

Postdoctoral Position Announcement at the University of Illinois at Urbana Champaign
Faculty Adviser: Prof. David Ruzic
Director, Center for Plasma material Interactions
Department of Nuclear, Plasma and Radiological Engineering

The Center for Plasma Material interactions (CPMI) at the University of Illinois at Urbana Champaign is looking to fill in a position at the post-doctoral research associate level, who will work on research areas relevant to plasma material interactions for several applications. The Center for Plasma-Material Interactions currently has 12 graduate students, and over 20 undergraduate researchers. The primary emphasis is experimental and computational study of plasma relating to the manufacturing of semiconductor devices (plasma-based lithography, plasma etching, PVD sputtering) and the edge-region of future fusion energy devices (lithium walls, edge localized modes, mixed material sputtering at elevated temperature). In addition, CPMI is also a part of the "NSF I/UCRC center for Lasers and Plasmas for Advanced Manufacturing" and has many new opportunities for research projects, particularly in the field of atmospheric pressure plasmas. **This particular position will work both in semiconductor materials and in fusion engineering.** CPMI currently has a total of 13 major experimental systems and is expected to grow as we take on new projects. The hired post-doc is expected to closely work with Prof. David Ruzic in managing research activities in the lab and conduct experiments while assisting students with research.

Primary responsibilities include, but are not limited to:

- Work with Prof. David Ruzic in managing research activities
- Advice and assist students with research
- Conduct original research on CPMI projects
- Identify and grow new research directions
- Monitor proposal solicitations and write grant proposals
- Meeting deadlines, milestones and write reports for funding agencies
- Report results in peer-reviewed publications and conferences

The postdoctoral researcher's development at CPMI will also be enhanced through a program of structured mentoring activities. The goal of this program is to provide the skills, knowledge and experience to prepare the successful candidate to excel in his/her career path. To accomplish this goal, the mentoring plan includes career planning assistance, and opportunities to learn a number of career skills such as writing grant proposals, teaching students, writing articles for publication and communication skills.

The successful candidate for this position is expected to have earned a Ph.D. in plasma engineering, nuclear engineering, electrical engineering, mechanical engineering, material science, physics, or a related area before the date of joining. Research experiences in any or all of the following fields are a plus:

- Fusion-Energy Experiments
- Plasma Surface Modification
- Plasma Diagnostics (QCM, ESA, OES, Laser based diagnostics)
- Plasma Modeling
- Plasma Processing Applications
- Plasma Synthesis of Materials
- Material Characterization Tools (SEM, TEM, AFM, Profilometer, Ellipsometer, XPS, AES, TOFSIMS etc.)
- Atmospheric Pressure Plasmas

The post-doctoral research associate will have an opportunity to be involved in all of the above areas and will help grow the group within these and related areas.

Salary: \$45,000 (or competitive and commensurate with experience)

Start date: January 2012

Expected duration of the position: 1-2 years

Benefits: Health insurance, 24 days vacation per year, H-1 visa.

More information about the center for plasma material interactions can be obtained from <http://cpmi.illinois.edu> and for University of Illinois information, please visit <http://illinois.edu>. Illinois is an Equal Opportunity Employer.

Contact info for this position: Prof. David Ruzic, druzic@illinois.edu or Autumn West, Research Coordinator, awest@illinois.edu