

“Having RAs as part of the radiology team can be a real asset to our profession,” said Keith Hentel, MD, executive vice chair in the Department of Radiology at NewYork-Presbyterian/Weill Cornell Medical Center. “Radiologist assistants save time, make radiology more efficient and play a big role in facilitating patient-centered care.”

Through the critical role they play with patients, RAs also help to raise awareness among the radiologist and the role radiology plays in healthcare, said Jennifer Kemp, MD, a body imaging specialist at Diversified Radiology of Colorado, Denver, which employs RAs.

“As an extension of the radiologist, the RA might be less rushed and can potentially spend more time with the patient than the radiologist would have had the luxury of doing,” Dr. Kemp said. “RAs might be less rushed and can potentially better patient satisfaction as well.”

Along with improving patient interaction and building relationships with referring physicians, RAs also play a pivotal role in the transition to value-based care, Dr. Kemp said.

“If the radiologist is doing most of the fluoro procedures, the physicians and hospital staff might be kept waiting for an unpredictable amount of time.” Dr. Kemp said. “With the focus on value, we realize our patients’ time is valuable. The RA also works closely with the radiology technologists to stay on schedule and keep things running smoothly.”

RAs Connect With Patients

Working with patients is central to the job of an RA. In addition to doing various access insertions, Wes Shy, RRA, RT(R)(CT) (ARRT), a registered radiologist assistant in interventional radiology (IR) at Memorial Sloan Kettering Cancer Center, New York, spends his workday evaluating, educating and consulting with patients prior to and following their IR procedures.

Along with technology training, we have more pharmacology-based education, patient assessment duties and some imaging pattern recognition,” Shy said. After earning his radiography credentials, Shy earned his bachelor’s degree in diagnostic imaging and his radiologist assistant master’s degree from Quinnipiac University in Connecticut.

As Weill Cornell Medical Center, there are five RAs on staff whose duties range from doing patient consultations to performing advanced imaging post-processing under a radiologist’s supervision.

“The radiologists here have been so supportive,” said Courtney Sullivan, MS, RRA, a registered radiologist assistant at Weill Cornell. “We are trained for IR and fluoroscopy, but we can serve so many more roles, from consultations to establishing protocols for exams in the ER.”

Sullivan administers one of the hospital’s major patient-centered care efforts — the Weill Cornell Imaging Consultation and Radiologic Expertise (WiCare) program — which, as one of its functions, facilitates reporting and follow-up imaging for women identified as having dense breast tissue.

“As a main contact point for patients, Sullivan answers questions, synthesizes clinical information and history, and facilitates consultations with radiologists.”

In a recent survey of WiCare patients, 80 percent said they felt they had the support and information necessary to make imaging decisions.

“The quality of patient interaction is higher since the RA has consulted with the patient and done the preliminary work, as that is less time we need to devote in that arena,” Dr. Hentel said. “It’s helpful to have someone with a medical background speaking to the patients and referring physicians. It makes the radiologist’s job that much easier.”

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RPs Play Front-line Role With Patients

A critical member of the medical imaging team, the RT — who performs diagnostic imaging examinations and administers radiation therapy treatments — also continues to evolve with the specialty on a number of fronts.

Along with staying up to speed on advancing technology and being vigilant about continuing education and training, RPs are often the first point of contact for patients and play a central role in communicating with the radiologist.

“As the speed of delivery and quality of care are both increasing rapidly, and with reimbursements tied to patient satisfaction, the role of the RT is now more important and complex than ever,” said Michael Ogden, BS, RPA, RT(R)(CT) (ARRT), a radiology practitioner assistant for Diversified Radiology of Colorado, Denver, and speaker of the House of Delegates for ASRT.

“Radiologists count on us to provide accurate patient histories to help guide them in making their diagnoses, and patients are counting on us to ensure their exams are performed properly and with the minimum radiation dose necessary.”

Ogden believes that communication between the radiologist and RT is a critical component of patient-centered care and that asking the radiologist questions is central to the RT’s job.

“If a technologist is empowered to ask questions and communicate with a radiologist, is able to provide information and feedback, it will lead to not just a better educated technologist, but also higher quality exams, better patient outcomes and potentially better patient satisfaction as well,” Ogden said.

Radiologist Assistants, Radiologic Technologists Aid Patient-Centered Care
Experience Chicago at Low — or No — Cost

BY STEPHANIE EWING

Tight Budget?

Chicago is a global city, but its world-class dining, transportation and entertainment need not come at a high cost. Opportunities abound for RSNA Annual Meeting attendees to experience the best of Chicago on a budget.

“Ichiro Ikuta, MD, MMSc, neuroradiology fellow at Yale-New Haven Hospital in New Haven, Conn. ‘Medical school and residency programs often have limited funding so it’s imperative for residents and fellows in training to learn how they save money on food, entertainment and transportation while attending the annual meeting. Thirty-two people responded to the poll, which included a ranking of their top expenses, excluding lodging and transportation to Chicago for the RSNA annual meeting. The good news is that Chicago’s world-renowned restaurant scene has enough dining options to meet the needs of every pocketbook. Thirty-eight percent of respondents saved money by choosing restaurants off the beaten path in Chicago’s diverse array of neighborhoods. When exploring restaurants, it can pay to do some research before heading out. ‘Restaurant prices can be high, so check out their menus online beforehand,’ Dr. Ikuta recommended. ‘Sometimes you can find a bar or restaurant with a happy hour, which certainly makes it less expensive.’ Other respondents recommend searching discount sites like Groupon for deals at pricier establishments. But for RSNA 2016 attendees with busy schedules, finding time to sit down at a restaurant may be difficult. ‘Grocery stores such as Jewel-Osco, Mariano’s or Trader Joe’s, or convenience stores like Walgreens or 7-Elevens can be a big money-saver. One poll respondent purchases fruit and cereal bars to bring along for snacks or lunch. Some stores have robust delis and even seating areas to enjoy an economical meal. “As a resident and fellow, the complimentary food in the Resident and Fellow Lounge offers free coffee, snacks and lunch. “As a resident and fellow, the complimentary food in the Resident and Fellow Lounge offers free coffee, snacks and lunch. “As a resident and fellow, the complimentary food in the Resident and Fellow Lounge offers free coffee, snacks and lunch. “As a resident and fellow, the complimentary food in the Resident and Fellow Lounge offers free coffee, snacks and lunch. “As a resident and fellow, the complimentary food in the Resident and Fellow Lounge offers free coffee, snacks and lunch. “As a resident and fellow, the complimentary food in the Resident and Fellow Lounge offers free coffee, snacks and lunch. “As a resident and fellow, the complimentary food in the Resident and Fellow Lounge offers free coffee, snacks and lunch. "The Bean is free and is always a fun photo opportunity,” said Dr. Ikuta, referring to the famous mirrored Cloud Gate sculpture in Millennium Park, nicknamed “The Bean.” The sculpture was named the favorite free attraction of 45 percent of poll respondents.

Dr. Caldas enjoys strolling through the free, outdoor German-inspired Christkindlmarket in Daley Plaza. Garfield Park Conservatory, Lincoln Park Zoo, Navy Pier and many performances at the Chicago Cultural Center are also free.

Several respondents said their favorite free activity is simply walking around downtown and enjoying the outstanding architecture. For the winter holidays, many stores along the Magnificent Mile have elaborate Christmas displays. Interested in a guided tour? RSNA offers $35 guided walking tours. And if arranged online in advance, services like Chicago Greeters can provide free or low-cost walking tours, including free drop-in tours of the Loop and Millennium Park on Fridays, Saturdays and Sundays.

Transportation

With many free and low-cost transportation options, travel within Chicago was the top budgetary concern for just nine percent of respondents. “Chicago has excellent transportation systems to visit all areas of the city. At the RSNA annual meeting, there are free shuttle buses from your hotel to the event,” Dr. Caldas said. Attendees also receive complimentary passes for the Metra train, which has stations at McCormick Place and around the city. Chicago’s other bus and train lines are also affordable. Of course walking is free and a great way to see the sights. “Chicago is a very walkable city in reasonable weather,” wrote one respondent.

Ride-sharing services like Uber or Lyft may be cheaper than cabs. Reduce costs further by riding with other attendees. “If you travel with someone, you can split cabs,” Dr. Ikuta said. “And it’s a good way to network.”

