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## RSNA Press Release

### RSNA Announces Honored Lectures and Annual Orations

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The Radiological Society of North America (RSNA) annually invites eminent researchers to deliver honored lectures during the RSNA Scientific Assembly and Annual Meeting. RSNA 2012 will feature honored lectures by these esteemed leaders: Bohdan Pomahac, M.D., Sheila Ross, Karen E. Arscott, D.O., M.Sc., Keith J. Dreyer, D.O., Ph.D., Paul J. Chang, M.D., Richard B. Gundersen, M.D., Ph.D., Leonard Berlin, M.D., Anthony L. Zietman, M.D., Charles A. Mistretta, Ph.D., and Mickael Tanter, Ph.D.

#### Special Lectures: Opening Session

Facial allotransplantation has delivered superior aesthetic and functional outcomes to patients across the globe with substantial facial defects stemming from trauma, burns or disease, and who had exhausted their reconstructive options without reaching satisfactory results.

In his lecture, "Facial Restoration by Transplantation and the Role of Novel Imaging Technology," Bohdan Pomahac, M.D., will outline novel noninvasive imaging protocols and image post-processing algorithms for the pre-operative screening of facial transplantation candidates and post-operative imaging of face transplant recipients, developed during four facial transplantations performed at Brigham and Women's Hospital (BWH).

Burn director at the BWH Burn Center since January 2009, Dr. Pomahac established the Plastic Surgery Transplantation Program and in April 2009 led the nation's first male face transplant procedure. He then received a \$3.4 million contract from the U.S. Department of Defense to perform and investigate the outcomes of face transplantation. In 2011, Dr. Pomahac led the surgical team in performing the first two full face transplants and first combined face and bilateral hand transplant procedure in the U.S. and the first successful bilateral upper extremity transplantation in the Northeast.

The National Lung Cancer Screening Trial was terminated in fall 2010 when the trial's Data and Safety Monitoring Board notified the National Cancer Institute that accumulated data provided a statistically convincing answer to the study's primary question and those in the control arm must be advised. Subsequent analyses of national and international studies

indicate a mortality reduction of 40 percent or more can be achieved with a protocol encompassing screening and a continuum of care in a multidisciplinary setting—an approach in which the radiologist is the linchpin. The advent of lung cancer screening presents challenges—remodeling the system of care and incorporating collection of outcome data to continuously refine the protocol, among others—but also an opportunity to redefine radiology's role in healthcare.

"The Doctor as Patient; The Patient as Advocate," comes from the viewpoint of Sheila Ross and Karen E. Arscott, D.O., M.Sc., both lung cancer survivors and advocates with the Lung Cancer Alliance.

Twelve years into a 20-year career as a staffer with the U.S. Congress, Ross was diagnosed with Stage II lung cancer. She returned to work within weeks but her annual chest X-ray failed to pick-up the tumor growing behind the sternum. A right pneumonectomy and some creative work on the left bronchus by her thoracic surgeon and her radiologist saved her life, says Ross, now a 12-year survivor.

Dr. Arscott is a clinical associate professor in clinical sciences at Commonwealth Medical College in Scranton, Pa., and was formerly director of the Physician Assistant Program at Marywood University in Scranton. Dr. Arscott underwent surgery after being diagnosed with stage IA lung cancer in 2006; 16 months later, she received chemotherapy, radiation and underwent more surgery for stage IIIA lung cancer.

The Lung Cancer Alliance aims to change public health policies by engaging with organizations in support of biomedical and imaging research and working on Capitol Hill to promote the role of imaging in improving healthcare outcomes. The Alliance asserts that recent scientific validation of the benefits of CT screening is the turning point for lung cancer and an opportunity for radiologists to change patient treatment and diagnosis.

### **Eugene P. Pendergrass New Horizons Lectures: Monday, Nov. 26**

Evolution of the Internet, creation of high-resolution mobile computing devices and recent enactment of federal healthcare IT programs such as Meaningful Use are changing radiology practice and fueling a revolution of new opportunities and challenges, says Keith J. Dreyer, D.O., Ph.D.

Further, the advancement of computational algorithms is providing new pathways for innovation, including nationally standardized clinical decision support for ordering physicians and interpreting radiologists; natural language processing for real-time information access, clinical data mining, simulated training and competency/certification testing; and cloud computing for speech recognition and image sharing across enterprise boundaries with secure access to remote providers and patients.

In his lecture, "The Future of Imaging Informatics—Meaningful Use and Beyond," Dr. Dreyer will explore current and near future use of innovative information technologies, the impact on radiology practice and the federal policies and regulations under way that promote and oversee their use.

Dr. Dreyer is vice chair of radiology at Massachusetts General Hospital and associate professor of radiology at Harvard Medical School. His long history as an RSNA volunteer includes current service as a member of the Radiology Informatics Committee. Dr. Dreyer also holds numerous positions with the American College of Radiology, Society of Imaging

Informatics in Medicine and global healthcare corporations. Dr. Dreyer has authored hundreds of scientific papers, presentations and books and has lectured worldwide on digital imaging standards, image sharing, clinical decision support, meaningful use and electronic health record initiatives.

