

**Indian Institute of Technology Gandhinagar**  
**Chemical engineering**  
**Palaj, Gandhinagar, Gujarat - 382355**

**Advertisement for the post of Post Doctoral Fellow/Research Associate**

A 2-year Post Doctoral Position/Research Associate available for the following project from Board of Research in Nuclear Science (BRNS) title “Influence of humid environment and high temperature hydrogen exposure on thermo-physical properties of  $\text{Li}_2\text{TiO}_3$  and  $\text{Li}_4\text{SiO}_4$  pebbles and its formation kinetics through solid-solid reaction”

**Research Description:** Lithium based materials such as Lithium metatitanate ( $\text{Li}_2\text{TiO}_3$ ) and lithium orthosilicate ( $\text{Li}_4\text{SiO}_4$ ) are the promising tritium breeder ceramic in Test Blanket Module (TBM) of International Thermonuclear Experimental Reactor (ITER) project. We are going to study the influence of hydrogen exposure of  $\text{Li}_2\text{TiO}_3$  and  $\text{Li}_4\text{SiO}_4$  pebbles at high temperature. In addition, the influence of humidity and atmospheric temperature variation on long term storage of these materials is to be studied. An in-depth analysis of thermal stability and  $\text{H}_2$  adsorption/desorption behavior of these Li-based materials are to be established along with their formation kinetics.

**Qualifications:** PhD in Chemical Engineering/Mechanical Engineering /Materials Science or related branch of Engineering/Science from reputed institute.

**Job Description:** Post Doctoral Fellow/Research Associate is expected to contribute in the above mentioned research involving

- Fabrication of experimental set up for  $\text{H}_2$  adsorption/ desorption study and any other related set ups.
- Conduct required experimentation and material characterization using laboratory facilities at IIT Gandhinagar, Palaj, Gandhinagar and the Institute of Plasma Research (IPR), Bhat, Gandhinagar – 382428.
- Preparing required reports/Journal papers including project presentations

**Desirable:** Knowledge of similar type of research experience of solid phase characterizations and gas phase absorption/desorption behavior using different standard analytical technique will be an added advantage

**Salary:** Consolidated salary of 36,000/- per month + contingency of 25,000/- per year. The appointment can be extended to the second year based on the performance of the first year.

Interested candidates may send their application along with the resume on or before Aug 25, 2016 to: [chinmayg@iitgn.ac.in](mailto:chinmayg@iitgn.ac.in)