RSNA® Radiological Society of North America

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NEWS

RSNA Press Release

RSNA Announces Honored Lectures and Annual Orations

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CHICAGO, Nov. 27, 2011—The Radiological Society of North America (RSNA) annually invites eminent researchers to deliver honored lectures during the RSNA Scientific Assembly and Annual Meeting. RSNA 2011 will feature honored lectures by these esteemed leaders: Zahi A. Fayad, Ph.D., Geoffrey D. Rubin, M.D., A. Gregory Sorensen, M.D., Peter W. Carmel, M.D., Jeffrey R. Petrella, M.D., Gary W. Small, M.D., Stephen M. Hahn, M.D., and William R. Hendee, Ph.D.

Special Lectures: Opening Session

Atherosclerosis-related diseases cost the U.S. more than $500 billion in 2010. The majority of life threatening consequences of atherosclerosis result from acute thrombus formation on the surface of a plaque. In his lecture, "Bleeding Edge Imaging and Therapy in Vascular Disease," Zahi A. Fayad, Ph.D., will discuss the imaging techniques he has helped develop to provide information on both the composition and function of plaques. Dr. Fayad will detail the advantages and limitations of plaque molecular imaging, as well as novel methods for plaque treatment using nanomedicine.

A professor of radiology and cardiology at the Mount Sinai School of Medicine in New York, Dr. Fayad is the director of the Translational and Molecular Imaging Institute, director and founder of the Eva and Morris Feld Imaging Science Laboratories and director of Cardiovascular Imaging Research at the Mount Sinai School of Medicine and Mount Sinai Medical Center.

Dr. Fayad holds 12 U.S. and worldwide patents in imaging and is currently principal investigator for four federal grants funded by the National Institutes of Healths (NIH) National Heart, Lung and Blood Institute and National Institute of Biomedical Imaging and Bioengineering.

Remarkable advances in multidetector CT during the last five years have brought coronary

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CT angiography (CTA) into the mainstream of clinical practice and opened new possibilities such as measurement of tissue perfusion, material decomposition, flow mapping and sub-millisievert CTA.

In "CT Angiography: 20 Years Old and All Grown Up," Geoffrey D. Rubin, M.D., will discuss the rapid development of CTA from its humble beginnings on single-row spiral CT and detail the considerable opportunities and challenges that CTA faces on the cusp of its third decade.

The George Barth Geller Professor for Research in Cardiovascular Disease at Duke University in Durham, N.C., Dr. Rubin pioneered the use of spiral CT and multidetector-row CT for imaging the cardiovascular system and has personally performed and interpreted more than 10,000 CT angiograms. He has served as principal investigator for two NIH grants focused on imaging and analysis of cardiovascular and pulmonary diseases.

Dr. Rubin co-founded the Stanford 3D Medical Imaging Laboratory and the section of cardiovascular imaging in the Department of Radiology at Stanford University and served at the head of both institutions until last year.

Eugene P. Pendergrass New Horizons Lecture: Monday, Nov. 28

Radiology is confronted by both unprecedented scientific opportunity and tremendous societal pressure to justify sophisticated imaging methods, according to A. Gregory Sorensen, M.D. In "Mechanistic Imaging—MR-PET, 7 TESLA MRI, and Beyond," he will explore scientific advances in imaging technology that are enabling visualization of structure, function and pathophysiology at a new level.

Dr. Sorensen is a world renowned neuroradiologist and translational researcher who in June 2011 became CEO of Siemens Healthcare. As co-director of the Martinos Center for Biomedical Imaging at Massachusetts General Hospital in Boston, Dr. Sorensen has led groundbreaking research on acute stroke and glioblastoma. He and his team defined a new syndrome, called "transient symptoms with ischemia," or TSI, that is the equivalent in stroke to unstable angina in the heart. The team also used advanced MRI techniques to demonstrate that a window of vascular normalization occurs in human recurrent malignant gliomas upon treatment, and explored the phenomenon with the worlds first MR-PET camera used to image patients.

Dr. Sorensen is a professor of radiology and health sciences and technology at Harvard Medical School and at the Massachusetts Institute of Technology and is a visiting professor of neuroradiology at Oxford University.

Special Lecture: Monday, Nov. 28

A year and a half after the Affordable Care Act was passed, tremendous strides have been made toward reforming Americas healthcare system. However, serious challenges remain, says Peter W. Carmel, M.D. In anticipation of proposed healthcare spending cuts, Dr. Carmel, president of the American Medical Association (AMA), will outline the AMAs

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aggressive campaign to protect patients and physicians. This will be the focus of Dr. Carmels lecture, "Year Two of Health System Reform: Where Are We Now?"

Dr. Carmel, a pediatric neurosurgeon who practices in Newark, N.J., has been a member of the AMA Board of Trustees since 2002 and House of Delegates since 1985. He has chaired the AMAs Specialty and Service Society and Council on Long Range Planning and Development and also served as president of the AMA Foundation. He is chairman of the Department of Neurological Surgery at the New Jersey Medical School and co-medical director of the Neurological Institute of New Jersey. Dr. Carmel previously chaired the National Coalition for Research in Neurological Disease and Stroke and National Foundation for Brain Research.

