The AAPM celebrates past and current contributions of distinguished female scientists to medical physics in the areas of radiology, nuclear medicine and radiation therapy, as well as in some non-traditional areas of medical physics, such as mechanics, optics and electromagnetism. The impact of female medical physicists’ work at the scientific, educational and professional levels will be analyzed and key individuals will be recognized. Among the twenty female charter members, the achievement of at least three of them was extraordinarily. Mary Louise Meurk won the AAPM Award for Achievement in Medical Physics; Edith Quimby, the AAPM William D. Coolidge Award, and Rosalyn A. Yalow, the Nobel Prize in Physiology or Medicine! Many more women joined the AAPM after them. Some were elected to lead the organization. Among the AAPM female officers, there have been two presidents, one secretary and six treasurers. Women have been very active in medical physics world-wide. In Europe, the majority of medical physicists in clinical settings are women. The symposium will present an overview of the advancement of several medical physics applications in both diagnosis and therapy and will introduce novel methods of physics teaching such as explaining the physics of soccer. The future of the profession and the impact of the increasing number of women joining it will be addressed.