

## CONFERENCE PROGRAM

MONDAY 31 OCTOBER 2022

18.30 – 19.30: Studia Generalia (webinar)

TUESDAY 1 NOVEMBER 2022

| TIME                                 | ROOM<br>JUHLASALI – HALL   | KARL LINDAHL | SILTASAARI |
|--------------------------------------|--|--------------|------------|
| <b>09:00 – 10:35 OPENING SESSION</b> |  |              |            |
| 09:00                                | Markus Airila, Chairman of the Board, Finnish Nuclear Society<br><i>Opening of SYP2022</i>         | x            | x          |
| 09:05                                | Riku Huttunen, Ministry of Economic Affairs and Employment<br><i>Greetings from the Government</i> | x            | x          |
| 09:35                                | Jussi Jyrinsalo, Fingrid<br><i>The future energy system – how to make it work?</i>                 | x            | x          |
| 10:05                                | Jarmo Tanhua, TVO<br><i>Lessons Learnt from a New Build Project OL3</i>                            | x            | x          |
| 10:35                                | Session end<br>Press conference immediately with all keynote speakers                              |              |            |

10:35-11:00 Coffee break

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| TIME                                    | ROOM<br>JUHLASALI – HALL   | KARL LINDAHL   | SILTASAARI   |
|---|--|--|--|
| <b>11:00 – 12:15 TECHNICAL SESSIONS</b> |  |  |  |
|   | <b>Small Modular Reactors in Society</b><br>Chair of session: N.N.   | <b>Nuclear Fuel and Materials 1</b><br>Chair of session: N.N.  | <b>Fusion Technology</b><br>Chair of session: N.N.   |
| 11:00                                   | Esa Pursiheimo, VTT<br><i>Investments in Nuclear Heating in Helsinki Metropolitan Area During Volatile Energy Markets</i>  | Uffe Bergmann, Westinghouse<br><i>Additive Manufacturing in Fuel Fabrication</i>                               | Antti Hakola, VTT<br><i>Nuclear Technology Activities under ECO-Fusion Project – What is Needed to Design a Fusion Power Plant?</i>  |
| 11:25                                   | Matti Kojo, LUT<br><i>A Small Modular Reactor next door? The opinions of the Finnish-speaking residents of the Helsinki metropolitan area to the distance from a possible SMR unit</i> | Janne Heikinheimo, VTT<br><i>European collaboration on nuclear fuel behavioural analyses under EU-OperaHPC</i> | Tomas Lindén, Helsinki Institute of Physics<br><i>Privately funded fusion research status and fusion regulation</i>                  |
| 11:50                                   | Tomi Lindroos, VTT<br><i>Prospects of electricity and heat-only SMRs in the Baltic Region</i>  | Valtteri Turkki, VTT<br><i>Implementation and Validation of MOX Fuel Models in FINIX</i>                       | Tero Tyrväinen, VTT<br><i>Design-Phase Probabilistic Risk Assessment for the International Fusion Materials Irradiation Facility</i> |
| 12:15                                   | Session end  |  |  |

12:15-13:30 Lunch

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|--------------------------------------|---|--------------|------------|
| <b>13:30 – 15:00 PLENARY SESSION</b> |   |              |            |
| 13:30                                | Simon-Erik Ollus, Fortum<br><i>Fortum – strong in nuclear</i>   | x            | x          |
| 14:00                                | Tiina Jalonen, Posiva<br><i>ONKALO® – the First in the World</i>  | x            | x          |
| 14:30                                | Juhani Hyvärinen, LUT<br><i>Thermohydraulics as Science and Its<br/>Significance for the Safety and Availability of<br/>Nuclear Power</i> | x            | x          |
| 15:00                                | Session end   |              |            |

15:00-15:40 Coffee break

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|---|--|--|---|
| <b>15:40 – 17:20 TECHNICAL SESSIONS</b> |  |  |   |
|   | <b>Small Modular Reactor Projects</b><br>Chair of session: N.N.  | <b>From Early Days to Distant Future</b><br>Chair of session: N.N.   | <b>Neutronics</b><br>Chair of session: N.N.   |
| 15:40                                   | Silja Häkkinen, VTT<br><i>EcoSMR - Ecosystem for Small Modular Reactors</i>                                  | Markus Ahlskog, University of Jyväskylä<br><i>The prelude to the Finnish nuclear technology effort</i>   | Antti Snicker, Aalto University<br><i>Serpent2 neutronics calculations for a HELIAS fusion reactor</i>  |
| 16:05                                   | Antti Rantakaulio, Fortum<br><i>Fortum and SMRs</i>  | Petri Paju, University of Turku<br><i>Forgetting the nuclear waste repository for good as the Finnish approach?</i>                                    | Jussi Peltonen, VTT<br><i>Ongoing Serpent 2 neutronics studies of Jules Horowitz Reactor</i>  |
| 16:30                                   | Joonas Telkkä, LUT<br><i>SMR Experiments with the MOTEL Test Facility within the Euratom Project McSAFER</i> | Timothy Schatz, VTT<br><i>Post-closure related responsibilities and plans of license holders and authorities in Finland on knowledge and awareness</i> | Lucia Sanchis, Aalto University<br><i>Neutronics for DEMO Fusion Power Plant: Serpent2 Modelling of 14.1 MeV Neutrons in Reactor Mock-Up Components</i> |
| 16:55                                   | Rebekka Komu, VTT<br><i>Station Blackout Transient Analyses for VTT's SMR Design LDR-50</i>                  | X  | Unna Lauranto, VTT<br><i>Verification of Ants time-dependent nodal neutronics model</i>   |
| 17:20                                   | Session end  |  |   |

