

Helmholtz – CSC – Fellowships 2010

- Helmholtz Centre:** Karlsruhe Institute of Technology (KIT)
- Research Field:** Nuclear safety
- Research Project:** Two-phase flow in PWR
- Position:** PhD Student X Sandwich PhD Student Postdoc
- Department/Supervising scientist:** Department of Mechanical Engineering / Prof. Xu Cheng

Research Area:

Two-phase flow is a key phenomenon occurring in pressurized water reactor (PWR) at both normal and accident conditions. Understanding and accurate description of local two-phase flow behaviour in fuel assemblies enables more economic and reliable design of PWR cores.

The main tasks of this project consist of:

- Development of new models for the prediction of transversal exchange between sub-channels at both sub-cooled and saturated two phase flow conditions based on experimental data;
- Improvement of sub-channel analysis codes for PWR applications
- Validation and uncertainty assessment of the applied sub-channel analysis codes and CFD codes

Specific Requirements:

- Master degree (or equivalent) in Nuclear Engineering, Power Engineering or Mechanical Engineering;
- Basic courses in Nuclear Engineering;
- Fluent in English
- Experience in numerical simulation of heat transfer and fluid mechanics will be of advantages.

Work Place: Karlsruhe Institute of Technology. Campus-South

Earliest Start (between September 2010 and February 2011): September 2010

Language Course: Available at Karlsruhe Institute of Technology

Further Information:

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