*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 for  Development 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 Batra Konstantin Mikityuk Adriaan Buijs*  *Galina Fesenko* |  | |
| 16:00 – 17:00 | Description and distribution of the Group Activity 1  *Konstantin Mikityuk  Chirayu Batra* | Poster Session  *Massimo Salvatores Konstantin Mikityuk Christian Latge Masakazu Ichimiya*  *Adriaan Buijs* | Poster Session  *Konstantin Mikityuk Christian 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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| Massimo Salvatores |  | [salvatoresmassimo@orange.fr](mailto:salvatoresmassimo@orange.fr) |
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