

**Postdoctoral Research Associate**  
**University of Illinois Urbana-Champaign**  
**Faculty Adviser: Research Associate Prof. Daniel Andruczyk and Professor David N. Ruzic**  
**Department of Nuclear, Plasma and Radiological Engineering**

The Center for Plasma Material Interactions (CPMI) at the University of Illinois Urbana-Champaign is looking to fill positions 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 4 faculty, 1 Post Doc, 22 graduate students, and over 25 undergraduate researchers. The primary emphasis is experimental and computational study of plasma relating to nuclear fusion (plasma material interactions, liquid metal technology, edge plasma, diagnostics) and manufacturing of semiconductor devices (plasma-based lithography, plasma etching, PVD sputtering, PECVD thin-films). In particular, we are looking for expertise in the field of **Tokamak and Stellarator Operation and Liquid Lithium/Metals as well as Chemistry and High-Power Impulse Magnetron Sputtering (HiPIMS)**. The hired post-docs are expected to closely work with Research Associate Prof. Daniel Andruczyk and Prof. David Ruzic in managing research activities in the lab and conducting experiments while assisting students with research.

Primary responsibilities include, but are not limited to:

- Work with Prof. Daniel Andruczyk and Prof. David Ruzic in managing research activities.
- Advise and assist students with research.
- Conduct original research on CPMI projects.
- Work with government research partners and collaborations on projects.
- Work with industrial research partners and collaborations on 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 their 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, educating 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 within 10 years of the start date of the position. Research experiences in any or all of the following fields are a plus: • Nuclear Fusion, Liquid Lithium, Toroidal Plasma Devices, Atmospheric Pressure Plasmas • Microwave Plasma Discharges • Microwave Systems Design/Modelling • 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.)

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. To apply for this position please send a cover letter, CV/resume, and contact information for 3 references to Prof. *Daniel Andruczyk* at [andruczy@illinois.edu](mailto:andruczy@illinois.edu). The Postdoctoral Research Associate is a full-time, benefits-eligible position appointed on a 12-month service basis.

**Salary:** \$50,000 to \$55,000 (or competitive and commensurate with experience).

**Start date:** Fall 2023 or sooner if possible.

**Expected duration of the position:** 1-2 years.

More information about the Center for Plasma Material Interactions can be obtained from <http://cpmi.illinois.edu>, the Department of Nuclear, Plasma and Radiological Engineering from <http://npri.illinois.edu> and the University of Illinois information, please visit <http://illinois.edu>.

The University of Illinois System is an equal opportunity employer, including but not limited to disability and/or veteran status, and complies with all applicable state and federal employment mandates. Please visit [Required Employment Notices and Posters](#) to view our non-discrimination statement and find additional information about required background checks, sexual harassment/misconduct disclosures, and employment eligibility review through [E-Verify](#).