

THE EUROPEAN NUCLEAR EDUCATION NETWORK ASSOCIATION

ENEN-Association is a non-profit international organization established under the French law whose mission is the preservation and further development of higher nuclear education and expertise.

ENEN-Association main objectives:

- To deliver a European Master of Science degree in nuclear engineering
- To encourage PhD studies, to promote exchange of students and teachers participating in the network
- To establish a framework for mutual recognition
- To foster and strengthen the relationships between universities, nuclear research laboratories, industries and regulatory bodies.

ENEN Association results from the cooperative action of partners of the ENEN project funded by the European Commission under the Euratom 5th framework programme.

ENEN Association effective members are academic institutions providing high level scientific education in nuclear disciplines. Associated members are nuclear companies, research institutes and organizations having an established tradition in the field of nuclear education, research and training.

46 institutions from 18* European countries are currently members of ENEN Association.

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ENEN Association

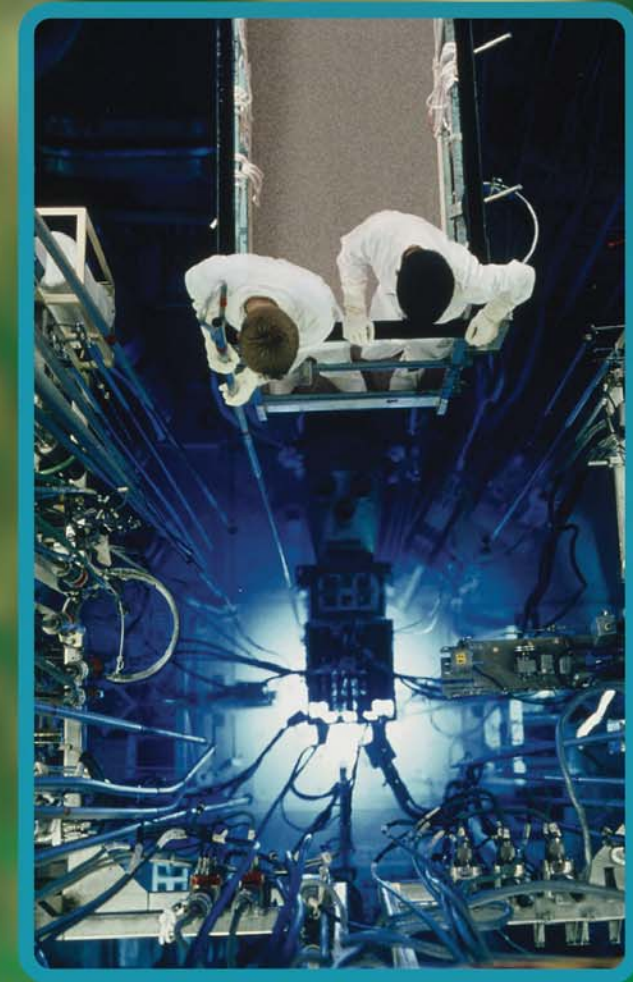
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*AUSTRIA, BELGIUM, CZECH REPUBLIC, FINLAND, FRANCE, GERMANY, GREECE, HUNGARY, ITALY, POLAND, ROMANIA, SLOVAKIA, SLOVENIA, SPAIN, SWEDEN, SWITZERLAND, THE NETHERLANDS, UNITED KINGDOM

INTERNATIONAL SEMINAR: PRINCIPLES AND OPERATION OF NUCLEAR REACTORS



FRANCE

January 19th to 30th, 2009



Realization: info@nova-translation.com

© CEVA Gomin: Core of OSIRIS on OSIRIS-ISIS reactor

Outline Programme

Main Objectives

- The main objective of this seminar is to acquire knowledge on:
- Principles and kinetics of nuclear reactors
 - Reactor thermal-hydraulics
 - Insight into the reactor operation (practical courses on training reactor)
 - Present and future reactor systems
 - Safety principles and background

Public

The participants are professionals, researchers and students with interest in the global understanding of reactor theory and operation.

Topics

- Nuclear physics: nuclear reactions, cross sections, neutron interactions...
- Nuclear reactor principles
- Nuclear reactor systems: fuel / moderator / coolant, slow and fast neutron reactors
- Neutron lifecycle, prompt and delayed neutrons
- Reactor kinetics (theoretical courses and simulator)
- Reactor thermal-hydraulics
- Approach to criticality by fuel addition and by control rod extraction*
- Reactor operation: reactor start up, reactivity effects...*
- Rod global worth measurement by the rod drop technique*
- Control rod calibration*
- Temperature effects*
- Influence of poisons on reactor operation (simulator)
- Presentation of the present experimental and industrial reactors (PWR, BWR, RBMK, PHWR...)
- Global power plant operation (SIREP-PWR simulator)
- Presentation of the generation IV reactors
- Safety principles
- Background in operational safety, analysis of reactor incidents

*On training reactor



© CEA/L.Godard
Student INSTN/
SIREP-PWR simulator

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Core of OSIRIS reactor

© CEA
Training course in the control
room of ISIS reactor

Information

Methods and Venue

During this two weeks seminar, three days will be devoted to applications carried out on the training reactor ISIS and on simulators used to study kinetics, poisoning effects and PWR operation. The number of participants is limited to 16, split in two groups for training courses.

Courses will be given at the National Institute for Nuclear Sciences and Technology (INSTN) located at the CEA Saclay site (20 km south of Paris), as member of the European Nuclear Education Network Association (ENEN Association).

Fee Covers

Lectures, documentation, workshop papers, lunches (monday-friday), hotel accommodation in Paris (3 stars hotels) and shuttle service to Saclay. The fee does not cover travel expenses to France.

Registration of the seminar

To get the registration form, please contact:
Nadia Nowacki (nadia.nowacki@cea.fr)

Registering for the seminar is a commitment to attend all lectures and training courses, and the condition to get the attendance certificate at the end of the seminar. Payment should be made by cheque made out in Euros to ASSOCIATION ENEN or proof of bank-to-bank transfer to the BNP SACLAY – ASSOCIATION ENEN
IBAN: FR76 3000 4017 8800 0100 0428 227
swift code: BNPAFRPPMAS.

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Registration deadline: December 19th 2008
Please note that the number of places is limited,
all registrations are classified by
their date of arrival. ”

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Place Saclay, France
Duration 2 weeks

January 19th to 30th 2009

Registration fee:
Full rate: **5200 €**
ENEN members: **4700 €**
Students: **2600 €** (limited number)

50% of fee is refundable for cancellations received between December 8th – 18th, 2008

Language: English

For further information or to obtain a registration form, please contact:

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