

## REGISTRATION FORM

Title (Prof, Dr, Mrs, Miss, Mr) : .....

Sex :  Male  Female

Family Name : .....

First Name : .....

Employer/University : .....

Professional address : .....

Country : .....

Tel : ..... Fax : .....

e-mail : .....

### Supplementary information for site entry/visits

Date of birth: .....

Birthplace: .....

Nationality: .....

Home address: .....

Passport number: .....

Issued at: .....

Issued on: .....

Expires on: .....

### Please enclose a short curriculum vitae including photo

I request a fellowship (number is limited)

*A confirmation letter will be sent to you with full details for payment.*

Date ..... Signature .....

## REGISTRATION

### Frédéric JOLIOT & Otto HAHN SUMMER SCHOOL ON NUCLEAR REACTORS "PHYSICS, FUELS AND SYSTEMS":

*Generation-IV Reactors,  
Fuels and Fuel Cycles*

**Cadarache (France)  
August 25 - September 3, 2004**

Registration requests should be made by returning the attached form by mail, e.mail, or fax to:

**Mrs. Brigitte Le Fur**  
DEN/CAD/AFF-INT - Bldg 101 - CEA/Cadarache  
13108 Saint-Paul-Lez-Durance, Cedex, France  
Fax : +33 (0) 4 42 25 41 42  
[fjohss@cea.fr](mailto:fjohss@cea.fr) or [brigitte.lefur@cea.fr](mailto:brigitte.lefur@cea.fr)

or via our web site :  
<http://www.cad.cea.fr/fr/fjohss/fjohss.htm>

**DEADLINE : May 15, 2004**

**Cost of the School: 1500 €**

Fee covers: lectures, class notes, all meals and accommodation (starting on August 24) (travel expenses not included)

Information for payment of fees will be provided upon review of applications.

**A limited number of fellowships will be available for qualified candidates**  
**The number of participants is limited. All applicants are required to provide a short curriculum vitae which will be used for selection purposes**

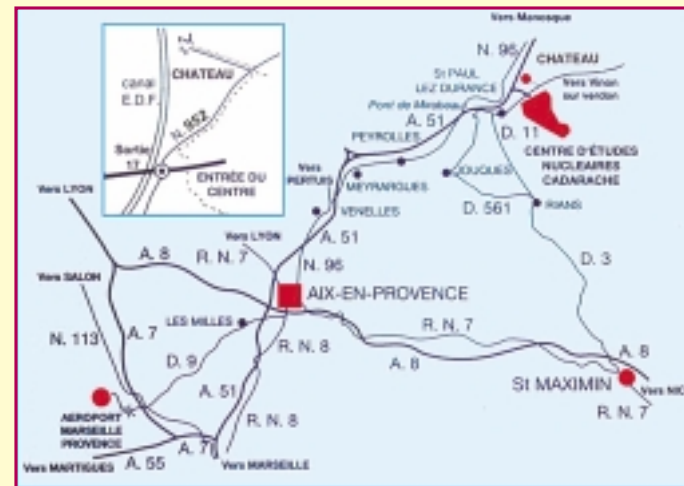
SELECTION BY THE ACADEMIC REVIEW BOARD IS FINAL.

## INFORMATION

**Date: August 25th - September 3rd, 2004**

### ► LOCATION

The School will be held at the "Cadarache Château" located in Southeastern France near the CEA Cadarache Research Center (40 km from Aix-en-Provence, 70 km from the Marseille airport).



Bus transportation (free of charge) from Marseille airport, Aix-en-Provence TGV railway-station, and Aix-en-Provence (town) will be provided on August 24 p.m. Return transportation will also be provided on September 3 p.m. The school will end at 2 p.m. on September 3.

Participation is compulsory till the end of the course.

A week-end programme will be organised free of charge

**► FOR MORE INFORMATION,  
PLEASE VISIT OUR WEB SITES**

<http://www.cad.cea.fr/fr/fjohss/fjohss.htm>  
<http://www.fzk.de/fjohss>

or contact

**Mrs. Brigitte LE FUR**  
DEN/AFF-INT, Bldg 101, CEA Cadarache  
F-13108 Saint-Paul-Lez-Durance Cedex France.  
Fax : +33 (0) 4 42 25 41 42  
e-mail : [brigitte.lefur@cea.fr](mailto:brigitte.lefur@cea.fr)



## SUMMER SCHOOL

**on Nuclear Reactors  
"Physics, Fuels & Systems"**

**Generation-IV Reactors, Fuels and Fuel Cycles**



Cadarache, Château



**Cadarache, France  
August 25th - September 3rd, 2004**

## PROGRAMME OUTLINE

### Topic 1 INTRODUCTION

▶ 2 h

- Overview, objectives, scenarios

### Topic 2 THE REACTORS AND THEIR FUELS

▶ 21 h

#### Liquid-metal-cooled Fast Reactors

- Na-Cooled Reactors: Technological Challenges and New Designs
- Lead-cooled Reactors: New concepts & Applications  
Lead-Bismuth Technology in Europe & Worldwide

- Nitride, Oxide and Metal Fuels: New Challenges

#### Super-critical Water Cooled Reactors

#### Gas-cooled Reactors

- VHTR: Concepts, Design Options & Perspectives  
Fuels
- GCFR: Concepts and Challenges  
The Fuels for GCFR

#### Molten-salt Reactors: Options and Missions

### Topic 3 INNOVATIVE FUEL CYCLES

▶ 4 h

- Fuel Fabrication, Reprocessing and Waste Issues

### Topic 4 CROSS-CUTTING R&D ISSUES

▶ 12 h

- Scientific Issues & Technological Challenges in the Development of Innovative Fuels
- Scientific Issues & Technological Challenges in the Development of Materials
- GENERATION-IV & Applications: From Energy Conversion to Hydrogen Production
- New Perspectives and Initiatives for Numerical Simulation

