

O'Donoghue Recognized with Loevinger–Berman Award

George Sgouros, PhD, on behalf of the SNMMI Medical Internal Radiation Dose Committee

At the SNMMI Annual Meeting on June 14th in San Diego, CA, Joseph A. O'Donoghue, PhD, of Memorial Sloan–Kettering Cancer Center (New York, NY), received the 2016 Loevinger–Berman Award for his contributions to understanding of the radiobiology of targeted radionuclide therapy. The Loevinger–Berman Award is given annually by the SNMMI Medical Internal Radiation Dose (MIRD) Committee in honor of Robert Loevinger, PhD, and Mones Berman, PhD, who formulated the MIRD schema for internal dose calculations. The award recognizes excellence pertaining to the field of internal dosimetry as it relates to nuclear medicine through research and/or development, significant publication contributions, or advances in the understanding of internal dosimetry in relation to risk and therapeutic efficacy.

O'Donoghue received his bachelor of science degree in physics in 1981 from the University of Strathclyde (Glasgow, Scotland) and his doctorate in radiation biology in 1989 under Thomas Wheldon, PhD, at the University of Glasgow. In 1991 he joined the Department of Radiation Oncology at the University of Glasgow, where he completed a research fellowship in molecular biology in 1995. Later that year he joined the Department of Medical Physics at Memorial Sloan–Kettering and is currently an associate attending physicist in medical physics.

O'Donoghue's work has focused on radiobiological modeling exploring correlations between radioimmunotherapy and external-beam radiation therapy. His seminal work in this area demonstrated that tumor control probability in radioimmunotherapy does not continue to increase as the number of targeted cells decreases. With radioimmunotherapy, unlike radiation therapy, an identifiable minimum tumor size yields maximum control probability. The mathematical models of response to external-beam radiotherapy and targeted radiopharmaceutical therapy that he has developed have been used to account for differences in dose rate, spatial distribution, the effects of tumor cell proliferation, and normal tissue radiosensitivity in the design of optimal combination and fractionated radioimmunotherapy treatment protocols.

Previous recipients of the Loevinger–Berman Award were: Roger J. Cloutier (1999), Dandamudi V. Rao, PhD (2000), Keith F. Eckerman, PhD (2001), Sven-Erik Strand, PhD (2002), John W. Poston, Sr., PhD (2003), Roger W. Howell, PhD (2004), James S. Robertson, MD, PhD (2005), Gordon L. Brownell, PhD (2006), Evelyn E. Watson (2007), Harold L. Atkins, MD (2008), Stephen R. Thomas, PhD (2009), Amin I. Kassis, PhD (2010), Kenneth F. Koral, PhD (2011), John L. Humm, PhD (2012), Michael

Ljungberg, PhD (2013), S. James Adelstein, MD, PhD (2014), and Roger G. Dale, PhD (2015).

The SNMMI MIRD Committee is tasked to: (1) Develop and provide a standardized framework and methodology for calculation of internal dose quantities in nuclear medicine; (2) Compile, evaluate, and disseminate data needed to implement standardized internal dosimetry methods, including radionuclide decay properties and emissions, energy absorbed fractions, and anatomic models; (3) Collect and assess experimental and peer-reviewed data to publish dose estimate reports for selected new radiopharmaceuticals that significantly impact the current practice of nuclear medicine; (4) Provide peer-reviewed evaluations of proposed new dosimetry models and methods, including correlating dose with biological response for cellular, animal, and clinical trials data; (5) Address other critical and timely dosimetry issues that may impact the current practice of nuclear medicine; (6) Develop, test, and publish software and Internet tools that implement MIRD calculation models and techniques, including dose–response data and biological effective or equivalent dose quantities; and (7) Actively work with other national and international committees through joint meetings and symposia to establish uniformity in dosimetry models, techniques, named special quantities, and units of dose and biological response. In addition to regularly publishing pamphlets and reports on various internal dosimetry topics, the MIRD Committee also sponsors regular sessions at the SNMMI Annual Meeting, including continuing education offerings.

Nominations for the 2017 Loevinger–Berman Award may be submitted by e-mail to gsgouros@jhmi.edu. The nominee's CV and a cover letter, outlining why the nominee would be an appropriate candidate for the Loevinger–Berman Award should be included. The deadline for nominations is November 1, 2016.



Joseph A. O'Donoghue, PhD, receives Loevinger–Berman Award from George Sgouros, PhD