**Application**

The application form should be filled out online at:

www.fjohss.eu

Should there be problems with the online application, fill out and return the attached application form by mail or e-mail to:

FJOH Summer School
DEN/CAD/SPRC, Bldg 280, CEA Cadarache, 13108 Saint-Paul-Lez-Durance, France

fjoh@cea.fr

**Information**

**School dates**

The school will start on August 21, 2012, 7:00 pm with a get-together-dinner at the Hotel NOVOTEL Pont-de-l’Arc and will end on August 31, 2:00 pm.

Partial participations are not accepted.

**Venue**

The School will be held at the Hotel NOVOTEL Pont-de-l’Arc, located in Aix-en-Provence, France, 30 km from the Marseille-Provence airport and 40 km from the CEA Cadarache Research Centre.

Bus transportation (free of charge) will be provided from Marseille airport, and from Aix-en-Provence TGV railway-station, on August 21 pm.

Return transportation will be provided on August 31 at 2 pm.

Deadline for application: May 8, 2012

Registration fees: EURO 1800

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

Fees cover lectures, class notes, meals and accommodations from August 21 to August 31, 2:00 p.m.

The fees do not cover travel expenses.

A very limited number of fellowships will be available for qualified candidates.

The fellowship recipients’ registration fees will be EURO 900.

The FJOH School considers that the 2012 programme corresponds approximately to 3-4 ECTS credits of post graduate-level course work in Nuclear Engineering.

Selection by the FJOH School Organizers is final.

For questions, please contact by mail: fjoh@cea.fr

**Information**

**Information**

**Summer School on Nuclear Reactors**

“Physics, fuels and systems”

2012

Jointly organized by the Commissariat à l’Energie Atomique (France) and the Karlsruhe Institute of Technology (Germany)

**Innovative Modular Nuclear Reactors: Concept, Physics, and State-of-the-art Analysis Methods**

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Innovative Modular Nuclear Reactors
Concepts, Physics, and State-of-the-Art Analysis Methods

1. Motivation for Innovative Modular Reactors and Technical Challenges 4 h
   1.1. Status of Technology Development, Prospects and Challenges (2 h)
   M. H. Subki (IAEA)
   1.2. Economics of Modular Reactors (2 h)
   M. Ricotti (Polimi)

2. Modular Water-cooled Systems for Electricity Generation, Process Heat, Sea-water Desalination, Marine Propulsion, and Other Applications 10 h
   2.1. Light-water-reactor concepts (2 h)
   G.-M. Gautier (CEA)
   2.2. Marine Derivative Light Water Reactor Concepts: Barge-mounted and Seabed-based Plants (3 h)
   V. Kuznetsov (Consultant)
   2.3. Core Neutronics and Thermo-hydraulics: Physics and Methods (2 h)
   K. Hesketh (NNL)
   2.4. Fuel Forms and Performance (3 h)
   K. Pasamehmetoglu (INL)

3. Gas-cooled Reactors for Power Production, Heat Generation, and High-temperature Applications 9 h
   3.1. HTGR Development and Status towards Cogeneration of Electricity and Heat (3 h)
   E. Bogusch (AREVA)
   3.2. Gas-cooled Fast Reactor Concepts: Barge-mounted and Seabed-based Plants (2 h)
   G. Rimpault (CEA)
   3.3. Graphite Core Physics and Calculation Methods (2 h)
   M. Schizor (KIT)
   3.4. Fuel Fabrication, Degradation and Performance Assessment (2 h)
   M. Pouchon (PSI)

4. Small, Flexible, Quasi-autonomous, Liquid-metal-cooled Power Sources 9 h
   4.1. Lead and Lead-bismuth Concepts (3 h)
   R. Sohn Hwang (Souz Nat. Univ.)
   4.2. Sodium-cooled Concepts (2 h)
   (tbd)
   4.3. Core Physics and Methods (2 h)
   (tbd)
   4.4. Advanced Materials for Fuel Cladding in Sodium-cooled Fast Reactors (2 h)
   M. Le FLEM (CEA)

5. Modular, Multi-mission, Liquid-fuel Reactors 4 h
   5.1. Physics and Various Concepts of Liquid-fuel reactors (2 h)
   H. Sekimoto (TIT/UCB)
   5.2. Physics and State-of-the-art Analysis Methods (2 h)
   W. Maschek (KIT)

Seminar 2 h
SMR Technical merits and Challenges – A US Vision and Some Lessons Learned
P. Finch (NNL)

Technical visits of CEA Cadarache R&D facilities