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Press Release

Professor Dietrich Habs is appointed Max Planck Fellow

Professor Dr. Dietrich Habs, a full professor at the Ludwig Maximilians University Munich, has been appointed a Max Planck Fellow at the Max Planck Institute of Quantum Optics (MPQ). This position will enable him to head his own research group at the institute. The Max Planck Fellows programme was introduced by the Max Planck Society in 2005 and aims to strengthen cooperation between Max Planck institutes and universities. Appointments can last for a maximum of five years. “With Professor Habs as leader of a research group at MPQ the institute will broaden its research programme to include medicine and structural biology,” says Professor Ferenc Krausz, Managing Director at the Max Planck Institute of Quantum Optics.

For several years Professor Habs has been cooperating with MPQ in the field of laser acceleration of electrons and ions, recently in particular with the Attosecond and High-Field Physics Division of Professor Ferenc Krausz. He is especially interested in the application of this technique in medicine. As a Max Planck Fellow at MPQ Professor Habs will work on the development of lasers for new devices that will allow a much better diagnosis and therapy of cancer than current facilities.

One goal of his research will be the development of a compact free-electron laser for generating coherent X-ray radiation to be used for high-resolution images of tumours. Within the framework of the MAP (Munich Centre for Advanced Photonics) Cluster of Excellence Professor Habs initiated studies at the European Synchrotron Radiation Facility (ESRF) in Grenoble (France). These experiments have shown that phase-contrast methods with coherent X-ray radiation achieve a resolution that is improved by a factor of 200 compared to conventional X-ray sources, at a radiation dose that is 20 times smaller.

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Professor Habs also wants to build new compact sources for beams of protons and carbon ions that will be more efficient in the destruction of cancer cells than the methods available now, while also being gentler on the healthy tissue. "We are still, however, a long way off applying these new techniques routinely in medicine," Professor Habs concedes. "There is a lot of fundamental research that has to be done first."

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