RSNA Tours and Attractions

RSNA has teamed up with Hosts Chicago, a Hosts Global Alliance Member, and Thrillist’s, to offer exciting ways to experience Chicago during your stay for RSNA 2016. Registered RSNA 2016 attendees can sign up for tours, performances and more at RSNA.org/Tours-and-Events.

RSNA Reservations Desk

Attendees are invited to visit the Restaurant Reservations Desk in the Grand Concourse for restaurant recommendations, reservations and concierge services.

Explore More Free Things to Do in Chicago

• Choose Chicago (ChooseChicago.com) has a page devoted to free Chicago attractions.
• Chicago Greeter Visits (Chicagogreeter.com)
• Free Tours by Foot (Freetoursbyfoot.com/Chicago-tours)
• Free Things to do in Chicago (ChooseChicago.com/free thingstodoinchicago)
• Things to Do in Chicago (Thrillist.com)

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REGISTRATION CATEGORIES AND RATES

<table>
<thead>
<tr>
<th>Attendee Rate</th>
<th>Exhibits Only Daily Rate</th>
<th>Registration Categories and Codes</th>
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<td>$100</td>
<td>RSNA Active Member Presenter</td>
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<td>$25</td>
<td>$25</td>
<td>12 RSNA Member-In-Training</td>
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<tr>
<td>$25</td>
<td>$25</td>
<td>17 RSNA Medical Student Member*</td>
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</tbody>
</table>

| NON-MEMBERS   |                          |                                  |
| $1200         | $900 $300 $325           | 14 Non-Member Physician A. radiologist B. radiologic technologist C. non-radiology physician |
| $500          | $200 $300 $325           | 15 Non-Member Resident/Trainee — verification required |
| $300          | Free $300 $325           | 18 Non-Member Student* — verification required |

| MEDICAL PHYSICIANS |                          |                                  |
| $100              | Free $100                | 21 AAPM Member                   |
| $1200             | $900 $300 $325           | 22 Non-Member Physician          |

| HEALTHCARE PROFESSIONALS |                          |                                  |
| $1200               | $900 $300 $325           | 24 Hospital or Facility Executive A. hospital or facility administrator B. legal (in-house counsel) C. facility manager D. purchasing E. other senior-level personnel |

| INDUSTRY PERSONNEL |                          |                                  |
| $1200              | $900 $300 $325           | 25 Commercial Research and Development Personnel |
| $1200              | $900 $300 $325           | 27 Industry Personnel A. distributor B. manufacturer C. prospective exhibitor D. other |
| $1200              | $900 $300 $325           | 31 Healthcare Consultant A. attorney B. consultant C. technical writer D. salesperson E. other |

RSNA News, October 2016

**NEW** Onsite Registration/Badge Pickup
All attendees, professional or exhibitor personnel that registered in advance can print badges at any of the three designated registration locations. New registrants can also complete their registration at these locations – save time and register online at Meeting.RSNA.org and simply stop at one of these locations to pick up your badge. A valid photo ID is required.

South Building – Level 1
Sunday - Thursday 7:30 a.m. – 5 p.m.

Lakeside Center East – Level 2
Saturday 11:30 a.m. – 5 p.m.
Sunday - Thursday 7:30 a.m. – 5 p.m.
Friday 7:30 a.m. – noon

North Building – Level 2
Sunday – Thursday 7:30 a.m. – 5 p.m.

 Reserve Your Room Now
We’ve secured over 90 hotels in downtown Chicago offering discounted rates. Hotel rooms are only available to RSNA-registered participants.

Save Up to 10 Percent on Airfare Through Exclusive Discounts

United Airlines
United offers discounts from 2 to 10 percent off applicable fares. Discounts apply on United Airlines and flights operated by All Nippon Airways. Applicable terms and restrictions apply. Book online at United.com, enter offer code 2YQ6520692, or call United at 1-800-426-1122 and provide the offer code. Service fee applies for phone reservations.

Delta Air Lines
Delta offers special discounts off most fares. Applicable restrictions may apply. Discounts are applicable to U.S./Canada origin passengers. Book online at Delta.com and enter Meeting Event Code MMG2, or call Delta at 1-800-322-1171 and provide the event code. Service fee applies for phone reservations.

International Services
International services and special signage featuring images will be placed in key areas at McCormick Place. Although the annual meeting is officially in English, RSNA offers translation services in Chinese, Dutch, French, German, Italian, Japanese and Spanish, available at the Information Desk.

International Invitation Letter
RSNA offers an official letter of invitation for RSNA 2016 attendees. The letter of invitation, although not required for the visa application, can assist as a supporting document. Present this letter of invitation from RSNA to the Consular Officer during the visa interview.

RSNA offers a customized letter during online registration or by visiting RSNA.org/Visas.

RSNA invites all attendees to bring a valid RT card, a letter from hospital administration stating your role in radiology, a valid RT license, or student ID copy. Upload during online registration or email RSNAVerify@experient-inc.com.

**NEW** Changes to Visa Waiver Program
Travelers using the Visa Waiver Program (VWP) must now have an e-Passport, which includes an embedded electronic chip. The letter of invitation, although not required for the visa application, can assist as a supporting document. Present this letter of invitation from RSNA to the Consular Officer during the visa interview. International travelers should also be aware of a change in policy regarding travel under the VWP.

For more information on the policy change, go to cbp.gov/travel/international-visitors/visa-waiver-program.

Verification Required
Registration categories 15, 18, and 23 require verification in order to be processed. These categories require a business card, a letter from hospital administration stating your role in radiology, a valid RT license, or student ID copy. Upload during online registration or email RSNAVerify@experient-inc.com.

Badge classification is subject to RSNA approval and category or rate change. If verification qualifies for a different registration category, the registration will automatically be reclassified and charged the appropriate fee. Registration is subject to cancellation if verification is not provided within 5 business days after registration.

Note: Registrations processed after November 4 will reflect a $150 increase over annual meeting only rate.

RSNA News, October 2016
VIRTUAL MEETING ENHANCES THE RSNA 2016 EXPERIENCE

The RSNA 2016 Virtual Meeting now features expanded content, longer availability, CME credit for live sessions — plus a select number of CME-eligible courses on demand. Both RSNA 2016 in-person attendees and medical professionals around the globe can participate in the Virtual Meeting. The Virtual Meeting is available 24 hours a day beginning at 8 a.m. Central Time (CT) on Saturday, Nov. 26. Live programming will run simultaneous to the RSNA 2016 annual meeting, which ends Friday, Dec. 2. After that date, all Virtual Meeting programming will be available on demand through Friday, Dec. 23, at 4 p.m. CT.

Expanded Content, Extended Access
Enjoy 90 courses — a 25 percent increase since 2015 — available for viewing live and on demand. Watch programming live or on demand during the annual meeting, then continue to access courses on demand beyond the meeting dates.

Visit RSNA.org/Virtual to:
• View the complete Virtual Meeting course listing.
• Access live and on-demand courses during and after the meeting.

Live Content Available for CME Credit
RSNA is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians. The RSNA designates this live activity for a maximum of 33.75 AMA PRA Category 1 Credits™. Physicians should claim only credit commensurate with the extent of their participation in the activity. Throughout the meeting, participants can receive credit for live or remote participation in Plenary Sessions, Educational Courses, Scientific Sessions and for correctly diagnosing Cases of the Day.

RSNA extends its appreciation to instructors who have provided questions and references for these courses, making on-demand CME possible. AMA considers on-demand programming as an Enduring Material and requires assessment of the learner by patient management case studies, a post test, and/or application of new concepts in response to simulated problems.

Cases of the Day and More
Virtual Meeting participants may submit answers for Cases of the Day by midnight CT on the day the case is presented at the annual meeting. Correct answers will be revealed the following morning. Access scientific presentations and educational exhibits. Virtual Meeting participants who submit the correct answer will receive 0.5 AMA PRA Category 1 Credits™.

Virtual Meeting Viewing Lounge
Space in the Learning Center has been set aside for attendees to experience the Virtual Meeting. This area will offer comfortable seating, device charging opportunities, computers and headphones for registered attendees to view live or on demand virtual sessions at their leisure.

