

**The Max-Planck-Institute for Extraterrestrial Physics (MPE) in Garching advertises two PhD student positions in the area of Plasma Medicine.**

We invite applications for two PhD positions in the innovative interdisciplinary Plasma Medicine project funded by the Max-Planck Society. The project will be located in the Laboratory of Neuropathology of the Institute of General Pathology and Pathological Anatomy, Technical University of Munich (TUM) and carried out in collaboration between the Max-Planck Institute for Extraterrestrial Physics, the Institute of General Pathology and Pathological Anatomy, TUM, the clinic of Dermatology, Allergology and Environmental medicine, Schwabing-Munich and the clinic of Dermatology of the University of Regensburg.

**Research project description:**

Low-temperature atmospheric-pressure plasma is a multi-component system that includes such biologically active agents as charged particles, reactive nitrogen and oxygen species, metastable-state molecules or atoms and UV radiation. The major goal of this research project is to investigate the effects of these plasma components, separately and in different combinations, on different types of eukaryotic cells. This knowledge will provide a basis for designing plasmas for their medical application in dermatology (*e.g.* chronic wound disinfection), dentistry and hygiene. Several types of devices developed by the Plasma Medicine group of the Max-Planck Institute for Extraterrestrial Physics will provide a source of plasmas for this study. The chemical and physical characteristics of these plasmas can be altered by changing such parameters as power, gas flow rate, or by using different additives.

In the framework of this project, one can investigate the roles of reactive oxygen and nitrogen species in regulation of selected pathophysiological processes.

More information about our Plasma Medicine research group can be found under <http://www.mpe.mpg.de/theory/plasma-med/index.html>

**Requirements:**

Master degree (or equivalent) in Biology, Biotechnology, Biochemistry or related field and experience in cellular and molecular biology are required. Good communication skills, working knowledge of English and ability to work independently in an interdisciplinary team are essential.

The positions are available starting from February/March 2010. The duration of the PhD grant (German TVÖD 13/2 equivalent) is 3 years. The Max-Planck-Institut für extraterrestrische Physik is an equal-opportunity employer, yet specifically aims at an increase of female employees.

Please send your application including CV, a letter of intent, a list of publications and contact information of two references in PDF format via e-mail to [zimmermann@mpe.mpg.de](mailto:zimmermann@mpe.mpg.de).