Graduate Student and Post-doctoral research opportunities

Colorado State University

There are several positions open for graduate and post-doctoral students to participate in leading research at Colorado State University, under the supervision of Prof. Carmen Menoni. The research projects are interdisciplinary in that they involved optical, chemical, material and laser science.

To apply, send a message of intent by email to Prof. Menoni and attach a copy of a resume and lists of two references to:
Prof. Carmen Menoni, Colorado State University
Email: Carmen.menoni@colostate.edu

Research Projects

Nanoscale imaging with extreme ultraviolet lasers
Our group has pioneered the demonstration of a scanning microscope capable to map composition in three dimensions with nanoscale resolution. This project has many potential exciting applications in material science and biology. In this project we are using bright beams of extreme ultraviolet light to ablate a sample. The ions that are generated in the plasma are analyzed with a time of flight mass spectrometer. The goal is to demonstrate chemical mapping of biological specimens.

Nanoscale thin films interference coatings by ion beam sputtering
Our group has the capability to grow by ion beam sputtering metal oxides for interference coatings for mid-infrared high power lasers. In this research we are investigating novel strategies to control defects in the materials to improve the laser damage resistance. This work involves growth and characterization of the materials using optical and chemical probes.

Requirements for post-doctoral students
A successful candidate should have the following qualifications:
• A PhD in Electrical Engineering, Physics, Chemistry or related discipline.
• Solid background and hands-on experience in one or more of the following areas: optical design and fabrication, physical chemistry, mass spectrometry, laser science, programming skills.
• Ability to work independently and safely
• Flexibility in the approach to work and willingness to learn new skills and to interact with an interdisciplinary team.
• An excellent team player with good communication skills.
• Fluency in the English language

Requirements for Graduate Students
A successful candidate should have the following qualifications:
• A BS in Electrical Engineering, Physics, Chemistry or related discipline.
• Flexibility in the approach to work and willingness to learn new skills and to interact with an interdisciplinary team.

The MS and PhD degrees in the Department of Electrical and Computer Engineering at CSU are flexible in that students take courses they are interested in within the department and in other departments such as Chemistry, Physics and Biomedical Engineering. Prof. Menoni also holds adjunct appointments in Chemistry and the School of Biomedical Engineering and thus can serve as the major adviser to students in these departments,