# AAPM and the CONTRIBUTIONS of MEDICAL PHYSICISTS

The American Association of Physicists in Medicine was founded in 1958 with 132 Charter Members, increasing to over 9,000 today.


Temporary Articles of Incorporation were approved in 1958 and later amended in 1965 to the current version, which gives the following purposes of the association:

- To promote the application of physics to medicine and biology.
- To encourage interest and training in medical physics and related fields.
- To prepare and to disseminate technical information in medical physics and related fields.

Initially, AAPM's administrative services resided with the Secretary/Treasurer until, in 1969, an Administrative Office was established at the American Institute of Physics in New York City. It remained there, with a brief interlude when it was relocated to a management firm in Chicago, until 1992, when AAPM established its own Headquarters at the American Center for Physics in College Park, MD. Then, in 2016, the Headquarters moved to its current location in Alexandria, VA.

## Scientific and Educational Activities

Initially, from 1959–1969, Annual Meetings were held in conjunction with the RSNA General Assembly in Chicago. After this time, independent Annual Meetings were established with the first being held in Washington, DC in July, 1970. All Annual Meetings since have been held in the summer, with semi-annual meetings continuing along with the RSNA in November/December.

Annual Summer Schools started in 1969 and Spring Clinical Meetings in 2012.

Note that videos of all presentations made at these and many other AAPM scientific and educational meetings are available free to members and, after an embargo of one year, to all medical physicists worldwide.

On the international level, AAPM has administered an International Scientific Educational Program series of over 30 courses delivered in low to middle income countries.

## Publications

AAPM publishes two scientific journals: *Medical Physics* and the open-access *Journal of Applied Clinical Medical Physics*. Other publications include over 150 Reports, many of which define the practice of medical physics in the US and have strongly influenced practice at the international level, since all AAPM Reports are freely available to medical physicists worldwide. There is also a series of about 40 Monographs, most of which are the Proceedings of AAPM Summer Schools, a series of freely available Medical Physics Practice Guidelines, and a bi-monthly members-only AAPM Newsletter.

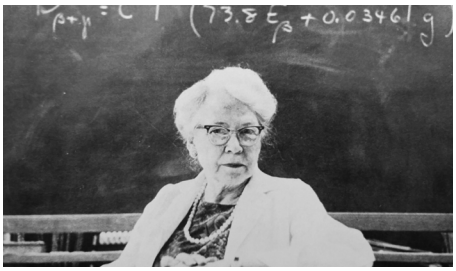
**AAPM MISSION: Advancing medicine through excellence in the science, education and professional practice of medical physics.**

AMERICAN ASSOCIATION *of* PHYSICISTS IN MEDICINE

## Scientific Contributions of Medical Physicists

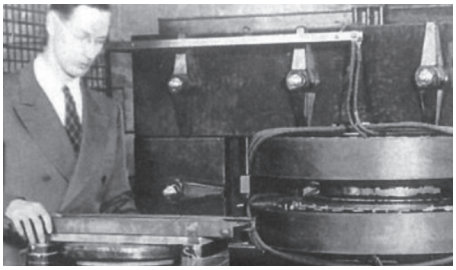
*Some of the AAPM members who have made significant contributions include:*

### | Edith Quimby



She is the world's first female medical physicist, who introduced film-badge dosimetry by cutting X-ray film into strips, covering them with black paper and distributing them among radiological personnel. She also was the first to devise ways to arrange radium sources and calculate doses and dose distributions for brachytherapy.

### | Donald Kerst



He developed the betatron which, in 1948, was adapted for cancer radiotherapy by a team that included medical physicists Gail Adams and John Laughlin.

### | Gail Adams

He was the first President of AAPM and the first Editor of *Medical Physics*.

### | John Laughlin

In 1953, he pioneered computerized treatment planning.

### | Harold Johns

In 1951, he developed the first Co-60 teletherapy machine (shown here demonstrating a Co-60 unit to Princess Margaret and Lord Snowdon). He was inducted into the Canadian Medical Hall of Fame in 1998.

### | Rosalyn Yalow

She developed the radioimmunoassay technique used to quickly and precisely measure concentrations of hormones, vitamins, viruses, enzymes, drugs, and many other substances. She was awarded the Nobel Prize in Medicine in 1977, the second woman to ever receive this award.

### | Allan Cormack

In 1963, he published the first demonstration of computerized tomography's (CT) ability to determine the inner structure of an object from attenuation line integrals through the object. In 1979, he was awarded the Nobel Prize in Medicine, along with Sir Godfrey Hounsfield.

### | Paul Lauterbur

In 1973, he published the first image from a magnetic resonance (MR) system. In 2003, he was awarded the Nobel Prize in Medicine, along with Sir Peter Mansfield.

### | Willi Kalender

He developed spiral CT, which is used worldwide for the diagnosis of many clinical conditions (shown here receiving the Coolidge Gold Medal Award from AAPM President Maryellen Giger in 2009).