

# Nuclear Medicine Innovators Honored at RSNA

**A** clear sign that nuclear medicine has come of age and is continuing to achieve new levels of international recognition for innovation was evidenced by awards and honors presented to notable individuals from the field at last month's meeting of the Radiological Society of North America (RSNA) in Chicago, IL.

## Phelps Delivered New Horizons Lecture



**Michael E. Phelps**

The prestigious annual Eugene P. Pendergrass New Horizons Lecture was given on November 29 by Michael E. Phelps, PhD, Norton Simon Professor and chair of the Department of Molecular and Medical Pharmacology at the University of California at Los Angeles School of Medicine and director of the Crump Institute for Molecular Imaging. Phelps is an active member of the SNM. He has been widely honored for his work in developing PET technology.

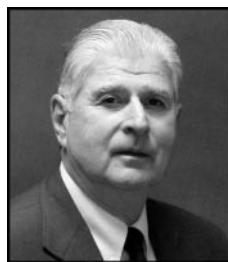
The theme of his address was the revolutionary changes that are accompanying molecular diagnostics and therapeutics. Among other aspects of these changes, he noted the extraordinary interest of pharmaceutical researchers and manufacturers in molecular imaging. He noted that many such companies are likely to redesign PET technology for pharmaceutical applications. "Pharmaceutical companies expend about \$40 billion in research and development. There's a need for an entirely new way to develop drugs that are more efficacious and at lower cost," he said, indicating that molecular imaging offers a number of promising alternatives.

Some nuclear medicine physicians, physicists, and technologists in the audience could remember a not-too-distant time when many in the larger radiological community considered nuclear medicine to be a peripheral imaging subspecialty. It was with some satisfaction that these attendees heard Phelps describe the phenomenal success of PET/CT and cite the latest figures on the use of PET in disease diagnosis: "PET is from 9% to 43% more accurate than conventional anatomic imaging in 12 different cancers in diagnosis, staging, detecting recurrent disease, and evaluating therapeutic responses," he said. "It also is proven now in published results that it changed the way we treat people, in 15% to 50% of the patients." He cited in particular advances made in assessing Alzheimer's disease and other dementias.

Against a backdrop of a photo of a baseball diamond, Phelps noted that molecular medicine is enlarging the

scientific playing field for imaging and said, "Radiology has a great opportunity to engage in the biological sciences and physical sciences, and a great opportunity to be a force in the future of molecular imaging and molecular medicine."

## Gottschalk and McAfee Honored with Gold Medals



**Alexander Gottschalk**

Alexander Gottschalk, MD, a past-president of SNM, was awarded the RSNA Gold Medal at ceremonies on November 30. He was honored for his contributions as a "pioneer researcher and author who has helped shape modern medical imaging." In presenting the award, RSNA President Brian C. Lentle, MD, cited Gottschalk's work with the first clinically useful prototype Anger scintillation camera, the first dynamic camera studies of the brain and heart using  $^{99m}\text{Tc}$ , and the first dynamic camera studies of the kidneys. "Alex has made great contributions to radiology and nuclear medicine over a long career during which he has consistently published textbooks in nuclear medicine recognized for their great pedagogical value," said Lentle. "He was alert and recognized the coming impact of MR imaging in the early days of that technology. As one of the principal investigators in the prospective investigation of pulmonary embolism diagnosis (PIOPED) study, Alex greatly helped in our understanding of the natural history and diagnosis of pulmonary embolism."

"It is awesome to become a gold medalist in this society, a group that contains many of my own role models," said Gottschalk, who is currently chair of the nuclear medicine working group of PIOPED II. He began his career as a research associate at Donner Laboratory at the Lawrence Radiation Lab at the University of California, Berkeley. He then spent a decade at the University of Chicago, where he helped form the university's first section of nuclear medicine and became a professor of diagnostic radiology. He moved to Yale University School of Medicine (New Haven, CT), where he worked with colleagues from cardiology to establish a pioneering cardiovascular nuclear medicine service. He was also director of the section of nuclear medicine, vice-chair of the Department of Diagnostic Radiology, and director of the diagnostic radiology residency program. Currently, he is professor of diagnostic radiology at Michigan State University in East Lansing.

