

Larson Recognized with 2021 Paul C. Aebersold Award

Steven M. Larson, MD, was named on June 14 as the 2021 recipient of the prestigious SNMMI Paul C. Aebersold Award for outstanding achievement in basic nuclear medicine science. Larson is the Hedvig Hricak Chair in Radiology and attending physician of the Molecular Imaging and Therapy Service in the Department of Radiology, member and lab head of the Molecular Pharmacology Program, director of Radioimmunotherapy and Theranostics in the Ludwig Center for Cancer Immunotherapy, and coleader of the Imaging and Radiation Sciences Program for the Comprehensive Cancer Center Grant at Memorial Sloan Kettering Cancer Center (MSKCC; New York, NY). He is also professor of radiology at Cornell University Medical College (New York, NY). The award was announced by SNMMI during its 2021 Annual Meeting. Satoshi Minoshima, MD, PhD, chair of the SNMMI Committee on Awards, congratulated Larson on this achievement: “Steve is a giant. He is truly a pioneer in nuclear medicine. His contributions to cancer imaging and radionuclide therapy have been enormous. I am so fortunate to have crossed paths with him in this exciting field of nuclear medicine and molecular imaging.”

Larson, among the world’s foremost experts in radiopharmaceutical therapy and molecular imaging, has had long-term interests in radiopharmaceuticals for oncologic applications in nuclear medicine and is the inventor or coinventor on more than 40 patents for radioactive drugs. He developed one of the earliest ^{99m}Tc kit formulations (for ^{99m}Tc sulfur-colloid), a product that is still in active use more than 50 years later. He has worked in various aspects of PET since 1979, including a major role in the development of 2 large PET programs—at the National Institutes of Health (NIH) Clinical Center (Bethesda, MD) from 1983 to 1988 and as chief of nuclear medicine in the MSKCC PET program from 1988 to 2013. He has served on numerous government advisory committees and chaired the Radioactive Drug Advisory Committee of the U.S. Food and Drug Administration (FDA), where he was part of a team that developed the 21CFR361.1 Radioactive Drug Research Committee regulations. He has been principal investigator on several large grants from the U.S. Department of Energy and NIH, including the grant that provided funding for the MSKCC Center for Multidisciplinary In Vivo Molecular Imaging in Cancer.

Larson received his medical degree from the University of Washington School of Medicine (Seattle) and completed his residency at Virginia Mason Hospital (Seattle, WA). He has received numerous awards for excellence in nuclear medicine, including the Georg Charles de Hevesy Nuclear Medicine Pioneer Award, the Wagner Lectureship, and the Berson–Yalow award from SNMMI; the G.V. Hevesy Lecture Medal of the European Association of Nuclear Medicine;

the Pendergrass Award and the Radiologic Researcher of the Year Award from the Radiological Society of North America; the Louise and Lionel Berman Foundation, Inc. award for accomplishments in the field of nuclear medicine involving the peaceful use of atomic energy; the Ralph G. Robinson Lecture Award of the American College of Nuclear Physicians; and the Gold Medal of the American College of Nuclear Medicine, among others. He was awarded the Wylie medal by the FDA for his contributions to development of radiopharmaceutical regulations. He is a member of the National Academy of Medicine.



Steven M. Larson, MD

The current primary foci of Larson’s lab are molecular imaging, targeted radiodiagnosis, and therapy using small molecules and monoclonal antibodies, especially pretargeted radioimmunotherapy. An expert on theranostic applications for targeted radiopharmaceuticals, Larson is currently corresponding primary investigator on a grant titled “ $^{124}\text{I-NaI}$ PET: Building block for precision medicine in metastatic thyroid cancer.” Sponsored by the National Cancer Institute, this research seeks to develop image-based dosimetry to improve selection and management of patients with advanced cancers, using ^{131}I therapy of thyroid cancer as a model paradigm for optimizing radiotargeted therapy treatment planning. Larson has authored or coauthored more than 700 articles in major peer-reviewed journals.

