

Swinburne University of Technology, Melbourne, Australia
Introduction to Nuclear Reactors, Safety, and Stewardship 101
(Core physics, reactor safety, nuclear safety and nuclear stewardship)
13th and 14th November 2024 – Melbourne, Australia

Free Registration (Places are limited). To confirm your place registration is necessary.

<https://www.swinburne.edu.au/events/2024/11/introduction-to-nuclear-reactors-safety-and-stewardship-101.html/>

Purpose: Introduce novice audience to nuclear reactor core physics, reactor safety, and nuclear stewardship

| Day 1 | 13 November 2024 | Australian Eastern Daylight Time (AEDT) |
|---------------------|---|---|
| 8.00 – 8.45 am | Registration | Swinburne University of Technology, Hawthorn, Melbourne, Victoria |
| 8.45 – 9.00 am | Welcome and opening | Prof. Saeid Nahavandi and Vice Admiral Michael Noonan, RAN (RTD) |
| 9.00 am – 10.30 am | Typical Nuclear reactor designs and nuclear energy fundamentals | Prof. Farzad Rahnema, Georgia Institute of Technology, USA |
| 10.30 am – 10.45 am | Coffee & tea break | |
| 10.45 am – 12.15 pm | Neutron cross sections and fission chain reaction | Prof. Farzad Rahnema, Georgia Institute of Technology, USA |
| 12.15 pm – 1.00 pm | Lunch break | |
| 1.00 pm – 2.45 pm | A simple neutron kinetics model | Prof. Farzad Rahnema, Georgia Institute of Technology, USA |
| 2.45 pm – 3.00 pm | Coffee & tea break | |

| | | |
|----------------------------|---|--|
| 3.00 pm – 3.30 pm | Nuclear Mindset | Captain Dale Heinken (RTD), AVT Australia |
| 3.30 pm – 5.00 pm | Nuclear Power: from the fundamentals to the complexity | Prof. Paul Norman, University of Birmingham, United Kingdom |
| Day 2 | 14 November 2024 | |
| 9.00 am – 10.30 am | Neutron transport and multiphysics methods | Prof. Farzad Rahnema, Georgia Institute of Technology, USA |
| 10.30 am – 10.45 am | Coffee & tea break | |
| 10.45 am – 12.15 pm | Approximate transport methods, multiphysics calculations, and challenges | Prof. Farzad Rahnema, Georgia Institute of Technology, USA |
| 12.15 pm – 1.00 pm | Lunch break | |
| 1.00 pm – 2.45 pm | Advanced reactors: SMRs and microreactor - design, radiation protection and shielding, and safety, operation, control, maintenance, lifecycle and regulations | Prof. Glenn Sjoden, University of Utah, USA |
| 2.45 pm – 3.00 pm | Coffee & tea break | |
| 3.00 pm – 5.00 pm | Nuclear Safety and Nuclear Stewardship | Ryan Hemsley, Principal Advisor Nuclear-Powered Submarines, ARPANSA Mrs. Tegan Bull, Senior Manager, Radiological & Nuclear Security Science, ANSTO, Australia A/Prof. Jeremy Brown, Swinburne University of Technology |

For further information please contact
Saeid Nahavandi
snahavandi@swin.edu.au