Gottschalk was a long-time editor-in-chief of the *Yearbook of Nuclear Medicine* and has served with distinction on committees for the National Heart, Lung, and Blood Institute, as well as national committees for the U.S. Food and Drug Administration, the National Institute of General Medical Sciences, and the Accreditation Council for Graduate Medical Education.



**John G. McAfee**

An active member of the SNM and the new SNM PET Center of Excellence, John G. McAfee, MD, was also presented with an RSNA Gold Medal at the November 30 ceremony. Lentle cited him for groundbreaking work that has led to significant medical advances, especially in blood cell labeling. "John's commitment to research and teaching has been monumental," said Lentle. "Working at the State University of New York with Mani Subramanian, John developed the first  $^{99m}\text{Tc}$ -labeled phosphate bone scanning agents, and, while on sabbatical in Great Britain, he found other radioactive agents with Dr. Mathew Thakur, which irreversibly labeled blood cells for imaging their organ distribution. These have become among the most widely used procedures not only in nuclear medicine, but also in radiology as a whole."

"I am greatly honored to receive such a prestigious award from RSNA, an organization that I have always respected," said McAfee. "It is a privilege to be recognized by such a prominent group."

Born and raised in Canada, McAfee received his medical degree from the University of Toronto and completed internships at Victoria Hospital and Westminster Hospital, both in London, Ontario. He completed radiology residencies at Victoria Hospital and the Johns Hopkins Hospital in Baltimore (MD), where he also completed a fellowship. He remained at Johns Hopkins for more than a decade as a staff radiologist, becoming chief of diagnosis and, later, overseeing nuclear medicine. He then spent 25 years at the State University of New York Health Science Center at Syracuse as chair and director of radiologic sciences. During that time, McAfee and Henry N. Wagner Jr., MD, imaged the kidneys with radiomercury-labeled chlormerodrin. This event, in 1965, is listed by the SNM as an historic moment in nuclear medicine.

McAfee has also been a professor of radiology at the George Washington University Medical Center in Washington, DC, a consultant to the National Institutes of Health (NIH) Clinical Center in nuclear medicine and, in 1993, became a full-time staff member in nuclear medi-

cine at the NIH Clinical Center in charge of radiopharmaceutical research. He retired in 1996.

### Larson Named RSNA Outstanding Researcher



**Steven M. Larson**

Steven M. Larson, MD, was named this year's RSNA Outstanding Researcher and was cited as "one of the world's foremost experts in targeted radiotherapy and molecular imaging." The annual RSNA Outstanding Researcher Award was established to recognize and honor an individual who has made original and significant contributions to the field of radiology or radiologic sciences throughout a career of research.

Larson currently serves as chief of the nuclear medicine service at Memorial Sloan-Kettering Cancer Center (MSKCC), director of radiology research in the Department of Radiology, and director of the PET Center at MSKCC. He is also a professor of radiology at Cornell University Medical College. An active SNM member, he is currently chair of the SNM Publications Committee and a member of the PET Center of Excellence, the Molecular Imaging Task Force, and the International Advisory Task Force.

His research, which spans 3 decades, has resulted in novel findings, especially in understanding cancer. Using  $^{14}\text{C}$ -labeled media and a sensitive radiodetector system, he developed a technique to rapidly identify bacterial and cell growth, a technology that is used widely today for detecting mycobacterium tuberculosis, including assessing drug sensitivities. He successfully tackled the problems of antibody production, radiolabeling, humanization of the antibody, minimizing host immune response, and developing methodologies to quantify response. His research in detection of colorectal cancer has been successfully applied in the treatment of patients with advanced disease. As an expert on translational aspects of nuclear medicine, he has made significant contributions to the advancement of PET as a clinical tool for oncology. He was recruited to the NIH in 1983, in part to establish a state-of-the-art PET center for NIH researchers. His success in this endeavor led to an NIH Director's Medal in 1987. He has authored or coauthored more than 430 articles in peer-reviewed journals, including *Science*, *Nature Medicine*, *Nature Biotechnology*, *Radiology*, *The New England Journal of Medicine*, and *The Journal of Nuclear Medicine*. He has also served on several governmental advisory committees and study sections at NIH, the Department of Energy, and the Food and Drug Administration.