



FJOH 2016

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

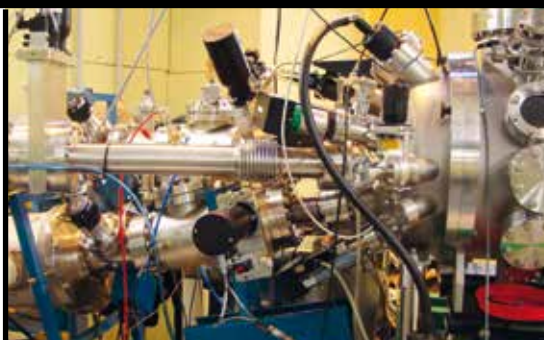
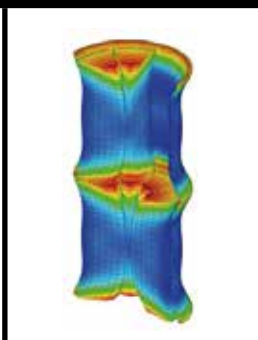
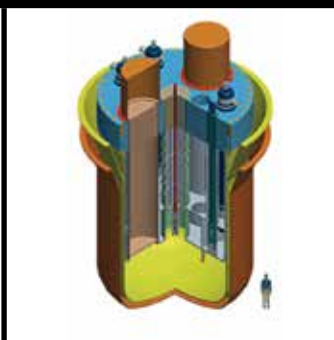
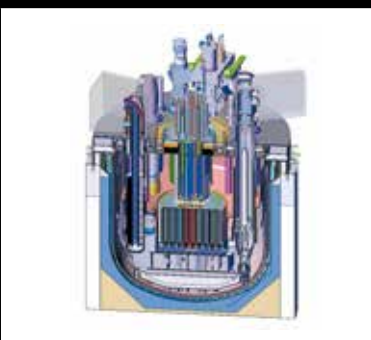
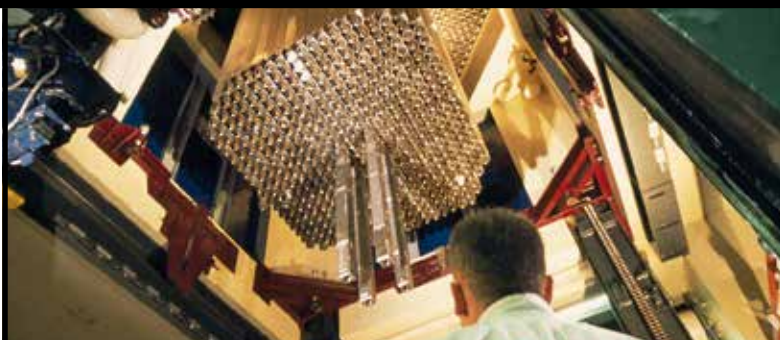
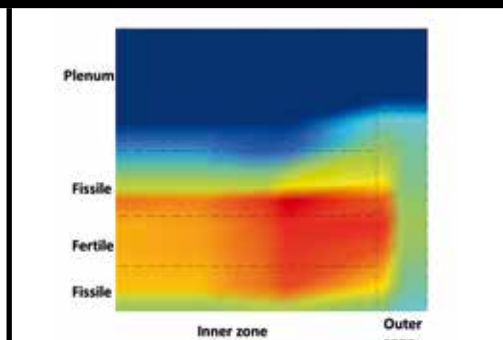


TOMORROW'S LIQUID METAL FAST REACTORS: TOWARDS IMPROVED SAFETY AND PERFORMANCE

▶ Application deadline
May 13, 2016

Aix-en-Provence **France**

▶ August **24** ▶ September **2**, 2016



LECTURERS

J.-F. Sauvage (EDF - France)
S. Monti (IAEA)

W. Van Rooijen (Fukui Univ - Japan)
G. Grasso (ENEA - Italy)
D. Verrier (AREVA - France)
B. Fontaine (CEA - France)
F. Roelofs (NRG - The Netherlands)

N. Chauvin (CEA - France)
T. Wiss (JRC-ITU - Europe)
A. Courcelle (CEA - France)
A. Kimura (Kyoto Univ. - Japan)
J. Konys (KIT - Germany)

G. Bruna (IRSN - France)
K. Mikityuk (PSI - Switzerland)
J.-P. Van Dorsselaere (IRSN - France)

P. Puthiyavinayagam (IGCAR - Inde)

PROGRAMME OUTLINE

- ▶ **Introduction** 4h
 - > The Transition from Light Water Reactors to Fast Reactors: Conditions and Foresight
 - > Status, Gaps and Challenges for Candidate Fast Reactor Concepts
- ▶ **Core Physics and Thermal-Hydraulics** 12h
 - > Fundamentals of Fast Reactor Core and Fuel Cycle Physics
 - > State-of-the-art Reactor Physics Methods for LMFR Core Design with Illustrations taken from the ASTRID/SFR and ELFR/LFR Projects
 - > Advanced Thermal-hydraulics for Liquid-Metal Reactors: Beyond State-of-the-art Methods, Techniques and Experiments
- ▶ **Fuel, Clad, Structural and Coolant Materials** 12h
 - > LMFR Fuels: Fundamentals, Performance, and Design Requirements for Traditional (Oxide) and Advanced Fuels
 - > LMFR Clads and Structural Materials: Fundamentals, Performance and Design Requirements for Traditional and Advanced Materials
 - > Compatibility of Fast Reactor Structural Materials with Liquid Metal Coolants
- ▶ **Safety Assessment and Licensing** 8h
 - > Safety Requirements and Methodology: What is New? What are the Trends?
 - > Assessing LFR and SFR Safety: Criteria, Event Scenarios for DBAs and Beyond DBAs, Knowledge Gaps
- ▶ **Group Reflection on Selected Scientific Topics** 6h
- ▶ **Seminar** 2h
 - > Indian Fast Reactor Programme
- ▶ **Technical visit of CEA Cadarache R&D facilities**

Extra-curricular activities and a weekend programme will be organized. Full registration fees, including lodging and food: €2000 - Reduced fees: €1000 for fellowship recipients.

School Directors

▶ **Dr. R. Jacqmin** (CEA) ▶ **Prof. R. Stieglitz** (KIT)

For any information, please contact the FJOH school secretariat at fjoh@cea.fr or visit our web site www.fjohss.eu

