

PHD POSITION IN THE CONTEXT OF AN INTERDISCIPLINARY RESEARCH PROJECT: “ON-CHIP INTEGRATED UV MICRO PLASMA SOURCES FOR BIOPHOTONIC APPLICATIONS”

Ghent University, Photonics Research Group and Research Unit Plasma Technology

We are looking for PhD candidate to develop and study on-chip micro plasma sources for biological applications in joint project between Research Unit Plasma Technology and Photonics team of the Ghent University (Belgium).

CONTEXT:

UV light has strong potential for biological and medical investigations but still has a limited application. One of the main bottlenecks is the lack of efficient UV light sources. To tackle this issue, the Photonic Research Group (PRG) and the Research Unit Plasma Technology (RUPT) have launched an interdisciplinary activity consisting in coupling UV photonic integrated circuits with micro plasmas emitting at UV wavelengths. By combining their respective expertise, PRG and RUPT expect major breakthroughs in the fields of UV spectroscopy on chip.

JOB DESCRIPTION:

The PhD position will mainly focus on engineering and studying on-chip micro-plasmas by fast imaging methods, spectroscopy techniques and modelling. The student will work in close cooperation with world leading team of Photonics from Ghent University.

PROFILE:

We are looking for candidates with a MSc degree in electrical engineering or applied physics. A good background in photonics or plasma physics, spectroscopy, or good experimental skills are desirable. The PhD student will be able to gain experience in areas such as chip design, clean room processing, plasma physics, plasma generation, optical imaging, and UV spectroscopy.

BENEFITS:

Work for an interdisciplinary project on cutting edge of science; international team; competitive scholarship (1900-2300 EUR); access to the state of the art equipment

ABOUT THE RESEARCH UNIT PLASMA TECHNOLOGY

The Research Unit Plasma Technology (RUPT), founded by Prof. C. Leys, has built up an internationally recognized expertise in the field of cold atmospheric pressure plasmas. The successful development of different plasma generation concepts has launched RUPT into numerous interdisciplinary collaborations exploring a wide range of applications in environmental technology and materials science. Micro-photonic applications are considered a strategic extension for RUPT to explore new plasma physics. The different research tools, such as Xray photoelectron spectroscopy (XPS), atomic force microscope (AFM), plasma chambers, various power generators, optical imaging systems and UV spectrometers are available at RUPT.

APPLICATION:

Through the contact person: Dr. Anton Nikiforov (Anton.Nikiforov@UGent.be)