Annual Oration in Diagnostic Radiology: Tuesday, Nov. 29

An ever-evolving combination of structural, molecular and functional imaging techniques has illuminated the etiology of Alzheimers disease (AD) and other neurodegenerative diseases and could catapult diagnostic radiology to front and center in clinical trials of new therapeutic agents for AD, according to Jeffrey R. Petrella, M.D. This is the topic of his oration, "Neuroimaging and the Search for a Cure for Alzheimers Disease."

By taking a mechanistic imaging approach—matching imaging methodology with therapeutic mechanism—neuroimaging biomarkers have the potential to increase the power of clinical trials through greater effect sizes, says Dr. Petrella, who will detail various developments that could revolutionize radiologys role in care of patients with AD.

Currently an associate professor of radiology and director of the Alzheimer Imaging Research Laboratory at Duke University Medical Center, Dr. Petrella came to Duke after three years in the Imaging Sciences Training Program at NIH, where he studied applications of dynamic susceptibility perfusion MR and bold functional MR. His work applying functional MR to aging and dementia has earned many awards, including a $1.8 million grant from the National Institute on Aging. Dr. Petrella currently co-chairs the fMRI subcommittee of the RSNA Quantitative Imaging Biomarker Alliance.

Special Lecture: Tuesday, Nov. 29

While people live longer as a result of advances in medical technology, they dont necessarily live better, says Gary W. Small, M.D., adding that neuroimaging and other biomarkers that identify structural and functional brain changes years before dementia symptoms emerge may eventually lead to a "brain check" that allows physicians to identify candidates for prevention treatments. These treatments, he says, paired with lifestyle habits associated with better cognitive health and longer life expectancy, would improve brain health and delay neurodegeneration long enough for people to avoid experiencing dementia symptoms in their lifetime. In his lecture, "Memory and the Aging Brain," Dr. Small will review the latest in early detection and prevention of AD and other forms of age-related memory loss and describe strategies for improving memory performance and protecting brain health.

Dr. Small is a professor of psychiatry, the Parlow-Solomon Professor on Aging at the David

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Geffen School of Medicine at the University of California, Los Angeles (UCLA), director of the UCLA Longevity Center and director of the Geriatric Psychiatry Division at the Semel Institute for Neuroscience & Human Behavior. His team has developed technologies that have improved the early diagnosis of AD and have led to expanded Medicare coverage for brain PET. Dr. Smalls popular books include *The New York Times* bestseller "The Memory Bible."

Annual Oration in Radiation Oncology: Wednesday, Nov. 30

Proton therapy has attracted significant interest as a way to improve the therapeutic index of radiation treatments through dose escalation to tumors, reduction in dose to normal tissues, altered fractionation schedules and combination of protons with radiation sensitizers. In "Proton Beam Therapy: Applications and Future," Stephen M. Hahn, M.D., will address the rigorous clinical trials needed to demonstrate the benefits of proton therapy.

Dr. Hahn is the Henry K. Pancoast Professor and chair in the Department of Radiation Oncology at the University of Pennsylvania in Philadelphia. His research includes photodynamic therapy and farnesyltranferase inhibitors used for the treatment of lung, head and neck and pancreatic cancers.

Dr. Hahns education included a medical oncology fellowship and a radiation oncology residency at the National Cancer Institute (NCI). He also served six years as an NCI commander with the U.S. Public Health Service. He has served as principal investigator on a number of grants, including one from the NCI to study IMRT and proton therapy for prostate cancer.

Special Lecture: Wednesday, Nov. 30

On Wednesday, William R. Hendee, Ph.D., will give a special lecture entitled, "Risk in Medical Imaging: Separating Fact from Fantasy." While thousands of cancers and cancer deaths induced in the U.S. population annually by radiation from medical imaging make eye-catching headlines in the scientific literature and popular press, he says, these numbers are presented without any of the substantial uncertainties underlying their generation. These uncertainties include application of the linear no-threshold model of radiation injury to doses of a few millisieverts, adoption of the idea of effective dose for imaging procedures and use of the concept of Lifetime Attributable Risk, with its broad statistical variability, as a firm quantitative estimate of risk. Such uncertainties raise serious doubts about the validity of quantitative estimates of cancers and cancer deaths caused by medical imaging, according to Dr. Hendee.

Dr. Hendee is a distinguished professor of radiology, radiation oncology, biophysics and bioethics at the Medical College of Wisconsin (MCW) in Milwaukee, where he served as president of the MCW Research Foundation, senior associate dean for research, dean of the Graduate School of Biomedical Sciences, vice chair of radiology and interim dean of the medical school. Dr. Hendee was a founding member of the National Patient Safety Foundation and principal investigator on a project to create a Web-based patient safety education curriculum for physicians, nurses and patients.

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Note: Copies of RSNA 2011 news releases and electronic images will be available online at *RSNA.org/press11* beginning Monday, Nov. 28.

RSNA is an association of more than 48,000 radiologists, radiation oncologists, medical physicists and related scientists committed to excellence in patient care through education and research. The Society is based in Oak Brook, Ill. (*RSNA.org*)

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