Virtual Meeting Cost
• RSNA/APM Member — $100
• Non-member — $300
• Member-in-Training or Medical Student Member — $25
• Retired RSNA Member — FREE
• Price is the same whether or not you attend RSNA 2016 in person.

NEW Select CME Courses on Demand
Select courses have been designated for CME credit when consumed on demand following the live session. This Enduring Material has been approved for AMA PRA Category 1 Credits™. Courses will be awarded 15.0 AMA PRA Category 1 Credits™ when viewed on demand through Friday, Dec. 23, at 4 p.m. CT, and upon successful completion of a test and course evaluation. Other courses may be viewed on demand without credit.

NEW Live Ultrasound Demonstrations
Companies will conduct live-ultrasound scanning on human models to better demonstrate the benefits of their product solutions for meeting attendees.

NEW First-Time Exhibitor Pavilion
A new showcase area inside the North Hall will feature first-time exhibitors demonstrating new products and services. Other first-time exhibitors located throughout exhibit hall will be identified with a First Time Exhibitor logo.

Vendor Workshops
Vendors provide hands-on tutorials of commercial software systems in a classroom setting.

RSNA/IHE® Image Sharing Demonstration
See daily demonstrations by care sites and commercial vendors featuring RSNA’s Image Share and Integrating the Health-care Enterprise (IHE®) methods for sharing image-enabled electronic health records and radiation dose information.

International Pavilions
Visit exhibitors from Canada, China, France, Germany, Korea and the Netherlands.

Publishers Row
Visit top medical publishers that will display their educational materials from across all areas of medical imaging.

TECHNICAL EXHIBIT SPOTLIGHTS WORLD’S NEWEST INNOVATIONS

A First-Time Exhibitors Pavilion is one of the new offerings in this year’s Technical Exhibits, one of the world’s largest medical exhibitions featuring nearly 700 exhibitors from across the globe. Shop and compare equipment supplies, devices and software demonstrated by leading manufacturers, suppliers and developers of medical information technology in two halls: Hall A is in the South Building and Hall B in the North Building.

NEW Live Ultrasound Demonstrations
With an extensive gourmet menu and ample seating, Bistro RSNA is a convenient option to sit down to a comfortable lunch and network with colleagues.

Purchase your tickets in advance for $22 per meal. For more information, visit bistroticket.com/rsna.

Sunday, Nov. 27 to Thursday, Dec. 1
11 a.m. to 2:30 p.m.
Technical Exhibits, North & South Buildings

NEW Special Brunch
Thursday, Dec. 1
10:30 a.m. to 1:30 p.m.
Technical Exhibits, North & South Buildings

Enjoy this hearty Special Brunch featuring an optional Bloody Mary bar for an additional fee.

RSNA News
VISIT THE RSNA CONNECTIONS CENTER

The all-new RSNA Connections Center was redesigned with RSNA attendees in mind. The expanded lounge seating offers a spot to network, recharge your phone and enjoy new beverage options including gourmet coffee, wine and beer for purchase.

NEW Membership & Resources
Staff will be available to answer questions about RSNA services including:
• Career Connect
  Assistance if you’re looking for a job or need to fill one.
• Education
  Get answers about available products and resources.
• Image Wisely®
  Take the pledge to Image Wisely using optimal radiation dose in medical imaging.
• International Affairs
  Learn about RSNA’s international outreach programs.
• Journals and News
  Check out all of RSNA’s print, online and mobile publication applications and learn about journal subscriptions.
• Membership
  Get answers to your questions about membership, dues payments and maximizing your benefits.
• RadiologyCares®: The Art of Patient-centered Practice
  Access RSNA patient-centered practice resources.
• RadiologyInfo.org®
  Learn about this comprehensive patient information website.
• Virtual Meeting
  Information about the expanded Virtual Meeting and how to add it to your meeting experience.

Information Desk
Visit RSNA staff at the Information Desk for answers to all your questions about all things related to RSNA 2016.

Digital Support
RSNA technology experts are available to provide one-on-one digital help with Meeting Central, the RSNA Meeting App or the Virtual Meeting.

RSNA Shop
The newly redesigned RSNA Shop is your go-to resource for CME Refresher Course USBs, Radiology Select issues, RadiologyGraphics journal samples and RSNA-branded merchandise and apparel. New this year: Branded items including cashmere scarves and pashminas, leather notebooks, power banks and plush teddy bears for the kids. Attendees can also access RSNA educational resources including online refresher courses, cases, ethics and professionalism courses and RSNA/AAPM Physics Modules.

NEW Discovery Theater Features Music, Performance Acts
Stop by the new Discovery Theater throughout the week for special musical and performance acts as well as discussions on RSNA programs. Attendees can view the full schedule and add the events to My Agenda at Meeting.RSNA.org. Events include:

Performances:
- Callaloo (Caribbean steel drum band)
- Chicago Diamond Trio (jazz band)
- Musically Visual Ensemble
- Hilary Butler Quartet

Presentations:
- Navigating RSNA Quality Certificate Programs
- Research Courses and Workshops
- Resident and Fellow Tweet Up

Back by Popular Demand: RSNA Image Contest
The RSNA community is once again invited to submit entries to the RSNA Image Contest in three categories: Radiology Art, Best Photo, Most Unusual Case and Best Medical Image. Votes will be taken between Oct. 1-31 and winners will be notified through social media on Nov. 4. Drop by the Discovery Theater at RSNA 2016 to view the top 25 entries. Images will also be available at RSNA.org/Image-Contest and at #RSNA16.

R&E Donor Suite
Learn more about the Research and Education (R&E) Foundation activities, including the Inspire-Innovate-Invest Campaign. Read about current grant and award recipients, as well as individual, private practice and corporate donors. Attendees who received a donor ribbon and those who contribute at least $300 onsite enjoy exclusive access to the newly remodeled Donor Suite, which features computers, a coat room, comfortable furniture and light refreshments.
LEARNING CENTER FEATURES
THOUSANDS OF POSTERS AND EXHIBITS
Located in Lakeside Center East, Level 3, the newly redesigned Learning Center houses thousands of education exhibits and scientific posters covering a range of specialties. New this year, scientific posters will be displayed within each learning community. During the lunch hour, authors will be present for Poster Discussions (consult the RSNA Meeting Program for days/times).

CME Learning Checkpoint
Now this year in the Learning Center, CME Learning Checkpoints will highlight the 11 award-winning hard-copy exhibits from RSNA 2015. Attendees can study an exhibit and take the corresponding quiz on their mobile devices or laptops. Attendees receive 0.5 AMA PRA Category 1 Credits™ for each completed quiz.

QI Storyboard Poster Walks
Join David Larson, MD, and Paul Nagy, PhD, experts in quality improvement in radiology, as they walk through the QI storyboards, highlighting examples of great work and sound methodology. Bring your walking shoes and come prepared for an interactive session. Those who are interested in leading and publishing QI projects in the coming months and years will find this especially helpful. Monday, Nov. 28, 3–4 p.m., Quality Storyboard Section.

Quantitative Imaging Reading Room
Explore products that integrate quantitative analysis into image interpretation. Exhibits feature informational posters, computer-based demonstrations, and “Meet the Experts” presentations.

3-D Printing Demonstration and Showcase
In addition to many hands-on courses related to 3-D printing, the Learning Center will include theater poster presentations on 3-D printing throughout the week and a demo area with additional information.

NCI Image Perception Research
Researchers supported by the National Cancer Institute (NCI) will be conducting studies on radiologic image perception at RSNA 2016. RSNA meeting attendees will be able to learn about this important area of research and, if they wish, participate in the studies as volunteers in this lab environment.

Machine Learning Demonstration
Attendees can observe real-time machine learning processing of cases and gain insight into the computer’s cognitive capabilities for image interpretation. The demonstration is designed to educate attendees about advances in machine learning and the opportunities it provides to enhance clinical assistance and workflow efficiency for radiology departments.

CONTINUING EDUCATION CREDITS AVAILABLE
RSNA is accredited by the Accreditation Council for Continuing Medical Education (ACME) to provide continuing medical education for physicians. RSNA designates this live activity for a maximum of 100.25 AMA PRA Category 1 Credits™. Physicians should claim only credit commensurate with the extent of their participation in the activity. Attendees can evaluate CME courses and claim credit electronically. As the meeting approaches, RSNA will send information on how to claim CME instantly from the courses attendees take.

