*Joint IAEA-ICTP Workshop on*

**Physics and Technology of Innovative Nuclear Energy Systems**

**20-24 August 2018,** *ICTP, Trieste, Italy*

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|  | *Monday, 20 Aug* | *Tuesday, 21 Aug* | *Wednesday, 22 Aug* | *Thursday, 23 Aug* | *Friday, 24 Aug* |
| 08:30 – 09:00 | **- Registration****- Opening**- IAEA Activities on Innovative NES*Vladimir Kriventsev* | *Students arrive and lecturers prepare* |
| 09:00 – 10:30(2) | Fuel Cycle options for Innovative Nuclear Energy Systems*Massimo Salvatores* | Coolant Options for Innovative Nuclear Energy Systems*Christian Latge* | Thermal Hydraulics of Advanced Liquid Metal Cooled Reactors*Vladimir Kriventsev* | Safety of Fast Reactors: Phenomenology & Modelling Aspects*Konstantin Mikityuk* |
| 10:30- 10:45 | Coffee Break |
| 10:45 – 11:30(1) | *Group Photo* | GIF: Gen IV Reactor Design Concepts*Konstantin Mikityuk* | Coolant Options for Innovative Nuclear Energy Systems*Christian Latge* | Thermal Hydraulics of Advanced Liquid Metal Cooled Reactors*Vladimir Kriventsev* | Group Presentations*All Participants* |
| History of Nuclear Energy: Young Gen Review*Chirayu Batra* |
| 11:30 – 12:30(1)  | Global Scenario for Nuclear Energy and Future of Innovative NES*Massimo Salvatores* | Innovative Nuclear Energy Systems: Core Design and Neutronics*Konstantin Mikityuk* | Innovative Nuclear Energy Systems: Reactor Design and Structural Designs*Masakazu Ichimiya* | Interaction between coolant and structures of liquid metal cooled reactors*Christian Latge* | Group Presentations*All Participants* |
| 12:30 – 13:30 | Lunch Break |
| 13:30 – 15:00(2) | INPRO Scenario Analysis forDevelopment of Nuclear Energy Systems *Galina Fesenko* | Simulation of Neutronics for Advanced Reactors*Konstantin Mikityuk*Digital Nuclear Reactor*Chirayu Batra* | Innovative Nuclear Energy Systems: Reactor Design and Structural Designs*Masakazu Ichimiya* | Fundamentals and Innovative Designs of Molten-Salt Reactors*Adriaan Buijs* | **Final remarks, certificates distribution and closing session**  |
| 15:00 – 15:15 | Coffee Break |  | Lunch Break |
| 15:15 – 16:00(1) | INPRO Comparative Evaluation of Nuclear Energy System Options*Galina Fesenko* | Group Activities: 1 & 3*Chirayu Batra**Konstantin Mikityuk**Adriaan Buijs* | Group Activities Discussion Session*Chirayu Batra* | Group Activities*Chirayu BatraKonstantin MikityukAdriaan Buijs**Galina Fesenko* |  |
| 16:00 – 17:00 | Description and distribution of the Group Activity 1*Konstantin Mikityuk Chirayu Batra* | Poster Session *Massimo SalvatoresKonstantin MikityukChristian LatgeMasakazu Ichimiya**Adriaan Buijs* | Poster Session*Konstantin MikityukChristian Latge**Masakazu Ichimiya**Adriaan Buijs* |

(x) – Number of Lectures (each lecture ~45 mins)

***Poster Session****:* Two groups of 20 participants each to present poster on Tuesday and Wednesday

**Group Activity**: Students divided into four groups. Activities are introduced in one of the lectures and on the last day all groups present on the results.

**Group Activity** **1**: Monte-Carlo method: basics of neutron transport stochastic simulation

**Group Activity** **2**: Mass flow and Nuclear Energy System Comparison

**Group Activity 3**: Simulating a molten salt reactor with MCNP

**Lecturers:**

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