

Post-doctoral position at the Centre for Lasers and Photonics (CELP), IIT Kanpur

The Centre invites applications for 2 vacancies of Institute Post-doctoral fellow:

1. The applicants must be Indian nationals with a Ph.D degree in Engineering or Science from a recognized institute / university in India or abroad. The available topics are given in the next page.
2. Candidates who have submitted their Ph.D thesis are also eligible to apply. However, they are expected to successfully defend their Ph.D thesis within six months from the date of their joining (if selected).
3. The post-doctoral fellow will be associated with a faculty member of the Centre, who will be their mentor. Potential applicants are to get in touch with prospective mentors before applying and specify the name of the mentor faculty member during the time of application. Each application must be accompanied by a Research Plan for 2 years.
4. Each application should be accompanied by the applicant's curriculum-vitae (CV), names and contact details of three referees familiar with the work (one should be the supervisor), and a research plan.
5. The CV (in pdf file format) should clearly state the educational details (along with the name of the degree, year of passing, place of study, marks/grades) and list the publications in journals and conferences separately. Copies of degree certificates are not required at this stage.
6. Each application will be judged based on the merit of the work and the quality of publications. If required, short-listed applicants from within India may be invited to give a seminar in the department.
7. Each appointment will be made initially for a period of one year, and it may be extended for a second year subject to satisfactory performance.
8. The fellowship amount will be Rs. 50,000/- per month for the first year, Rs. 55,000/- per month for the second year, and Rs. 60,000/- per month for the third year. The candidate will also receive Rs. 1,00,000/- per year for travel and contingency.
9. The post-doctoral fellows will be encouraged to participate in the departmental teaching activities such as being a tutor or a lab instructor (with an involvement of a maximum of 8 hours per week).
10. Kindly note that **only two positions** are available at present and the last date for receiving the application is ~~June 10, 2018~~ **July 15, 2018 (extended)**
11. Candidates with a Ph.D degree from IIT Kanpur are not encouraged for this post.
12. Soft copy of the application is preferred and is to be sent to head_ltp@iitk.ac.in with the subject line as "Post-doc application for CELP". Any correspondence by post should be addressed to Head, Centre for Lasers and Photonics, SL-215, IIT Kanpur, Kanpur 208 016, India.

11.5.2018 15.6.2018

1. Topic of research: Optofluidics (Microfluidics+optics), Femtosecond laser based processing

Brief write-up about the work: The primary work will be setting up the fabrication and characterization protocol for optofluidics devices i.e. bio-photonic products, bio/chemical sensors, drug delivery systems, lab-on-a-chip, opto-fluidic laser, Opto-fluidic imaging i.e. microscale interferometer etc.

Expected skills: Microfabrication (Lithography, Sputtering, CVD) and characterization (Microscopy, Refractive index based), Ultrafast laser operation and maintenance and Femtosecond laser.

2. Topic of research: Ultrafast tunable pump-probe studies

Brief write-up about the work: Ultrafast dynamics is omnipresent across various research fields. Capturing these enable us to realize many of the hitherto unexplained scientific phenomena & events. We are interested to develop a portable passive pump-probe measurement device that can be used over a very large range of the input laser characteristics as well as with shaped pulses. Development of such a general purpose multiple/single laser input device would enable to decipher some of our studies that range from controlling chemical dynamics to spatiotemporal control across different setups and lasers and laboratory locations.

Expected skills: Expert in ultrafast lasers; coherent as well as polarization aspects of ultrafast lasers; automated instrument control; hands-on knowledge of optical setup and a proven record of their use.

3. Topic of Research: Novel and specialty optical-grade coatings

Brief write-up about the work: Development of optical coatings (visible and NIR, high- and anti-reflection) on hard and flexible substrates. Ability to computationally model the parameters of the coatings for any given set of objectives.

Expected skills: Fully experienced in using sputtering systems and testing for optical-quality depositions. Competence demonstrated through peer-reviewed publications. Hands-on experience in techniques of characterization (structural and optical) required for testing the coatings.