Arne Miller – 2026 ICRU Gray Medal awardee



On October 10th 2026, as part of the ICRU scientific symposium held at the Acibadem Maslak Hospital in Istanbul, Arne Miller was awarded the Gray Medal in recognition of his instrumental role in developing dosimetry for radiation processing. Mr Miller has been active in the field for more than 5 decades and continues to be a leader, scientist, mentor, and teacher. He started his career in this field in 1969 and after a research stay at the National Bureau of Standards in the early 1970s, began the work to establish what would become the world-renowned Risø High Dose Reference Laboratory.

Arne Miller's research and development activities cover a wide range, from primary standards to daily point-of-use: theoretical and experimental investigations of dosimetry systems, application-specific projects for a range of industrial processes, and demonstrations of international consistency between national metrology institutions and commercial calibration laboratories. He has collaborated with many internationally renowned researchers, including William L. McLaughlin at the NBS (now National Institute for Standards and Technology), Peter Sharpe at the National Physical Laboratory and Alan Tallentire at the University of Manchester.

As a recognized innovator with a global understanding of the field, his expertise is regularly in demand and he has been a valuable contributor to the international radiation processing community, with a very significant impact on standards and guidelines such as ICRU report 80 on dosimetry systems for radiation processing and ISO-11137 on Radiation Sterilization of Medical Devices. He has served on several working groups established by ASTM International, the International Organization for Standardization (ISO), the European Committee for Standardization (CEN), and, closer to home, in the Danish Standards Association. He also served for 20 years as joint editor-in-chief for the journal "Radiation Physics and Chemistry".

As well as having a very fruitful research career and fulfilling a major role in standards development, Arne has had a significant, and direct, impact on hundreds of radiation processing practitioners. Through more than 60 training courses on validation and process control for electron beam sterilization with megavoltage beams or processing with low energy electron sources, he has disseminated his extensive knowledge and positively influenced professional practice.

One topic that is very close to his heart is uncertainty estimation, which he reminds any audience is neither a routine task nor a purely mathematical one; it depends on detailed knowledge of the nature of the measurand and of the measurement. An uncertainty

estimate is therefore the result of an in-depth understanding of the subject in question and the award of the Gray Medal demonstrates that Arne Miller is eminently qualified to provide such an estimate!