

SPANS 2025 & Student Innovation



20-Aug-2025, Room SCI-1140, Ontario Tech University

General Chair: Dr. Hossam A.Gabbar, Ontario Tech University

General Co-Chair: Dr. Blair P. Bromley (Nuclear Engineering Scientist), Division Co-Chair – Canadian Nuclear Society – Fusion Energy and Accelerator Science and Technology Division (CNS-FEASTD)

Join Zoom Meeting

<https://ontariotechu.zoom.us/j/91563613061?pwd=zLafohr6fjHX0AGYlOFmvHDCW4l6dN.1>

Meeting ID: 915 6361 3061, Passcode: 300960

Join instructions

<https://ontariotechu.zoom.us/meetings/91563613061/invitations?signature=MdQIHDLfvr4Rm6TRliRX6ZmqQSVw2Qsl29C594SYQKs>

Program Details

10:00 Opening	SPANS Founder and General Chair	Hossam A.Gabbar, Ontario Tech University, Canada
10:10 Keynote 1	Advances in Plasma-Based Radioactive Waste Treatment	Hossam A.Gabbar, Ontario Tech University, Canada
10:30 Keynote 2	Lives on the Edge: the Risky Daily Existence of Radiation Instrumentation	Lodovico Ratti, University of Pavia, Italy
10:50 Keynote 3	Perspectives of Small Modular Advanced Reactor Used Fuel Management in Canada	George Xu, CNL, Canada
11:10 Invited Talk	Confidence Boxes for the Fault Tree Analysis of Nuclear Reactor Systems under Uncertainty	Adolphus Lye, National University of Singapore, Singapore
11:30 P1	Investigation of Zero-Oil Pyrolysis for Low- and Intermediate-Level Nuclear Waste using TGA and GC-MS	Mustafa Mansour, Ontario Tech University, Canada
11:45 P2	Integrated optimization framework for plasma-based radioactive waste treatment process	Roman Stetsiuk, Ontario Tech University, Canada
12:00 P3	Shielding Design and Simulation for Plasma-Based Radioactive Waste Treatment	Joao Pedro Nicolodi Zimmermann, Ontario Tech University, Canada
12:15	Lunch	
13:15 P4	Direct plasma potential measurements in the STOR-M tokamak using a Ball-Pen probe	J. Talbot-Pâquet (1), C. Xiao (2), J. Morelli (1), 1: Department of Physics,

		Engineering Physics & Astronomy, Queen's University 2: Plasma Physics Laboratory, University of Saskatchewan, Canada
13:30 P5	Two-color Heterodyne Interferometry for Line-Averaged Plasma Density Measurements at General Fusion	Dan Solano, J. Morelli, Queen's University, Canada
13:45 P6	Tokamak Plasma Confinement with Nonlinear MPC	Oreoluwa Ajayi, Ontario Tech University, Canada
14:00 P7	Safe Design of Plasma Confinement Systems using Systems Theoretic Process Analysis	Oreoluwa Ajayi, Filippo Genco, Hossam A.Gabbar, Ontario Tech University, Canada
14:15 P8	Demonstration of Digital Control Room with Human Performance Considerations	Caren Eissa Yasir Adallah Nathanael Selvaraj Isaac Smith Samir Nabha Arzika Khan, Ontario Tech University, Canada
14:35 P9	Demonstration of Resilient Micro Grid for Harsh Environment and Remote Communities	Similayo Ogundare Manir Isham Srivatsan Chakravarthi, Roman Stetsiuk Emmanuel Ita, Ontario Tech University, Canada
14:55 P10	Demonstration of Nuclear-Renewable Hybrid Energy Systems for Regional Planning and Deployments	Jennifer Jaen Emmanuel Ita Natnael Kebere, Ontario Tech University, Canada
15:15 P11	Demonstration of Resilient Interconnected Energy Infrastructures	Emmanuel Ita, Ontario Tech University, Canada
15:30 P12	Demonstration of a Thermoelectric-Integrated Furnace for Residential Power Generation	John Whetham, Hao Wang, Mustafa Mansour, Ontario Tech University, Canada
15:50 Closing		Hossam A.Gabbar, Ontario Tech University, Canada