Radiology practices have undoubtedly benefited from the adoption of electronic-based information technology. However, electronic tools such as PACS, RIS and speech recognition are still relatively immature and arguably support only "commodity-level" capability. These technologies can and have been exploited to commoditize and "outsource" radiology services.

Paul J. Chang, M.D., who will present "Meaningful IT Innovation to Support the Radiology Value Proposition," says that unless radiologists are willing to dramatically re-engineer their attitudes and practices, they will not only fail to effectively use these advanced electronic tools, but will also facilitate the perceived devaluation of radiology and participate in its marginalization. Radiologists, he says, must be "value innovators" who leverage information technology to ensure their relevance and value to patient care through measureable improvements in quality, efficiency and safety.

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

### **Annual Orations in Diagnostic Radiology: Tuesday, Nov. 27**

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

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

Whether to disclose every radiologic error to patients presents a dilemma for many

radiologists. Leonard Berlin, M.D., who will present, "To Disclose or Not to Disclose Radiologic Errors—Should 'Patient First' Supersede Radiologic Self-Interest?" says reluctance or refusal to disclose is driven by fear—of being considered incompetent, of reduced or revoked privileges, of malpractice suits. However, medical organizations' codes of ethics mandate that physicians deal honestly with patients, inform them of mistakes and offer "professional and compassionate concern" toward those who have been harmed, regardless of whether the harm was caused by physician error. Surveys of physicians in all specialties show that a majority believe all errors should be disclosed to patients, but only a minority admit to such disclosures. All physicians, says Dr. Berlin, are ethically and morally obligated to place the needs of their patients first.

Dr. Berlin is a radiologist with Skokie Hospital, formerly Rush North Shore Medical Center, where he chaired the Department of Radiology for 31 years. He is a professor of radiology at Rush Medical College and the University of Illinois College of Medicine. Author of *Malpractice Issues in Radiology*, Dr. Berlin has lectured nationally and internationally on radiologic malpractice and risk management. Dr. Berlin's service to RSNA includes chairmanship of the Professionalism Committee, co-chairmanship of the RSNA-American College of Radiology Task Force to Develop a Core Curriculum on Professionalism for Radiology Residents, and as a member of the Public Information Advisors Network. Dr. Berlin has served as president of both the Chicago Radiological Society and the Illinois Radiological Society.

#### **Annual Oration in Radiation Oncology: Wednesday, Nov. 28**

In the early 20th Century, diagnosis and therapy were two sides of the radiology coin. By mid-century, however, radiation oncologists had forged a unique identity reflecting increased understanding of radiation as a therapy and specialization of some practitioners. Radiation oncology residency programs were created, and journals and clinical practice styles developed. Now, says Anthony L. Zietman, M.D., both specialties are changing again—while the burgeoning field of medical oncology has taken some patient care responsibility away from radiation oncologists and allowed them more time for increasingly complex treatment techniques, diagnostic radiology has developed its own therapeutic branch, interventional radiology. A reconvergence has begun, as interventional radiologists develop consultation clinics and radiation oncologists move toward radiotherapeutic ablation. Dr. Zietman will discuss the overlap and contemplate novel training tracks combining the specialties, in his lecture, "Radiation Oncology and Radiology—Should We Get Married Again?"

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

#### **RSNA/AAPM Symposium: Imaging Speed Demons – Thursday, Nov. 29**

Accelerated angiographic methods in MRA have led to acceleration factors up to 1000 relative to Nyquist requirements. Related approaches have permitted the extension of X-ray DSA to a full 4D modality, providing 3D vascular volumes 200 times faster than

conventional rotational DSA. Fast 4D angiographic techniques are useful for evaluation of dynamic phenomena such as arteriovenous malformations, according to Charles A. Mistretta, Ph.D., who will discuss this topic in his presentation, "Breaking Angiographic Speed Limits: Accelerated 4D MRA and 4D DSA Using Undersampled Acquisition and Constrained Reconstruction." Undersampled acquisition and constrained reconstruction, Dr. Mistretta says, will play a major role in a wide variety of medical imaging applications leading to improved diagnosis, greater interventional flexibility and dose reduction.

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

Advances in ultra-high-speed ultrasound imaging employ the concept of plane wave transmissions rather than line-by-line scanning beams. The frame rate reaches the theoretical limit of physics dictated by the ultrasound speed and an ultrasonic map can typically be provided in tens of micro-seconds. This leap in frame rate makes it possible to track in real time the transient vibrations—known as shear waves—propagating through organs, says Mickael Tanter, Ph.D., who will discuss this topic in his presentation "Ultrasound Goes Supersonic: Very-High-Speed Plane Wave Transmission Imaging for New Morphological and Functional Imaging Modes." Such "human body seismology" provides quantitative maps of local tissue stiffness, of which the added diagnostic value has been recently demonstrated.

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

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Note: Copies of RSNA 2012 news releases and electronic images will be available online at [RSNA.org/press12](https://www.rsna.org/press12) beginning Monday, Nov. 26.

RSNA is an association of more than 50,000 radiologists, radiation oncologists, medical physicists and related scientists, promoting excellence in patient care and health care delivery through education, research and technologic innovation. The Society is based in Oak Brook, Ill. ([RSNA.org](https://www.rsna.org))