

Applications invited for the post of a Research Assistant for a Research project entitled 'Organic Synthesis of New Photoactive Materials for Organic Solar Cells' at the Centre for Nano and Material Sciences, Jain University

Centre for Nano and Material Sciences, Jain University, Bangalore invites applications for the post of a Research Assistant 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 polymers based on fullerenes are expected to play a role in the development of highly stable, large-scale Organic Solar Cells (OSCs). The PhD fellow will have the aim of developing and synthesizing new fullerene-based materials for OSCs. This work will be carried out using polymer and organic chemistry, and photoemission spectroscopy to

target optimized structures. Specific experience with conjugated polymers and/or fullerenes is ideal. The successful candidate will undertake training in OSC-device preparation, and their materials will be used in creating OSCs.

Keywords: Fullerene, Organic Solar Cells, photovoltaic, polymer synthesis, block copolymers, photo-emission spectroscopy

Qualification

A Masters degree in Organic-Materials Chemistry is required, preferably with a strong background in organic chemistry. Specific experience synthesizing conjugated molecules/polymers is desirable. The ability to work closely and collaborate with colleagues is a must. Proficiency with the English language is required.

Emoluments and Conditions of employment

The position offers a salary of INR 15,000 per month. The salary and appointment terms are consistent with the current rules of University and project norms. The position is available immediately and should be filled no later than 1 January 2014. The assessment of the applicants will be made by the Ph D Supervisor.

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

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Or E-mail ranjith.krishnapai@gmail.com

Last Date of Application: 15 December 2013