The Commission on Accreditation of Medical Physics Education Programs (CAMPEP) has approved the direct transfer of AMA PRA Category 1 Credits™ to Medical Physics Education Programs (MPCEP) on a credit-for-credit basis for medical physicists.

RSNA is an American Registry of Radiologic Technologists (ARRT)-approved Recognized Continuing Education Evaluation Mechanism (RCEEM) and will provide Category A-VA continuing education credits for radiologic technologists and radiologist assistants.

Self-Assessment Modules (SAMs)
Various times
Select RSNA courses have been approved for SAMs. Each RSNA in-person SAM is available for up to 150 SAM credits and 150 AMA PRA Category 1 Credits™. RSNA annual meeting in-person SAMs are accredited by the MOC program of the Royal College of Physicians and Surgeons of Canada and approved by the Canadian Association of Radiologists.

Academy of Radiology Leadership and Management
The Academy of Radiology Leadership Management (ARLM), sponsored by participating radiology education societies including RSNA, allows radiologists to enhance their careers and develop professional skills. Receive an ARLM Certificate of Achievement by earning 50 education credits across a spectrum of core learning domains including financial skills, human resources, professionalism, legal/contracting and more.

MEETING ESSENTIALS
Meeting Materials
Name Badge
Your meeting badge serves as a virtual business card and is encoded with the name, institution, title, address, email address, phone/fax numbers and demographic information you supplied during registration. You can scan it to leave information with exhibitors.

Your meeting badge is also encoded with radio frequency identification (RFID). Technology is deployed throughout the Technical Exhibits to help monitor traffic patterns and enhance customer service. Your institution, title, city, state, country and subspeciality are captured when you enter an area with RFID technology in use. To opt out of RFID, visit one of the Information Desks throughout McCormick Place.

Ribon Pick Up
This year, RSNA will award 11,397 special recognition ribbons recognizing long-term members. Eligible attendees can pick up recognition ribbons that they did not receive in advance of the meeting at the Membership & Resources booth in the Connections Center, Lakeside Center East, Level 3.

RSNA Program in Brief, Official Meeting Bag, Lanyard and Pocket Guide
The printed RSNA 2016 Program in Brief, official meeting bag, lanyard and Pocket Guide are available at the self-serve distribution areas located in the Lakeside Center East, Level 2, the North Building Level 2, and the South Building Level 1.

In addition to the printed RSNA 2016 Program in Brief, RSNA offers an online program at Meeting.RSNA.org with a user-friendly search engine to find presentations and build your My Agenda. Available online, the RSNA 2016 Pocket Guide is an easy-to-use reference guide to course and event information, floor plans at McCormick Place, transportation and dining.

Technical Exhibits Guide
Available at McCormick Place, the Technical Exhibits Guide includes floor plans, exhibitor list, food service and other exhibit floor activities. The guide is distributed in bins located at exhibit hall entrances.

Online Resources
Meeting Central
Optimized for tablets and mobile devices, the Meeting Central site at Meeting-RSNA.org is an essential resource for navigating RSNA 2016. Explore a host of valuable information, including:

- RSNA Meeting Program — Browse the listings of educational courses, scientific presentations and more. Search for courses, sessions and events by keyword, title or name of presenter, using helpful filters by day, session type and subspecialty.
- Technical exhibitors list — Learn about the companies unveiling the latest equipment and technology.
- Virtual Meeting program — Browse virtual sessions available live or on demand either onsite or virtually from anywhere across the globe.
- My Agenda — Build your calendar and stay organized with a handy schedule personalized to your needs — perfect for planning ahead—and access Credit Eval (see below).

Credit Eval
Click My Agenda to access Credit Eval to evaluate RSNA 2016 courses and claim credits online via your laptop or mobile device, or at any Internet Station in McCormick Place. You can begin your evaluations as early as 10 minutes after courses start, claim your credits onsite, and walk away with printed certificates.

For RSNA members, credits are automatically added to the RSNA CME Repository. Assistance is available in the Connections Center.

RSNA 2016 Meeting App
Download the RSNA 2016 Meeting App for iPhone, iPad and Android smartphones to access and explore the Meeting Program even when you’re offline. Browse the technical exhibitor list, access maps to navigate McCormick Place and customize your daily meeting schedule with My Agenda. Available via the App Store and Google Play, the RSNA 2016 Meeting App is sponsored by Siemens Healthineers.

Stay Connected
Internet Stations
Computers will be available at internet stations throughout McCormick Place for use in accessing Meeting Central and Credit Eval.

Free Wifi
Free wireless connectivity is available throughout McCormick Place. Note: these wireless networks are not secure and should not be used for sending sensitive information.

Charging Stations
Charge your laptop, phone or other mobile device at one of the Charging Stations located throughout McCormick Place.

Professional Portrait Studio
Visit the North Lobby, Level 3 for this popular RSNA attraction to get a free professional headshot to use for CVs, passports and social media profiles. Photos are immediately e-mailed to you.

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RESIDENT AND FELLOW SESSIONS, NETWORKING OPPORTUNITIES

Highlighted by the annual RSNA Resident and Fellow Symposium, RSNA 2016 offers a full roster of programming geared toward residents and fellows, along with networking opportunities. RSNA annual meeting registration is free for members-in-training.

EXPLORE CHICAGO AT RSNA 2016

Make the most of your meeting experience by joining your peers for RSNA Tours and Attractions — your pass to the most interesting, exciting and historic sites in Chicago.

RSNA Resident and Fellow Symposium
The RSNA Resident and Fellow Symposium will be held Tuesday, Nov. 29, during RSNA 2016. Go to My Agenda at Meeting.RSNA.org.

Tour Desks
McCormick Place, Grand Concourse
Saturday, Nov. 26
11:30 a.m. – 5:30 p.m.
Sunday, Nov. 27 – Wednesday, Nov. 30
7:30 a.m. – 4 p.m.

Palmers House Hilton Hotel
Saturday, Nov. 26 – Wednesday, Nov. 30
8 a.m. – 6 p.m.
Thursday, Dec. 1
8 a.m. – Noon

5k Fun Run
Tuesday, Nov. 29, 6:30 a.m.
Arvey Field, South Grant Park, Chicago
Get in an early run along Chicago’s beautiful lakeshore and support critical funding for radiologic research and education. The annual 5k Fun Run benefits the RSNA Research & Education (R&E) Foundation through the fully tax-deductible $40 registration donation. Runners also receive a commemorative T-shirt.

Add the Fun Run to your meeting registration or sign up onsite at the Fun Run desk at McCormick Place (Grand Concourse, Level 2.5)
Luis Donoso-Bach, MD, PhD

A celebrated diagnostic radiologist, researcher and inventor, Luis Donoso-Bach, MD, PhD, has earned an international reputation as a leader in building relationships with radiologic societies across the globe and as a pioneer in creating the virtual radiology conference.

“I'm very grateful to receive this honorary membership from RSNA,” Dr. Donoso-Bach said. “I would like to express my sincere thanks to the Board of Directors for choosing me for this honor. I have the utmost respect for RSNA. Probably no other organization has done as good a job of promoting its profession as RSNA does for radiology.”

Born in Sabadell (Barcelona), Spain, Dr. Donoso-Bach earned his medical degree in 1981 from the School of Medicine of the Autonomous University of Barcelona and his doctorate degree at the university in 1992. After working as a staff radiologist for several years at Hospital de la Santa Creu i Sant Pau, Barcelona, Dr. Donoso-Bach was appointed chair of the Department of Radiology at the Universitat Autonomous de Barcelona and his doctorate degree at the university in 1992.

Currently, Dr. Donoso-Bach serves as the director of the Diagnostic Imaging Department at the Hospital Clinic of Barcelona and as professor of radiology at the University of Barcelona — positions he has held since 2006.

Dr. Donoso-Bach began his research career focusing mainly on abdominal imaging related to liver disease before shifting his emphasis to digital imaging and the development and implementation of new technology for the early diagnosis and interventional radiology and abdominal imaging. He has also focused on diagnostic imaging and interventional techniques such as microbubbles in ultrasound, perfusion imaging in multi-slice CT, and MR elastography for liver imaging.

