

Applications invited for a Post-doctoral position in the Research Project entitled 'Organic Electronics for Solar Cells & Transistors' at the Centre for Nano and Material Sciences, Jain University

Centre for Nano and Material Sciences, Jain University, Bangalore invites applications for the Post-Doctoral position for an outstanding candidate for research in "Design, Synthesis & Fundamental Characterisations of pi-Conjugated Macromolecules/ Polymers" for Solar cell and Transistor device applications in the research group of Dr. Ranjith Krishna Pai, Associate Professor, CNMS, Jain University.

About the Research Group

Research is conducted on functional nanomaterials, polymers/ macromolecules, and organic-inorganic hybrids (design, synthesis, and characterisation) for thin-film device applications spanning solar cells, transistors, memories, and charge-storage devices such as flexible batteries and super capacitors (device assembly, testing, and performance optimisations). Bridging Materials Science and Chemistry, the research benefits from a strong network of collaborative interactions with several other groups in major academic institutions worldwide (Brookhaven National Lab, New York, USA, Stony Brook University, USA, Max Planck Institute, Germany).

The energy crisis is probably the most important problem facing the world today. Solar power is by far the most abundant renewable energy source. However, its adoption is slowed by its high cost. Organic solar cells provide a possible solution to this problem, but their efficiency needs improvement. We are working on new measurements to understand organic solar cell operation, and new materials to improve it. We are interested in high calibre candidates who can bring excellent skills to this pressing area of research.

About the Project

New material design, solar cell fabrication, optimisation and testing. Candidates with an expertise in organic thin films for use in electroluminescence, solar cells, thin film transistors and other photonic devices are sought. Qualifications should include hands-on, in-depth experience with the design, vacuum deposition, device fabrication, analysis

and characterisation of active optical components such as organic solar cells, detectors & to perform I-V measurements and calculate critical parameters such as short circuit current density (J_{sc} mA cm⁻²), open circuit voltage (V_{oc}), fill factor (FF), power conversion efficiency (PCE) etc. Successful candidates should be able to work on independent research projects, as well maintain laboratory facilities and infrastructure. This Project is led in collaboration with several partner groups in the USA/ EU (Brookhaven National Lab, Stony Brook University, Max Planck Institute).

Qualification

Prospective candidates should have a Ph.D. in electrical engineering, materials science, physics or electronics. Good experimental skills (experience with electronic equipment certainly helps) and solid basic understanding of semiconductor physics and/ or optoelectronics. Ideally, the applicant should have experience with organic electronics. The ability to work closely and collaborate with colleagues is a must. Proficiency in English language is required.

Emoluments and Conditions of employment

Position offers a salary of INR 35,000/- per month. Appointment is for 1 year, and can be extended to 2-3 years depending on the completion of project. The position is available immediately and should be filled no later than 1 January 2014.

How to Apply

Send your detailed resume along with a cover letter, contacts of at least two references and scanned copies of the M.Sc. mark sheets (all semesters/ years) to:

Prof. Ranjith Krishna Pai

Associate Professor

Centre for Nano and Material Sciences

Jain Global Campus

45 km, NH - 209, Jakkasandra Post

Kanakapura Taluk, Ramanagara District - 562 112

Or E-mail ranjith.krishnapai@gmail.com

Last date of Application: 15 December 2013