

## **FACULTY ADVERTISEMENT FOR THE DEPARTMENT OF CHEMICAL SCIENCES**

### **1. Assistant Professor Position in Chemical Biology**

IISER Kolkata is seeking application for the assistant professor position from individuals engaged in research activities on Chemical Biology preferable engineer biological systems in order to generate more complex chemical matter or chemical outcomes, again with precision and control. Candidate should have expertise in DNA, RNA synthesis, analysis technology, tissue engineering, animal model study.

Applicants should demonstrate the following qualifications. Ph.D. degree in science and engineering, especially in better drug targets and treatment options as well as better biomarkers and diagnostic strategies or related branches of study, emphasize water treatment processes, preferably in membrane filtration. Special knowledge in biosynthesis, tissue engineering, animal model. Candidates must have a three years' post Ph.D. experience.

### **2. Assistant Professor Position in Membrane Science and Technology**

IISER Kolkata is seeking application for the assistant professor position from individuals engaged in research activities on wastewater systems, advanced water treatment (both ultrafiltration and nanofiltration membrane processes), water recycling, and chemical analysis for process control and water quality monitoring. Candidate should have expertise in membrane filtration technology, including hollow fiber, capillary, and flat sheet membrane synthesis and fabrication.

Applicants should demonstrate the following qualifications. Ph.D. degree in science and engineering, especially in water science and technology, process engineering, environmental or chemical engineering, or related branches of study, emphasize water treatment processes, preferably in membrane filtration. Special knowledge in chemical, physical, and biological water treatment processes focuses on the membrane or hybrid membrane processes used for water reuse, seawater desalination, or industrial process water treatment. Candidates must have a three years' post Ph.D. experience.

### **3. Assistant Professor Position in Battery Science**

IISER Kolkata is seeking application for the assistant professor position from individuals engaged in research activities on lithium-ion (Li-ion) battery, advanced lead-acid battery, flow & metal-air batteries, sodium-ion battery, and other energy systems. The applicant must have the expertise to develop advanced diagnostics and prognostics to determine degradation mechanisms and predict the lifetime of the battery and other energy systems. Applicants should have research experience in experimental and computational studies of battery and other energy systems particularly, algorithm development for signal processing and fault diagnostics, algorithm development for machine learning and failure prognostics, computer modeling of cell/battery designs, lifetime performance, electrochemical analysis, Devise fabrication and battery materials characterization.

Applicants should demonstrate the following qualifications. Ph.D. degree in science and engineering, especially in metal-ion battery and other energy systems. Special knowledge in devise fabrication, experimental and computational studies of battery and other energy systems particularly, algorithm development for signal processing and fault diagnostics. Candidates must have a three years' post Ph.D. experience.

#### **4. Assistant Professor Position in Bioelectronics - Brain Research**

IISER Kolkata is seeking application for the assistant professor position from individuals engaged in research activities on advancing the understanding and treatment of disorders in the human nervous system. The applicant must have the expertise to develop flexible neural fiber-probes for the treatment of injuries to peripheral nervous system.

This multi-disciplinary area is at the interface between materials chemistry, neurobiology and electronics. Applicants should demonstrate the following qualifications. Ph.D. degree in science and engineering, especially in tissue engineering, biomedical research or preferably the expertise in handling minimally-invasive ways to modulate electrical signals in deep brain structures.

#### **5. Assistant Professor Position in artificial intelligence in chemistry or soft robotics**

IISER Kolkata is seeking application for the assistant professor position from individuals engaged in research activities on artificial

intelligence in chemistry or soft robotics that involves an intricate knowledge at the interface of chemistry and engineering to develop planetary rovers for extraterrestrial simulations to microsurgeries without affecting vital organs at unreachable places in human body. The applicant must have the expertise to develop soft robots that can transform themselves from a rigid to non-rigid state as required for mechanical, piezoelectric and magnetic sensing.

Applicants should demonstrate the following qualifications. Ph.D. degree in science and engineering, especially in Engineering skills, Solution design by chemistry, and artificial intelligence. Candidates must have a three years' post Ph.D. experience.

**6. Assistant Professor Position in renewable fuels from waste**

IISER Kolkata is seeking application for the assistant professor position from individuals engaged in research activities on renewable fuels from waste, recycling, and chemical analysis for process control and quality monitoring. Candidate should have expertise in waste handling, value addition to waste, conversion of waste to fuel, fabrication and deliverable technology.

Applicants should demonstrate the following qualifications. Ph.D. degree in science and engineering, especially in waste recycling technology, process engineering, environmental or chemical engineering. Candidates must have a three years' post Ph.D. experience.