As a pioneer in the field of radiologic education, Dr. Donoso-Bach has devoted much time to developing radiologic education programs in Spain and beyond. Among his many honors, Dr. Donoso-Bach received the gold medal of SERAM and honorary fellowship in the American College of Radiology. As a leader with the International Society of Magnetic Resonance in Medicine and the European Society of Gastrointestinal and Abdominal Radiology (ESGAR), he has helped to develop new ground in detecting and treating liver cancer. His 1993 research on the use of microcatheter system contributed to the technique becoming the standard for the world today.

Dr. Donoso-Bach has been recognized for his leadership role in the Spanish Society for Diagnostic Radiology (SERAM) and the Association of Radiologists of Spain (AER). He has held various leadership roles within the society, including president of the national and the European societies.

Along with serving as a visiting professor, Dr. Donoso-Bach has been a leader in building relationships with radiologic societies across the globe and as a pioneer in creating the virtual radiology conference.

Bartolozzi guided the scientific content and initiated successful European Magnetic Resonance Imaging conferences. He has served as an associate editor of American Journal of Roentgenology, European Radiology and American Journal of Roentgenology.

Scientifically, Dr. Bartolozzi’s main research interest is the relationship between the radiologist and the patient. He has published more than 400 original articles in English-language scientific journals including Radiology; the American Journal of Roentgenology; European Journal of Radiology; and the Journal of Magnetic Resonance Imaging.

Dr. Bartolozzi’s awards include gold medals from the Japanese Journal of Radiology; the Chinese Society of Interventional Radiology and the Balkan Society of Radiology. He was named an Honorary Fellow of the European Society of Gastrointestinal and Abdominal Radiology. Dr. Matsui was awarded the Radiology Editor’s Recognition Award in 1997, 2008 and 2011. In 2009, Dr. Matsui received the Commendation for Science and Technology from the Japanese Ministry of Education, Culture, Sports, Science and Technology for developing new technology for the early diagnosis and interventional treatment of liver cancers — a prestigious honor for scientists in Japan.
Paul J. Chang, MD

An internationally recognized expert in the field of imaging informatics, Paul J. Chang, MD, was a pioneer in creating rapid methods of moving digital radiology images and spearheaded numerous research and development projects related to imaging informatics and enterprise-wide informatics challenges.

“Dr. Chang’s impact in leading changes in PACS and other informatics tools is unmatched,” said RSNA President Richard L. Baron, MD. “I know of very few radiologists who have given so freely of their time to support new initiatives and informatics developments for national radiology organizations.”

Dr. Chang’s early work in workstation design has resulted in presentation and navigation models that are widely used by the majority of picture archiving and communication systems (PACS). While at the University of Iowa, he established and evaluated one of the first ultrasound rural teleradiology networks to provide primary interpretation. Dr. Chang co-invented a novel tomosynthesis capability-based image display mechanism, dynamic transfer syntax (ITS), which was subsequently commercialized by the creation of Stentor PACS, which was later acquired by Philips Medical Systems. Several hundred hospitals worldwide use this PACS system.

Dr. Chang has been an early advocate for deep and granular information technology (IT) system interoperability to support data-driven informatics workflow orchestration in radiology. He has led teams of one of the world’s first service-oriented architecture (SOA) implementations within a healthcare enterprise at the University of Chicago. Dr. Chang has demonstrated that an SOA approach can be leveraged to improve efficiency and quality in image acquisition, interpretation and results communication.

In addition, the application of informatics approaches to radiology education, Dr. Chang’s research group was one of the first to describe, implement and evaluate the use of simulation in radiology education. He is recognized for leadership and collaboration with RSNA, RSNA Diagnosis Live®, a novel cloud-based interactive educational platform featuring gamification and deep analytics was developed. Diagnosis Live continues to be a very popular part of the RSNA annual meeting and is being used in residency programs around the country.

Dr. Chang is professor and vice chairman of radiology information and imaging at the University of California, San Francisco. He also serves as chief of the Radiology Informatics Program and associate chief of the Department of Radiology, at UCSF. Dr. Chang also serves as Dr. Charles M. and Marilyn Newman Professor and system chair of the Department of Radiology, Icahn School of Medicine at Mount Sinai, and as executive vice president for Risk, the Mount Sinai Medical Center. He served as president of the Mount Sinai Hospital from November 2003 to September 2008.

“Dr. Chang is a pioneer in the use of computerized radiology systems and has pioneered the use of computerized systems to support radiology operations,” said Dr. Chang. “He has been a leader in the development of computerized systems for the delivery of diagnostic services and has been a vocal advocate for the use of computerized systems to improve the quality of patient care.”

Burton P. Drayer, MD

A distinguished leader in healthcare delivery and medical education, Burton P. Drayer, MD, is internationally known for his research using anatomic, physiologic and functional imaging of the aging brain. He was the first to define the normal and abnormal presence of brain iron using MR. His research interests also include neurodegenerative disorders, brain infarction, xenon-enhanced CT for measuring regional cerebral blood flow, MR angiography, multiple sclerosis and intracranial contrast media toxicity.

Dr. Drayer is CEO of the Mount Sinai Doctors Faculty Practice and Dean for Clinical Affairs, the Icahn School of Medicine at Mount Sinai Medical Center in New York. Dr. Drayer also serves as the Charles M. and Marilyn Newman Professor and system chair of the Department of Radiology, Icahn School of Medicine at Mount Sinai, and as executive vice president for Risk, the Mount Sinai Medical Center. He served as president of the Mount Sinai Hospital from November 2003 to September 2008.

“Dr. Drayer has been an accomplished leader and a successful as a leading academic radiologist,” said Dr. Baron, “but he has admirably represented the field of radiology through his visible leadership roles, both in radiology and throughout the Mount Sinai Medical Center.”

Robert J. Stanley, MD

Robert J. Stanley, MD, became a leading authority in the early development of body CT imaging and has been a mentor to future generations of radiologists.

Dr. Drayer, who served as RSNA president in 2011, received his undergraduate degree in political science from the University of Pennsylvania in Philadelphia. In 1971, he received his medical degree from Chicago Medical School in New York to complete a medical internship and a year of surgery residency before completing his radiology residency. More recently, he received a Master of Science degree in health administration at the University of Alabama at Birmingham (UAB), where he is professor emeritus in the Department of Radiology.

Dr. Stanley got his start in academic radiology at the Malinch- rod Institute of Radiology (MRI), Washington University, St. Louis, Mo., and he joined the faculty after completing his radiology residency. He spent the next 11 years at MRI as director of the abdominal radiology section before leaving to serve as professor and chair of the Department of Radiology at the University of Alabama School of Medicine in Birmingham.

Dr. Stanley’s involvement with whole-body CT began in ear- n the fall of 1975 when EMI Corp. collaborated with Wash- ington University and the Mayo Clinic in Rochester, Minn., for the implementation and evaluation of its first two whole-body CT scan- ners in the United States. Given the opportunity, along with Stuart S. Sagel, MD, to head up the newly created body CT facility, Dr. Stanley soon became an authority in the new imaging field. Just prior to leaving MRI, Dr. Stanley and his co-authors, Dr. Sagel and Joseph K. T. Lee, MD, completed the first edition of their landmark CT textbook, Computed Body Tomography with MRI Correlation, currently in its fourth edition.

Over his 32-year tenure as chair of the Department of Radiol- ogy at UAB, Dr. Stanley saw the department grow in size and stature. During this time, he remained active in all aspects of abdominal radiology, and also served as a member of the Board of Chancellors of the American College of Radiology (ACR) for seven years, chairing the Commission on Standards and Accreditation, as well as being elected vice president of ACR. Under his chairmanship, 55 standards now called practice guidelines were created. “His greatest legacy has been his mentoring of multiple gener- ations of younger radiologists, which has produced many national leaders and chair of major radiology departments,” said Dr. B. R. Krippendorf, JR.

Dr. Stanley has served in a leadership role in numerous radiology organizations. He is a founder of both the Society of Uroradiology and the Society for Computed Body Tomography and Magnetic Resonance (SCBT-MR) and served as president of both societies.

