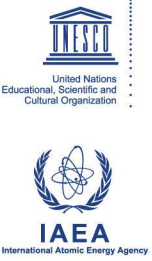




The Abdus Salam
**International Centre
for Theoretical Physics**
www.ictp.it



Joint ICTP/IAEA Training Course on
**Physics and Technology of
Water Cooled Reactors through
the Use of PC-based Simulators**

16 - 27 February 2015

Miramare, Trieste, Italy

The Abdus Salam International Center for Theoretical Physics (**ICTP**), in cooperation with the International Atomic Energy Agency (**IAEA**), is organizing a "Training Course on Physics and Technology of Water Cooled Reactors through the Use of PC-based Simulators" to be held at **ICTP, Trieste, Italy, from 16 -27 February 2015.**

PURPOSE - The purpose of the course is to provide university professors, engineers and other educators involved in teaching topics in nuclear energy with advanced computer simulation tools to help demonstrate various aspects related to reactor physics as well as operational response characteristics and safety systems associated with various types of water-cooled reactors.

FOCUS - The focus will be on educating individuals primarily from nuclear newcomer nations (i.e., countries currently involved in developing new nuclear capacity for the very first time) that are in the process of developing their nuclear education and learning centres to support the needs of both the industry and the regulator.

Attendees to the course will receive the collection of IAEA nuclear power plant simulators, the associated manuals, and instructional materials. The workshop covers the physics and technology of water-cooled reactors including nuclear reactivity control, thermodynamics, stability and control in steady state and in dynamic situations, technology design and safety system design. Through the use of the IAEA collection of PC-based simulators, workshop participants will be able to apply these concepts to the understanding of the behaviour and response to normal operation and abnormal conditions of a number of nuclear reactor types.

TOPICS - The main topics of the Training Course are:

- **Introduction and historical background of water-cooled reactors**
- **Reactor physics and core design**
- **Thermal hydraulics and plant design**
- **Simulator familiarization**
- **Plant overview and system description (PWR, BWR, VVER, CANDU)**
- **Plant dynamics and safety**
- **Normal operation and transient recovery**
- **Operation during accidents and malfunctions.**

DELIVERY METHODS - The training course will consist of a series of lectures followed by hands-on training exercises covering both fundamental and advanced reactor system design and response scenarios.

PARTICIPATION - The invitation to the training course is extended to University Professors, regulatory bodies, and nuclear learning centres involved in teaching nuclear reactor physics, engineering, and technology. Experts and scientists from countries that are members of the United Nations, UNESCO or IAEA may attend. In accordance with GOV/2007/7 and consistent with the relevant UN Security Council resolutions relating to the Islamic Republic of Iran, Iranian participant will not be allowed due to the sensitive nature of several reactor technologies being presented.

Although the main purpose of the Centre is to help professionals from developing countries through a programme of training activities within a framework of international co-operation, a limited number of participants from developed countries are also welcome.

Due to limitations in computation resources, the total number of participants will be limited to 20. The School will be conducted in English therefore participants must have adequate language knowledge.

As a rule, participant's travel and subsistence expenses should be borne by the home institution. Every effort should be made by candidates to secure financial support from their home country. However, limited funds will be available for some participants, who are nationals of, and working in, a developing country. Such financial support is available only to those who attend the entire Workshop. There is no registration fee for attending the School.

HOW TO APPLY FOR PARTICIPATION

The on-line application form can be accessed via the ICTP activity agenda page at:

<http://agenda.ictp.it/smr.php?2735>

Once in the website, comprehensive instructions will guide you step-by-step, on how to fill out and submit the application form. Kindly send all file attachments in Word or PDF format.

Deadline for receipt of applications is 1 November 2014.

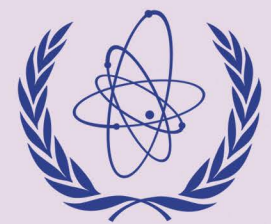
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August 2014



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International Atomic Energy Agency

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INVITED LECTURERS

***To be announced
on the web page***

APPLICATION DEADLINE

1 November 2014