



FJOH 2015

Frédéric JOLIOT & Otto HAHN
SUMMER SCHOOL ON NUCLEAR REACTORS
“Physics, fuels and systems”

ENHANCED REACTOR SAFETY: DESIGN AND SIMULATION OF LWR EVOLUTIONARY CORES

▶ Application deadline
May 18, 2015

Karlsruhe Germany

▶ **August 19 > 28, 2015**



LECTURERS

Dr. Cédric Laville (IRSN-France)

Dr. Robert Mills (NNL-United Kingdom)

Prof. Jess C. Gehin (ORNL-USA)

Prof. Abdallah Lyoussi (CEA-France)

Dr. Victor Sánchez-Espinoza (KIT-Germany)

Dr. Holger Schmidt (AREVA-Germany)

Dr. Sören Kliem (HZDR-Germany)

Dr. Shannon Bragg-Sitton (INL-USA)

Dr. Yang-Hyun Koo (KAERI-Korea)

Dr. Masaki Kurata (JAEA-Japan)

Dr. Martin Steinbrück (KIT-Germany)

Dr. Bruno Michel (CEA-France)

Dr. Marie Moatti (EDF-France)

PROGRAMME OUTLINE

Introduction (2h)

- ▶ Motivation for Enhanced-safety LWRs, and Implications

Core Physics and Safety (10h)

- ▶ State-of-the-art Fuel Inventory and Decay Heat Simulation, Uncertainty Assessment
- ▶ LWR Core Design Trade-offs for Built-in Enhanced Accident Tolerance
- ▶ Robust In-core Instrumentation for Improved Core Performance and Control

Thermo-hydraulics and Multi-physics (8h)

- ▶ Evolutionary LWR Designs – Progress in Simulation for Multi-physics Analyses and DBA Assessment
- ▶ Validation Experiments & Instrumentation, Demonstrations

Clads and Fuels: From Current Designs to Innovative Concepts (12h)

- ▶ Requirements for Accident-tolerant Fuel and Clad Properties
- ▶ Detailed Modelling and Databases of LWR-fuel Degradation in Severe Accident Conditions
- ▶ Modelling and Simulation: Where do we Stand? Gaps, Testing, and Experimental Validation

Group reflection on selected scientific topics (6h)

Seminar (2h)

- ▶ Licensing Aspects of Plant Evolution vs. Economics and Performance Issues

Technical visits of KIT facilities

Extra-curricular and social events and an attractive weekend programme will be organized.

Full registration fees: €1900- Reduced fees: €950 for fellowship recipients.