In 2014, he was awarded the Walter B. Cannon Medal for dis- tinguished contributions to GI radiology by the Society of Abdom- nal Radiology. And in 2014, he was awarded the first SCBT-MR gold medal for significant contributions to CT imaging.

Dr. Stanley was an advisory editor and associate editor on the Radiology Editorial Board, and has also served on the RSNA Public Information Advisors Network.
Honorees

RSNA will honor two individuals at RSNA 2016 for their contributions to research and education. They are Clifford R. Jack, Jr., MD, of Rochester, Minn., and Kristen K. DeStigter, MD, of Burlington, Vt.

Outstanding Researcher
Clifford R. Jack, Jr., MD

A pioneer in Alzheimer’s disease (AD) research, Clifford R. Jack, Jr., MD, has devoted his career to investigating cognitive aging and dementia imaging/biomarkers.

Dr. Jack, the Alexander Family Professor of Alzheimer’s Disease Research and clinician investigator at the Mayo Clinic, Rochester, Minn., guides a research group that serves as the central MRI link in national and international observational and therapeutic studies in AD. His group heads the MRI section for the Alzheimer’s Disease Neuroimaging Initiative.

Dr. Jack has introduced imaging methods to help identify aspects of AD in the brain that determine its severity and measure progression. His research group develops and validates anatomic MRI, resting fMRI, DTI, amyloid PET, fluorodeoxyglucose PET, and other molecular methods for diagnosing and measuring progression of AD and related disorders.

His early work focused on anatomic and functional MRI in epilepsy. In the 1990s, he began to focus on Alzheimer’s disease and cognitive aging research. His group has many of the early studies in the Alzheimer’s field on quantitative MRI, diffusion imaging, functional MRI, and high-field MRI/magnetoimaging. In the past decade his group has focused on multi-modality imaging, including combination with FDG PET, amyloid PET and most recently tau PET. He has also focused on model biomarker progression in Alzheimer’s.

The National Institute on Aging and Alzheimer’s Association have named him a distinguished investigator. In 2002, the National Institutes of Health named him a senior investigator of the National Institute on Aging. He has been named one of the highest honors in the field of Alzheimer’s research. He received the Mayo Clinic Distinguished Investigator award in 2013.

He is a member of the National Academy of Medicine and the Association of American Physicians.

Dr. Jack has published more than 600 peer-reviewed journal articles. In 2014, Thomson Reuters included him on their list of “Highly Cited Researchers — World’s Most Influential Scientific Minds.”

Outstanding Educator
Kristen K. DeStigter, MD

A dedicated educator and mentor, Kristen K. DeStigter, MD, has earned an international reputation for innovation in education, leadership, and ultrasound outreach.

Dr. DeStigter is the John P. and Kathryn H. Tamps Green & Gold Professor and Interim Chair of Radiology at the University of Vermont College of Medicine. Prior to being selected as chair, she served as vice chair for 10 years. She has extensive leadership experience and long-standing service to local and national committees, boards and professional societies. Additionally, she is the co-founder and president of imaging the World (ITW), a nonprofit organization based in Uganda that integrates ultrasonic diagnosis into systems of care in rural health facilities.

With a career focused on education, Dr. DeStigter is the past program director of the diagnostic radiology residency at the University of Vermont. During her tenure, Dr. DeStigter received three University of Vermont residency teaching awards. Prior to serving as program director, she served as the radiology director of Medical Student Education for three years. She has taught, mentored, and sponsored trainees at various levels of their education as well as mentored faculty in their professional development. She is the immediate past president of the Association of Program Directors in Radiology (APDR) and sits on the Accreditation Council for Graduate Medical Education (ACGME) Residency Review Committee for Radiology.

Dr. DeStigter is vice president of the Vermont Radiological Society, after serving as president for five years. Recently she served as a member of the New England Roentgen Ray Society Executive Committee.

Dr. DeStigter’s scholarly interests and accomplishments include unique applications of ultrasound in rural medicine, the provision of integrated medical imaging services in under-served communities, medical education, quality assurance, and global advances in women’s health care. She is a champion of many projects for safety and quality of care in clinical radiology.

In the international community, Dr. DeStigter leveraged her knowledge and experience through her participation as a member of the World Health Organization Brain Health and Development Group as part of the International Radiology Quality Network. Currently, she chairs the RSNA Committee on International Radiology Education (CIRE) and a member of the RSNA Committee. She has served on the RSNA Annual Assembly Faculty. Dr. DeStigter serves on the American College of Radiology (ACR) Foundation’s International Outreach Committee.

As co-founder and president of ITW, Dr. DeStigter is changing global medicine through a revolutionary concept that combines technology, a teach-the-teacher program, community engagement, quality assurance, and government policy to bring medical expertise and improved health care service delivery. For over six years, as part of Dr. DeStigter’s efforts, formal ultrasound education in community health clinics and referral facilities has provided ultrasound services to the World Health Organization’s eight countries, reaching over 50,000 women per year. Through her work, and in conjunction with her efforts, she has established an affordable ultrasound service has been integrated into clinical facilities throughout rural Uganda. Dr. DeStigter has received several grant awards, including from the Bill & Melinda Gates Foundation. She received the American College of Radiology (ACR) Foundation’s 2016 Global Humanitarian Award for her work improving medical imaging and access to health care.

Dr. DeStigter completed her undergraduate training at Calvin College, her medical training at Case Western Reserve University, and her diagnostic radiology residency and imaging fellowship at University Hospitals of Cleveland, Ohio.

2016 Honored Educator Award

RSNA congratulates the 2016 Honored Educator Award recipients for their dedication to furthering educational scholarship in the field of radiology. Award recipients will be recognized at the 2016 RSNA Annual Meeting.

This year’s recipients are:

- Laura A. Avery, MD
- Sanjeev Bhalia, MD
- Matthew J. Budnik, MD, FRCR
- Juan C. Camacho, MD
- Felix S. Chow, MD
- Aane F. Chudley, MD
- Larry L. Cohen, MD
- Kassia Darge, MD, PhD
- Jonathan R. Dilmoni, MD
- Michael A. Diffire, MD
- Richard L. Ehman, MD
- Elliot K. Fishman, MD
- Lana H. Gibmir, MD
- Daniel Gnatz, MD
- Matthew G. Graneman, MD
- Travis S. Henry, MD
- Mindy M. Horrold, MD
- Pamela A. Johnson, MD
- Anne M. Kennedy, MD
- Jonathan B. Kruskal, MD, PhD
- Vincent M. Melhem, MD
- Christine O. Menias, MD
- Pardeep K. Mittal, MD
- Courtney A. Coursey Moreno, MD
- Rahul D. Ranapurkar, MD
- Neil M. Rohlky, MD
- Michael H. Rosenthal, MD, PhD
- Howard A. Rowley, MD
- Frank J. Rybicki, III, MD, PhD
- Dushyan V. Sahas, MD
- Kumaresan Sandrasegaran, MD
- Akram M. Shaban, MBMB
- Ethan A. Smith, MD
- Tharu A. Sudarshan, DMFR
- Mia M. Talajicov, MD
- Shuchita Srivastava, MBBS, BS
- Terril J. Wriska, MD
- Jonathan Weir-McCall, MBMB, FRCS
- Phay M. Yeap, MBMB, FRCR
- Ian A. Zealley, MD

Established in 2011, the RSNA Honored Educator Award recognizes RSNA members who have produced an award-winning body of RSNA educational resources in the past calendar year or order to be eligible, RSNA members may participate in a number of qualifying educational activities, including:

- Delivering an invited lecture at one or more in-person educational meetings or workshops sponsored by RSNA
- Serving as a visiting professor in RSNA’s International Visiting Professor Program
- Coordinating a Case of the Day subspecialty track for the RSNA Annual Meeting
- Developing a new educational or rehearsed course presentation for online repurposing, including CME test questions
- Authoring educational articles, or providing invited commentaries, best cases, or guest editing in RSNA’s premier journals, Radiology or Radiographics
- Authoring online education modules including CME test questions
- Authoring an online professional autobiography
- Authoring an education exhibit or Quality Storyboard_Educational excellence in educational accomplishments in five categories to be considered for the award, and may not earn credit for more than two activities in any given category

Based on the number of qualifying activities completed, the most active RSNA members are presented with the Honored Educator Award in recognition of their contributions.