#### Technical Visit:

The CEA Cadarache Research Center and its Fuel Research Facilities

Special  
Event:

Seminar by Jacques **BOUCHARD**  
Head of the Nuclear Energy Division of CEA:  
"NEAR-TERM SOLUTIONS FOR NUCLEAR ENERGY"

## LECTURERS

### Topic 1

- KHALIL Hussein, (Argonne National Laboratory, USA)

### Topic 2

- BUONGIORNO Jacopo, (Oak Ridge National Laboratory, USA)
- CHAUVIN Nathalie, (Commissariat à l'Energie Atomique, France)
- FOMICHENKO Peter, (Kurchatov Institute, Russia)
- FORSBERG Charles W. (Oak Ridge National Laboratory, USA)
- KNEBEL Joachim, (Forschungszentrum Karlsruhe, Germany)
- McDONALD Phillip, (Idaho National Engineering & Environmental Laboratory, USA)
- MIZUNO Tomoyasu, (Japan Nuclear Cycle Development Institute, Japan)
- RIBAS-ROGLANS Jordi, (Argonne National Laboratory, USA)
- ROUAULT Jacques, (Commissariat à l'Energie Atomique, France)
- SAGAYAMA Yutaka, (Japan Nuclear Cycle Development Institute, Japan)
- WILLIAMS David F., (Oak Ridge National Laboratory, USA)

### Topic 3

- BARON Pascal, (Commissariat à l'Energie Atomique, France)
- BOULLIS Bernard, (Commissariat à l'Energie Atomique, France)

### Topic 4

- ALLEN Todd, (University of Wisconsin, USA)
- BROWN Christine, (British Nuclear Fuels Limited, UK)
- CACUCI Dan Gabriel, (University of Karlsruhe, Germany)
- MARGEVICIUS Robert, (Los Alamos National Laboratory, USA)
- PICKARD Paul, (Sandia National Laboratory, USA)

## COORDINATION

### SCHOOL DIRECTORATE

- For CEA:**
- Director: Prof M. SALVATORES  
Research Director  
CEA/DEN - Cadarache/France, & ANL, Argonne/USA  
[massimo.salvatores@cea.fr](mailto:massimo.salvatores@cea.fr)

Interim Director: Dr R. JACQMIN, CEA/DEN/DER – France  
[robert.jacqmin@cea.fr](mailto:robert.jacqmin@cea.fr)

Co-Director: Dr Y. GUÉRIN, CEA/DEN/DEC – France  
[yannick.guerin@cea.fr](mailto:yannick.guerin@cea.fr)

- For FZK:**
- Director: Prof D.G. CACUCI  
Director, Institut für Reaktorsicherheit  
Forschungszentrum Karlsruhe/Germany  
[cacuci@irs.fzk.de](mailto:cacuci@irs.fzk.de)

### SCIENTIFIC SECRETARIAT

- Mrs C. BERLANGA, CEA/DEN/DEC – France  
[christine.berlanga@cea.fr](mailto:christine.berlanga@cea.fr)
- Dr. J-M. PALAU, CEA/DEN/DER – France  
[jmpalau@cea.fr](mailto:jmpalau@cea.fr)
- Dr. F. STORRER, CEA/DRI – France  
[francois.storrer@cea.fr](mailto:francois.storrer@cea.fr)
- Dr V. HEINZEL, Forschungszentrum Karlsruhe/Germany  
Institut für Reaktorsicherheit  
[heinzel@irs.fzk.de](mailto:heinzel@irs.fzk.de)

### SECRETARIAT

- Mrs. B. LE FUR  
CEA/DEN/DIR, Bldg 101, CEA/Cadarache  
13108 Saint-Paul-Lez-Durance, Cedex - France  
Tel : +33 (0)4 42 25 22 57  
Fax : +33 (0)4 42 25 41 42  
[brigitte.lefur@cea.fr](mailto:brigitte.lefur@cea.fr)

- Mrs. M. ZIMMERMANN  
Forschungszentrum Karlsruhe, IRS  
76344 Eggenstein-Leopoldshafen  
Germany  
Tel : +49 (0)7247 82 2551  
Fax : +49 (0)7247 82 3718  
[zimmermann@irs.fzk.de](mailto:zimmermann@irs.fzk.de)

## DESCRIPTION

The tenth session of the Frédéric Joliot/Otto Hahn (FJ/OH) Summer School on Nuclear Reactors, "Physics, Fuels and Systems" will be held in Cadarache, France, between August 25th and September 3rd, 2004. This represents the continuation of the series of Frédéric Joliot Summer School, which was created by CEA in 1995 to promote knowledge in the field of Reactor Physics, in a broad sense, and the international exchange of teachers, young scientists and researchers. The FJ/OH School alternates between Karlsruhe and Cadarache. The 2003 session took place in Karlsruhe.

Beginning in 2004, the scope of the School will include scientific issues related to nuclear fuels.

The School's aim is to address the challenges of designing future reactors and optimal fuel cycles, and to broaden the understanding of theory and experiments. The 2004 edition will focus on Generation IV Nuclear Reactors, Fuels and Fuel Cycles, providing a broad overview and underlining the associated R&D challenges.

Lecturers are invited from internationally leading universities, research and development laboratories, and industry. The lectures are primarily for young post-doctoral scientists and engineers engaged in the broad field of nuclear sciences, engineering and technologies.

The Forschungszentrum Karlsruhe and the Nuclear Energy Division of CEA (CEA/DEN) jointly organize the FJ/OH School.

The School is co-sponsored by the Nuclear Development and Innovation Division of CEA/DEN, the Forschungszentrum Karlsruhe, and CEA-INSTN.