PiNE2025



**Tuesday, 8th April**

| **Time** | **Event / Presentation** |
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| 10:00 - 10:30 | Registration |
| 10:30 - 10:40 | Welcome address, including remembrance of Prof Bruce Hanson |
| 10:40 - 11:05 | Keynote 1: Dr Nicholas Smith (NNL) Opportunities within NNL for Postdocs |
| 11:05 – 11:25 | Dr Alastair Baker (Leeds) - MULTIForm NNUF, Multiphase fluid flows in nuclear systems National Nuclear Users Facility |
| 11:25 – 11:45 | Dr Lakshay Jain (Liverpool) Estimating the thermal feedback effects in a zero-power reactor for chloride-based molten salt reactors  |
| 11:45 – 12:05 | Dr Miguel Pineda (UCL) Modeling CeO2 nanoparticle aggregation and dissolution in H2O2: Implications for PuO2 nuclear fuel debris retrieval  |
| 12:05 - 12:45 | Speed networking session, sponsored by the Nuclear Institute |
| 12:45 – 13:30 | Lunch |
| 13:30 – 13:55 | Keynote 2: Dr Marco Colombo (Sheffield) Careers in simulation and numerical modelling |
| 13:55 - 14:15 | Abdul Samad Rana (Leeds) CFD Modelling of the Hydrodynamic Characteristics in an Unbaffled Vortex Reactor |
| 14:15 - 14:35 | Dr Hamish Dow (Strathclyde) Adaptive lighting for the inspection of concrete structures |
| 14:35 - 14:55 | Dr Colleen Reynolds (Imperial)Solute-dislocation interactions in Zr alloys modeled with hybrid quantum mechanics/machine learning (QMML) and universal machine learning interatomic potentials  |
| 14:55 - 15:15 | Coffee Break |
| 15:15 - 15:40 | Keynote 3: Dr Elanor Murray (Cyclife EDF) Careers in Consultancy |
| 15:40 – 16:00 | Dr Lee Mortimer (Leeds) Machine learning for nuclear waste flow prediction and characterisation  |
| 16:00 - 16:20 | Dr Ban Lee (Lancaster) Breaking down siloes: rethinking organisational learning in nuclear decommissioning |
| 16:20 - 16:40 | Dr Yannick Verbelen (Bristol) State-of-the-art in commercial nuclear power generation, and the UK’s nuclear future |
| 16:40 – 16:55 | University of Leeds address and close of Day 1 |
| 17:00 – 18:00 | MULTIForm NNUF tour of capablities and labs |
| 19:00 | Conference dinner at The Faversham (arrive from 18:30, food served at 19:00) |

**Wednesday, 9th April**

| **Time** | **Event / Presentation** |
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| 09:30 – 09:55 | Keynote 4: Dr Jake Surman (Env. Agency) Nuclear regulation: research and careers; making the link |
| 09:55 – 10:15 | Takinami Yasunobu (Saitama) Case study of the Fukushima nuclear power plant disasterpossibility of using AI robots based on case analysis of unit 1 isolation condenser |
| 10:15 – 10:35 | Dr Adam Canner (Cyclife EDF) From academia to consultancy – an early career journey  |
| 10:35 – 11:10 | Extended coffee break with poster session |
| 11:10 - 11:35 | Keynote 5: Dr Alex Theodosiou (Manchester) Career development story: from postdoc to lecturer  |
| 11:35 – 11:55 | Dr Merve Kuman (Sheffield) Optimization of boron incorporation into metakaolin-based geopolymer for enhanced nuclear waste encapsulation  |
| 11:55 – 12:15 | Dr Angelo Battistini (Imperial) A peridynamics-driven fission products diffusion model for TRISO coated particle fuel  |
| 12:15 – 13:00 | Lunch |
| 13:00 - 13:20 | Dr Tom Robshaw (Leeds) – Isn’t it ionic? Lithium-6 enrichment by solvent extraction to support UK fusion development |
| 13:20 - 13:40 | Dr Byoungkwan Kim (Sheffield) Immobilisation of radioactive spent ion exchange resins using phosphate-based geopolymer waste forms  |
| 13:40 - 14:00 | Dr Ryan Stroud (Imperial) Defects and impurity properties of VN precipitates in ARAFM steels using a universal machine learning potential  |
| 14:00 - 14:20 | Coffee break |
| 14:20 – 14:45 | Keynote 6: Dr Lewis Blackburn (Sheffield) Fellowships, what are they? |
| 14:45 – 15:05 | Dr Nour Ali (Northumbria) Utilizing novelly-synthesised amide-functionalized camphor-derived *N*-donor ligands for enhancing trivalent minor actinide selective solvent extraction |
| 15:05 – 15:25 | Dr Aiden Peakman (Amentum) High-fidelity fuel modelling, AI-powered core design and space-based micro-reactor research within Amentum |
| 15:25 - 15:40 | Prizes, handover invitation and final words |
| 15:40 | Conference close |