Trainee Research Prize, Neuroradiology Research Award

RSNA awards the Trainee Research Prize to honor an outstanding scientific presentation in each subspecialty presented by a resident/physics trainee, fellow or medical student. One trainee research prize in breast imaging is endowed by Tapan K.Chauhdhri, M.D. A list of Trainee Research Prize recipients can be viewed in the Aria Crown Theater lobby.

Funded with a donation from Kuo York Chynn, MD, the Kuo York Chynn Neuroradiology Research Award will be presented annually to the top neuroradiology trainee research poster presented at the RSNA annual meeting. RSNA 2016 is the first year the award is being given.

Travel Award

The Travel Awards for young investigators support candidates invited to present high-quality science. To be eligible, abstract presenters or poster exhibitors must be pre-doctoral students or have been awarded their doctoral degrees no more than three years prior to submission. A list of the Travel Awards can be viewed in the Learning Center.

Alexander R. Margulis Award for Scientific Excellence

The annual award recognizing the best original scientific articles published in Radiology is named for Alexander R. Margulis, MD, a distinguished physicist and innovator in the science of radiology. The honoree will be revealed at the beginning of the Tuesday Plenary Session. After the award is presented, reprints of the honored article will be available for free at the Membership & Resources Booth in the Connections Center at RSNA 2016.

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The RSNA Research & Education (R&E) Foundation funded 101 grants totaling $4 million. The Foundation’s Board of Trustees thanks the Vanguard companies, individuals and private practices whose generous contributions have made the following grants possible.

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Evaluating the Prevalence, Temporal Etiology, and Cost of Patient Motion During Clinical MRI Examinations

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Radiome Sequencing of Glioblastoma: Decoding the Imaging Genomic Landscape and Beyond

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Development of a Reporter Game for In Vivo PET Imaging of Chimeric Antigen Receptor (CAR) T Cells Directed at Solid Tumors

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Mechanism of Hedgeling Pathway-mediated Radiation-Induced Senescence

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Resting State Spontaneous Fluctuations of the BOLD Signal for Perfusion Assessment in Endovascular Stroke Candidates

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Using Ferumoxytrol-enhanced MRI to Assess Tumor-associated Macrophages in Human Glioblastoma Multiforme

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Decreased Variability for Robust Imaging-based Quantification of Tumor Heterogeneity

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The University of Texas MD Anderson Cancer Center  
Carnegie Health  
Research Scholar Grant  
Impact of the Updated 2015 American Cancer Society and 2016 United States Preventive Services Task Force Breast Cancer Screening Guidelines on Screening Mammography Utilization Rates and Screen-detected Breast Cancer Across Demographic Groups in the Greater Houston Area

### Research Scholar Grant

**Matthew J. Nyfot, PhD**  
University of Virginia  
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Quantitative Subarachnoid SPEC/CT Radiomics to Guide Precision Radiotherapy for Patients with Hepatocellular Carcinoma

**Elizabeth J. Sutton, MD**  
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Percutaneous MRI Bipolar as an Alternative to Surgery in Diagnosing a Complete Pathologic Response Post Neoadjuvant Chemotherapy

**Leo L. Tsai, MD, PhD, MSc**  
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Regional Variations in Tumor Metabolism and Proliferation Reflecting a Non-uniform Tumor Micro-environment: In Vivo Assessment with Hyperpolarized 13C MRI

**Shandong Wu, PhD, MSc**  
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Breast DCE-MRI Contrast Enhancement Heatmap and Breast Cancer Risk

**Hoeman Yarmohammadi, MD**  
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Combined Blocking of Aortic and Anacrotic Glycolytic Metabolism for Improving Treatment Response Following Transarterial Embolization for Hepatocellular Carcinoma

### Research Seed Grant

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Preoperative Identification of Isocitrate Dehydrogenase Mutations in Gliomas using MR Spectroscopy, Diffusion-weighted and Perfusion-weighted Imaging

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Near-infrared Spectroscopy of the Resting Brain in Predicting Neurologic Outcomes in the Comatose Patient

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Radiomics to Guide Precision Radiotherapy for Patients with Hepatocellular Carcinoma

**Katherine Min, MD, PhD**  
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Use of Elastography to Quantify Change in Tumor Microenvironment and Heterogeneity

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Utility of Contrast Enhanced Ultrasound and 4DCT for Preoperative Detection and Localization of Second Primary Adenomas

**Sara Lewis, MD**  
Mount Sinai Medical Center  
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MRI-based Surrogate Imaging Markers of Transcriptional Subtypes and Signatures in Hepatocellular Carcinoma

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**Timur Mitin, MD, PhD**  
Oregon Health & Science University  
Agfa HealthCare/RSNA Research Seed Grant  
Novel Imaging of Lymph Nodes in Patients with Rectal Cancer Using Ferumoxytrol-enhanced MRI

**Nima NabaviAzedeh, MD**  
Oncology Health & Science University  
Toshiba America Medical Systems/RSNA Research Seed Grant  
Carcinoma: A Potential Tool for Neoadjuvant Treatment Response Assessment

**Than Binh Nguyen, MD**  
The Ottawa Hospital, University of Ottawa  
Bayer HealthCare/RSNA Research Seed Grant  
Complete Pathologic Response Post Radiation Therapy for Patients with Hepatocellular Carcinoma

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The University of Texas MD Anderson Cancer Center  
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**Seth B. A. Farid, MD**  
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Near-infrared Spectroscopy of the Resting Brain in Predicting Neurologic Outcomes in the Comatose Patient

**Christian D. Berg, MD**  
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Pancreas Cancer

**Ashish Varma, MD**  
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Quantitative Sulfur Colloid SPECT/CT Imaging Biomarkers

**O. Kenechi Nwawka, MD**  
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Tumor Volumetric and Stromal Changes Induced by Systemic Therapy

**Martin R. Prince, MD, PhD**  
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Alternative to Surgery in Diagnosing a Complete Pathologic Response Post Neoadjuvant Chemotherapy

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Other research activities:

- Presentations of scientific papers at regional or national meetings.
- Publication of scientific papers in peer-reviewed journals.
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The RSNA Research & Education Foundation supports the research and development that keep radiology in the forefront of medical support. Your future—today, donate today at RSNA.org/Donate.
**Journal Highlights**

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

**Imaging of Athletic Injuries of Knee Ligaments and Menisci**

Acute knee injuries are a common source of morbidity in athletes and if overlooked may result in chronic functional impairment. MRI of the knee has become the most commonly performed musculoskeletal MR examination and is an indispensable tool in the appropriate management of the injured athlete.

In this Sports Imaging Series article in the October issue of *RadioGraphics* (RSNA.org/RadioGraphics), Ali M. Naragh, FRCR, and Lawrence M. White, MD, FRCP, of the University of Toronto, review the pertinent anatomy, biomechanical function of ligamentous structures, mechanisms of injury, and the imaging appearances of the specific ligamentous and meniscal injuries in the preoperative setting.

**Essentials from the article include:**
- Acute anterior cruciate ligament (ACL) tears are one of the most common causes of acute large hemarthrosis in the athletic population, and 41 percent to 75 percent of acute knee injuries with a hemarthrosis have an ACL tear.
- MRI assessment of chronic posterior cruciate ligament (PCL) injuries is less reliable than assessment of acute injury, as continuity of PCL fibers in chronic injuries can be mistaken for a partial tear or even a normal PCL, particularly if prior imaging or accurate clinical information is lacking.

**Infectious Subacromial-Subdeltoid Bursitis**

Infectious subacromial-subdeltoid (SASD) bursitis in a 35-year-old woman with a history of renal transplantation who presented with bacteremia, left shoulder pain and swelling. Short-axis color Doppler US image shows a complex SASD bursal fluid collection with septa (solid arrow) and associated bursal thickening (dashed arrow). Pronounced hyperemia is seen at the margins of the SASD bursa and in the adjacent deltoid muscle.

*RadioGraphics* 2016;36;6:1606–1627 ©RSNA 2016 All rights reserved. Printed with permission.

