



University of Basel, Department of Physics, Klingelbergstrasse 82, 4056 Basel

PhD student in Plasma / Thin Films / Surface Science interactions for magnetic nuclear fusion devices

The PhD work concerns experimental and numerical studies of plasma cleaning of the so-called first mirrors for future fusion facilities, such as ITER. First mirrors will play a crucial role in numerous ITER optical diagnostic systems. The deposition of material eroded from the wall of ITER can degrade the reflectivity of the first mirrors severely. Plasma cleaning using radio-frequency capacitively coupled plasmas is currently being considered as the most promising in-situ cleaning technique. However, this technique has not been validated with magnetized plasmas, which is of crucial importance in fusion tokamaks.

The focus of this 4-year PhD is to investigate the influence of magnetic fields on plasma cleaning using RF, with a special focus on the characterization of relevant plasma parameters. This work will be carried out jointly between the University of Basel and the Swiss Plasma Center (EPFL, Lausanne).

Your profile

We seek a highly motivated individual who enjoys working in a small interdisciplinary team of scientists with different backgrounds. A diploma or master's degree in plasma, materials science, physics, nanoscale science or related field is expected. Experience in using standard plasma characterization techniques (e.g., Langmuir probe, Retarding Field Analyzer) is highly desirable but could be compensated by an extra effort and a high level of motivation of the candidate.

Please submit your CV, publication list (if applicable), a brief motivational statement about why you feel you qualify for this position and reference letters.

You will be registered as a PhD student at the University of Basel.

For further information, please contact

Dr Rodrigo Antunes, Tel. +41 (61) 267 37 25, rodrigo.antunes@unibas.ch or

Prof. Dr. Ernst Meyer, Tel. +41 (61) 267 37 24, ernst.meyer@unibas.ch head of the Nanolino Group

The position is immediately available with a planned duration of 4 years. Please send your application by email to Dr Rodrigo Antunes, rodrigo.antunes@unibas.ch