



INVITATION

for a

VERA - SEMINAR

with

Dietmar Georg¹ & Wolfgang Birkfellner²

¹Dept. of Radiation Oncology, Div. Medical Radiation Physics

²Center for Medical Physics and BME, Medical University Vienna

**Medical Physics:
Electromagnetic Radiation in
Diagnostics and Therapy**

Within days of W. Röntgen's famous experiments, the huge impact of x-rays to the medical field was evident. Less than a year after their discovery, L. Freund published first results on the treatment of superficial skin lesions with ionizing radiation in 1896. Pioneers of "radiation medicine" learned about the biological and physical effects of x-rays when applying them in diagnostics and therapy, and medical physics as an independent scientific discipline was established as late as 1920. Since then, medical physics contributed continuously to medical progress. For example, J.H. Lawrence, brother to E.O. Lawrence, pioneered the use of isotopes and high-energy x-rays which made him one of the founding fathers of the field now known as nuclear medicine. In 1946, R.R. Wilson proposed the use of protons for therapy, H.O. Anger developed the first scintillation camera in 1957, and in 1971 the world saw the first clinical use of a computer tomograph developed by G.N. Hounsfield. At the same time, P. Lauterbur and P. Mansfield started creating images using nuclear magnetic resonance, and various researchers refined other imaging and treatment modalities such as ultrasound, positron-emission tomography and intensity modulated radiotherapy using linear accelerators.

Today, medical physics is both a field of applied physics and a clinical profession. The presenters are also directors of the Postgraduate Course on Medical Physics, the only official study that provides the basic courses required to become a certified medical physicist in Austria. In this seminar talk, they will give a presentation on the current state of medical physics in research and the job profile of a medical physicist for clinical services.

Thursday, 07.11.2024, 16:30 o'clock

**1090 Wien, Währinger Str. 17, "Kavalierstrakt",
1. Stock, Victor-Franz-Hess Hörsaal**