



International Commission on Radiation Units and Measurements, Inc.

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16th Gray Medal Presented to Professor Willi Kalender



Professor Willi Kalender was awarded the 16th Gray Medal for his outstanding contributions to the field of medical imaging. The medal was presented to him on 3 September 2013 by the ICRU Chairman, Hans Menzel, during the 20th International Conference on Medical Physics in Brighton, United Kingdom. The title of Professor Kalender's award presentation was "New Horizons in Computed Tomography."

Professor Willi Kalender received his doctorate in 1979 from the University of Wisconsin, Madison, working under Professor Charles Mistretta, who was present at the award ceremony and lecture. He then joined Siemens Medical Systems where he participated in, and ultimately led, the development of clinical computed tomography systems until 1995. During his tenure at Siemens, he was responsible for a number of innovative CT scanner designs. One of the most profound technological developments in CT over the past 30 years has been the use of slip-ring systems which allow continuous rotation of the gantry. When combined with continuous table translation, this allows spiral scanning of the patient. Spiral-CT scanning dramatically reduces the amount of time required to acquire a CT scan, thereby enabling a larger number of clinical applications of this technology which has been fully integrated into clinical practice. After leaving Siemens Medical Systems in 1995, Professor Kalender became the founding director of the Institute of Medical Physics of the University of Erlangen-Nürnberg in Erlangen, Germany. While managing his busy career in academic medical physics, he has continued to work with the Siemens organization, and most recently he was involved in the development of their dual-source CT scanner, which allows high temporal resolution cardiac imaging as well as dual-energy CT. Topics of his current research include dose assessment and reduction and high resolution CT of the breast at dose levels equivalent to those in screening mammography.

Professor Kalender is a prolific scientist, with 30 patents, more than 260 peer-reviewed original articles, and over 600 book chapters, reviews and abstracts. In addition, he has mentored about 100 PhD students. He has also founded a number of small businesses in southern Germany, including companies that manufacture phantoms for medical imaging, small animal imaging systems, and computed tomography systems customized for breast imaging. Professor Kalender has won a number of prestigious awards during his distinguished career, including the William D Coolidge Award from the American Association of Physicists in Medicine, the European Latsis Prize from the European Science Foundation, and the Cross of the Order of Merit of the Federal Republic of Germany, to name just a few. Professor Kalender is being awarded the Gray Medal,

the highest honor bestowed by the International Commission on Radiation Units and Measurements (ICRU), for his outstanding contributions to the development of computed tomography systems, including both innovative technical designs and novel clinical applications. Professor Kalender's many contributions to the science and technology of computed tomography have had an enormous impact on patient care throughout the world.