

Joint ICTP-IAEA 1st Course on Scientific Novelties in Phenomenology of Severe Accidents in Water Cooled Reactors (WCRs)



22 - 26 October 2018
Trieste, Italy

Further information:
<http://indico.ictp.it/event/8340/>
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The course programme is designed to cover a range of topics of direct relevance to the science of physical, chemical and radiological phenomena specific to progression of severe accidents in WCRs including an overview of the associated technologies designed to cope with such events.

Director:

TATJANA JEVREMOVIC, IAEA, Vienna, Austria

Description:

The course will build a complete understanding of the science underpinning the complex phenomena associated with the progression of severe accidents in WCRs. Knowledge transfer will be facilitated between the international experts as lecturers, and young professionals and engineers, as participants through discussions and hands-on learning with the goal to gain a comprehensive understanding about science of the physical, chemical and radiological phenomena specific to severe accidents in WCRs, advancement in scientific methods, approaches and simulation tools, fundamentals on various interrelated scientific phenomena associated with in-vessel and ex-vessel phases of severe accident progression, and the role of technologies required to control and prevent progression of such accidents in WCRs, including mitigation of the resulting severe consequences.

Topics:

- Introduction**
- Physics of Water Cooled Power Reactors;
 - Nuclear Safety of Water Cooled Power Reactors;
 - Defence in Depth and Design Basis Accidents in Water Cooled Power Reactors;
 - Progression of Fukushima Daiichi Accident and its Consequences.
- Phenomenology of Scientific Phenomena in Propagation of Severe Accidents**
- Classification of Severe Accidents Phenomena into Three Levels of Scientific Knowledge: High, Medium and Low;
 - Nuclear Fuel Degradation;
 - Relocation of Melted Fuel;
 - In-Vessel Melt Retention;
 - Reactor Vessel Failure Mechanisms;
 - Ex-Vessel Corium Cooling;
 - Early-Phase Containment Failure;
 - Late-Phase Containment Failure;
 - Physics and Chemistry of Source Term;
 - Fission Products Behaviour and Transport;
 - Hydrogen Generation, Transport and Explosion;
 - Numerical Simulations of Severe Accident Phenomena.

Local Organizer:

F. KUCHARSKI, ICTP, Trieste, Italy

How to apply:

Online application:
<http://indico.ictp.it/event/8340/>

Female scientists are encouraged to apply.

Grants:

A limited number of grants are available to support the attendance of selected participants, with priority given to participants from developing countries. There is no registration fee.

Deadline:

22 July 2018



The Abdus Salam
International Centre
for Theoretical Physics
www.ictp.it
Trieste, Italy