19:00-23:00: Conference dinner in Paasitorni Congress Centre

## CONFERENCE PROGRAM

WEDNESDAY 2 NOVEMBER 2022

| TIME                                | ROOM<br>JUHLASALI – HALL   | KARL LINDAHL | SILTASAARI |
|-------------------------------------|--|--------------|------------|
| <b>9:00 – 10:30 PLENARY SESSION</b> |  |              |            |
| 09:00                               | Stefano Monti, International Atomic Energy Agency<br><i>Small Modular Reactors: A new nuclear energy paradigm - How the IAEA is supporting creation of an enabling environment and technology development and deployment</i> | x            | x          |
| 09:30                               | Marc Tannenbaum, Electric Power Research Institute<br><i>Supply Chain Challenges and Opportunities for Advanced Reactors</i>   | x            | x          |
| 10:00                               | Staffan Qvist, Qvist Consulting Limited<br><i>The role of nuclear energy in global decarbonization</i>   | x            | x          |
| 10:30                               | Session end  |              |            |

10:30-11:00 Coffee break

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|---|--|---|--|
| <b>11:00 – 12:15 TECHNICAL SESSIONS</b> |  |   |  |
|   | <b>International Collaborations</b><br>Chair of session: N.N.                                    | <b>Nuclear Fuel and Materials 2</b><br>Chair of session: N.N.   | <b>Decommissioning</b><br>Chair of session: N.N.   |
| 11:00                                   | Klaus Sjöblom, Fortum<br><i>WANO - Our window to nuclear world</i>                               | Wade Karlsen, VTT<br><i>Procurement of a New A-type Transport Cask for Radioactive Structural Materials</i>   | Olli Soppela, VTT<br><i>The dECOMM Co-Innovation Project Joins Finnish Nuclear Decommissioning Competences for International Market Needs</i>  |
| 11:25                                   | Ville Tulkki, VTT<br><i>ELSMOR – towards European Licensing of Small Modular Reactors</i>        | Brahim Dif, VTT<br><i>Re-Evaluation of Cladding Failure Criterion in LOCA within the R2CA EU H2020 Project</i>  | Jesse Lavonen, Fortum<br><i>Robotics in Decom - Research of Robotic Installation Suitable for Clearance Measurements of Nuclear Facilities</i> |
| 11:50                                   | Marcus Dahlfors, TVO<br><i>The Nuclear Futures Institute and the THOR rig in North Wales, UK</i> | Markus Hirvensalo, VTT<br><i>Development and First Results of a New Finite Element-Based Fuel Temperature Solver for High-Temperature Gas-Cooled Reactors</i> | Antti Rätty, VTT<br><i>Scaling Factor Formation of FiR1 Decommissioning Waste</i>  |
| 12:15                                   | Session end  |   |  |

12:15-13:30 Lunch

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|---|---|--------------|--|
| <b>13:30 – 15:10 TECHNICAL SESSIONS</b> |   |              |  |
|   | <b>Enabling Sustainability and Safety</b><br>Chair of session: N.N.   | x            | <b>Nuclear Waste Management – Key to Sustainability</b><br>Chair of session: N.N.  |
| 13:30                                   | Timo Okkonen, Kind Atom<br><i>How to Lead the Owner's Nuclear New-Build Program?</i>                          | x            | Joyce Ang, University of Helsinki<br><i>Improved hot-particle detection and isotope separation with real-time autoradiography</i>                                  |
| 13:55                                   | Jaakko Leppänen, VTT<br><i>LDR-50 District Heating Reactor Technology</i>                                     | x            | Otto Fabritius, University of Helsinki<br><i>Sorption of radium on crystalline rocks in various reference groundwater conditions; sorption modeling study</i>      |
| 14:20                                   | Pasi Junninen, Platom<br><i>Nuclear Safety and How it is Ensured</i>  | x            | Gianni Vettese, University of Helsinki<br><i>Sr behaviour in Flow-Through Columns Representative of Near-Surface Disposal of Very Low Level Radioactive Wastes</i> |
| 14:45                                   | Ari Vepsä, VTT<br><i>Comprehensive Aircraft Impact Assessment at VTT Technical Research Centre of Finland</i> | x            | Silja Häkkinen, VTT<br><i>Recent spent fuel research at VTT</i>  |
| 15:10                                   | Session end   |              |  |

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15:10-15:40 Coffee break

| TIME                                 | ROOM                     |
|--------------------------------------|--------------------------|
| <b>15:40 – 16:00 CLOSING SESSION</b> |                          |
| 15:40                                | Pekka Jauho award        |
| 16:00                                | Closing of the Symposium |