The Aebersold Award, first presented in 1973, is named for Paul C. Aebersold, PhD, a pioneer in the biologic and medical application of radioactive materials and the first director of the Atomic Energy Commission’s Division of Isotope Development. In accepting the award, Larson said, “I am truly honored to have been awarded the Aebersold Award by my peers in nuclear medicine. Today I find myself deeply grateful to my mentors—especially Wil B. Nelp, MD, director of nuclear medicine at the University of Washington Medical School in Seattle, and Henry N. Wagner, Jr., MD, director of nuclear medicine at Johns Hopkins University Health Sciences—who afforded me unparalleled instruction in basic and clinical aspects of nuclear medicine. It has also been my great privilege to have trained more than 150 MD and PhD clinical and postdoctoral fellows in nuclear medicine, and I hope that I have returned the favor of wise instruction by passing along what I was taught. Along with my trainees, each day I sought to remain a student, and together we learned much from clinical and laboratory experiments. With the help of outstanding collaborators at the University of Washington, NIH, and of course Memorial Sloan Kettering, I am proud to say that all of us working as a team were

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Ruth Receives SNMMI Georg Charles de Hevesy Nuclear Pioneer Award

Thomas J. Ruth, PhD, a scientist known for his contributions to nuclear medicine and nuclear chemistry, was named as this year's recipient of the Georg Charles de Hevesy Nuclear Pioneer Award on June 13 as part of the SNMMI 2021 Annual Meeting. Ruth was recognized for his significant work in nuclear chemistry, specifically the identification and development of radioisotopes for PET imaging, which helped to advance acceptance for the technology. He also played a key role in development of cyclotron-based technology to produce the medical isotope ^{99m}Tc without the need for a nuclear reactor.

"Dr. Ruth has been a pioneer in radiopharmaceutical sciences for many years," said 2020–2021 SNMMI president Alan Packard, PhD. "He began his career as PET imaging was being introduced, and he has been a leader in the field ever since, as he investigated new radioisotopes, determined their optimal applications, and developed new ways to produce them. Many nuclear medicine scientists have benefited from Dr. Ruth's mentorship over the years, and he has left a legacy that has greatly benefited the field."

Ruth received his master's degree in nuclear chemistry in 1967 from the College of William and Mary (Williamsburg, VA), followed by a doctorate in nuclear spectroscopy in 1973 from Clark University (Worcester, MA). He began his career in 1976 at Brookhaven Laboratory (Upton, NY) and in 1980 moved to TRIUMF (Vancouver, Canada) as a research scientist. There he continued to serve in many roles, including as director of the University of British Columbia–TRIUMF PET Program, until his retirement in 2012. He currently serves as a senior emeritus research scientist at TRIUMF and the British Columbia Cancer Agency. Ruth is also an adjunct professor in the department of medicine at the University of British Columbia (Vancouver, Canada) and in the department of physics and astronomy at the University of Victoria (Canada).

During his career at TRIUMF Ruth oversaw the installation of 4 PET scanners at the University of British Columbia Hospital, as well as installation of the TRIUMF-type 13-MeV (TR-13) cyclotron at TRIUMF. His career accomplishments helped secure investments to build TRIUMF's Institute for Advanced Medical Isotopes, a new facility that will house much of TRIUMF Life Sciences research in the years to come.



Thomas J. Ruth, PhD

"I am honored to receive SNMMI's Georg Charles de Hevesy Nuclear Medicine Pioneer Award," said Ruth. "I have had the pleasure to work with so many colleagues who encouraged me, challenged me, and worked with me throughout my career. My accomplishments would not have been possible without their support."

Since 1960, SNMMI has presented the Georg Charles de Hevesy Nuclear Medicine Pioneer Award annually to an individual for outstanding contributions to the field of nuclear medicine. De Hevesy received the 1943 Nobel Prize in chemistry for his work in determining the absorption, distribution, metabolism, and elimination of radioactive compounds in the human body. His work led to the foundation of nuclear medicine as a tool for diagnosis and therapy, and he is considered the father of nuclear medicine. The list of previous recipients of this award includes numerous Nobel laureates—such as Ernest Lawrence, PhD, who built the world's first cyclotron for the production of radionuclides, and Glenn Seaborg, PhD, who discovered more than half a dozen new elements.

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able to feel the joint satisfaction of adding to the scientific knowledge that has advanced our field. As I near the end of my career, I predict a great future for nuclear medicine as it takes fresh advantage of the revolutionary increases in the fundamental understanding of human biology—in cancer

biology, function of the brain, developmental biology, and immunology, as shining examples. These advances of basic biology must inevitably incite future inventions that will lead to improved diagnosis and therapy with radioisotopes—for the benefit of sick patients, rich and poor, throughout the world."