**RSNA News**

"Becoming a Reviewer for the RSNA Journals (Sponsored by the RSNA Publications Council)," will be held Wed., Nov. 30 from 8:30 – 10:30 a.m. at RSNA 2016. Staff is also available to assist attendees with any journal-related customer service inquiries such as opting out of print or changing a mailing address.

**RSNA Journals Focus of RSNA 2016 Session**

Listen to Radiology Editor Herbert Y. Kessel, MD, deputy editors and authors discuss the following articles in the September issue of Radiology at RSNA.org/Radiology Podcasts.

**Teaching points in the article include:**
- Real-time diagnostic US of the shoulder should be performed in a logical and systematic fashion by using an approach that is accessible and easy to understand and thus facilitates coherent reproducibility and implementation in daily practice.
- US assessment of chronic posterior cruciate ligament (PCL) injuries is less reliable than assessment of acute injury, as continuity of PCL fibers in chronic injuries can be mistaken for a partial tear or even a normal PCL, particularly if prior imaging or accurate clinical information is lacking.

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**Journal Highlights**

**Comprehensive Shoulder US Examination: A Standardized Approach with Multimodality Correlation for Common Shoulder Disease**

Although MRI is typically the modality of choice for evaluating the soft-tissue structures of the shoulder, ultrasonography (US) is becoming an important complementary imaging tool in the evaluation of superficial soft-tissue structures such as the rotator cuff, subacromial-subdeltoid bursa, and biceps tendon.

In an article in the October Special Issue of *RadioGraphics* (RSNA.org/RadioGraphics), Matthew H. Lee, MD, of the University of Wisconsin School of Medicine and Public Health in Madison, and colleagues describe a standardized approach to the shoulder US examination with a review of the basic technique of this examination, normal anatomy of the shoulder, common indications for shoulder US, and characteristic US findings of common shoulder diseases — with select MRI and arthroscopic correlation.

**Teaching points in the article include:**
- US is accurate and reliable for evaluating the extracapsular long head of the biceps tendon — particularly in the setting of potential tendon rupture and subluxation or dislocation.
- As more radiologists are looking to implement shoulder US into their clinical practices, comfort in performing standardized shoulder US examinations and familiarity with the types of diseases that are best evaluated using US are imperative for the delivery of high-quality patient care," the authors write.

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**RadioGraphics Content Aids Residents, Fellows**

*RadioGraphics* features content tailored specifically to trainees: image-rich, interactive presentations designed to give viewers a thorough understanding of important topics in radiologic imaging. Each presentation is accompanied by an extended abstract that provides additional contextual information. Access articles at RSNA.org/RadioGraphics.
Radiology in Public Focus

Press releases were sent to the medical news media for the following articles appearing in a recent issue of Radiology:

**Congenital Brain Abnormalities and Zika Virus:** What the Radiologist Can Expect to See

Prenatally and Postnatally

A spectrum of imaging findings revealing brain abnormalities associated with the congenital Zika virus infection will aid the radiologist in identifying the virus infection at imaging, according to new research.

In a special report in Radiology, Fernanda Torav-Moll, MD, PhD, vice president of the D’Or Institute for Research and Education and professor at the Federal University of Rio de Janeiro, in Rio de Janeiro, Brazil, and colleagues performed a retrospective review of imaging and autopsy findings associated with the congenital Zika virus infection in women referred to the Instituto de Pesquisa in Campina Grande (IPESQ), Northeastern Brazil — where the infection has been severe.

From June 2015 to May 2016, 438 patients were referred to the IPESQ due to rash during pregnancy or suspected central nervous system abnormalities. From this group, the researchers identified 17 fetuses or neonates of women who had imaging at IPESQ, as well as documented Zika infection in fluid or tissue (“confirmed cohort”), and 28 fetuses or neonates with brain findings suspicious for Zika infection with intracranial calcifications (“presumed cohort”). Imaging exams included fetal MRI, postnatal brain CT, prenatal brain MRI and, in some cases, longitudinal prenatal ultrasound.

The brain abnormalities seen in confirmed and presumed Zika groups were very similar. Nearly all of the babies in each group had ventriculomegaly, a gross enlargement of lateral ventricles in the brain. Although most fetuses had at least one exam showing abnormally small head circumference, the researchers discovered that head circumference was normal in three fetuses with severe abnormally small head circumference, the researchers discovered that head circumference was normal in three fetuses with severe abnormally small head circumference. The researchers discovered that head circumference was normal in three fetuses with severe abnormally small head circumference.

Nearly forty-four percent of the confirmed Zika group and 79 percent of the presumed Zika group had abnormalities of the corpus callosum. All but one had cortical migrational abnormalities. Intracranial calcifications were present in 88 percent of the confirmed Zika group and 100 percent of the presumed Zika group — most commonly found at the gray-white junction of the corpus callosum. All but one had cortical migrational abnormalities.

Intracranial calcifications were present in 88 percent of the confirmed Zika group and 100 percent of the presumed Zika group — most commonly found at the gray-white junction of the corpus callosum. All but one had cortical migrational abnormalities.

There are a variety of brain abnormalities that can be found in fetuses exposed to intrauterine Zika virus infection,” the authors write. “It is important for radiologists to understand the type of abnormalities associated with congenital Zika virus infection to aid in recognition of disease and appropriate counseling of patients.”

**Radiologists Do Not Face Elevated Risk of Radiation-related Mortality**

No evidence of excess radiation-related mortality was found in U.S.-based radiologists who graduated from medical school after 1940, possibly due to increased radiation protection and/or lifestyle changes, according to new research.

Amy Harrington de González, DPhil, of the National Cancer Institute (NCI), Bethesda, Md., and colleagues, used the American Medical Association Physician Masterfile to construct a cohort of 43,763 radiologists and 64,990 psychiatrists (control group) who graduated from medical school between 1916 and 2006. Researchers sought to assess whether differences between radiologists and psychiatrists are consistent with known risks of radiation exposure and the changes in radiation exposure exhibited in radiologists over time.

Vital status was obtained from record linkages with the Social Security Administration and commercial databases, and cause of death was obtained from the National Death Index. In the radiologists who graduated before 1940, researchers discovered an increased risk of mortality from leukemia and/or myelodysplastic syndrome that was likely related to occupational radiation exposure. Results also showed an increased mortality from melanoma, non-Hodgkin lymphoma and cerebrovascular disease in those who graduated before 1940, and this is possibly due to occupational radiation exposure.

“There have been dramatic improvements in radiation protection since the earliest radiologists started practicing, including general lead shielding of equipment, personal use of lead aprons and glasses, and use of room shields,” the authors write.

October and November Public Information Activities Focus on Breast and Lung Cancer Awareness

In recognition of Breast Cancer Awareness Month in October and Lung Cancer Awareness Month in November, RSNA is distributing public service announcements (PSAs) that focus on the importance of screening and the symptoms, risk factors and possible treatment options related to these cancers.

In addition, the RSNA “60-Second Checkup” audio program focusing on breast cancer for October and lung cancer for November will be distributed to 65 radio stations across the country.

RSNA Newsroom Promotes RSNA Annual Meeting to Media

The RSNA newsroom is responsible for all media relations activities associated with the RSNA annual meeting.

Among their duties, the newsroom staff develops the RSNA press kit and online press releases, fields inquiries and interview requests, assists members of the press onsite and promotes research presented at the annual meeting to national and international consumer and trade media.

More than 100 reporters attended last year’s annual meeting and nearly 22,000 stories about RSNA 2015 have been carried by print, broadcast and online media outlets.

**New Content on RadiologyInfo.org**

Visit RadiologyInfo.org, the public information website produced by RSNA and ACR, to read new content posted to the site on Intravascular Ultrasound and Pediatric MRI. Be sure to check out the new “Your Radiologist Explains” video on Pediatric MRI as well.

**Media Coverage of RSNA**

In June, 809 RSNA-related news stories were tracked in the media. These stories reached an estimated 472 million people. Coverage included KCBS-TV (Los Angeles), KCAL-TV (Los Angeles), WCPO-TV (Cincinnati), WebMD, Philly.com, HealthDay, Time, health.com, Boston.com, CNN.com, ScienceDaily, MedPage Today, HealthDay, Houston Chronicle, Diagnostic Imaging and AuntMinnie.com.
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