

Symposium on Plasma And Nuclear Systems (SPANS-2024)

(Hybrid Event)

20-Aug-2024, Room: UA1240, UA Building

Ontario Tech University, Oshawa, ON, Canada



General Chair: Dr. Hossam A.Gabbar, Professor, 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)

ZOOM Link

<https://us02web.zoom.us/j/84891880844>

Program Details

8:45 AM	Opening and Welcome	Dr. Hossam Gaber
9:00 AM	Talk-1: Advances in Plasma-Based Waste Treatment for Sustainable Communities	Dr. Hossam Gaber, Ontario Tech University, Canada
9:30 AM	Talk-2: Machine Learning for Radiometric Clustering and Classification	Dr. Angela Di Fulvio, University of Illinois at Urbana-Champaign, USA
10:00 AM	Talk-3: Plasma-Surface Interactions in Tokamaks	Dr. James Davis, University of Toronto, Canada
10:30 AM	Break	
10:50 AM	Talk-4: A Novel Radio-Frequency Inductively Coupled Plasma (RF-ICP) Torch	Dr. Javad Mostaghimi, University of Toronto, Canada
11:20 PM	Talk-5: The Crab Pulsar Magnetosphere and its Enigmatic "Striped" Radio Emission	Dr. Mikhail Medvedev, Professor, University of Kansas, USA
11:50 PM	Talk-6: The Negative Triangularity Tokmak: Ensuring Robust Access to a High-Performance, ELM-Free Fusion Power Plant	Dr. A.O. Nelson, Columbia University, USA
12:20 PM	Lunch Break	
13:20 PM	Talk-7: CNL Lattice Physics Assessments of Alternative/Advanced Fuels for PWR-SMRs	Dr. Blair Bromley, CNL, Canada
13:50 PM	Talk-8: Title: Radioactive wastes in Fukushima Daiichi NPS	Ms. Yunseo Park, TEPCO, Japan

14:20 PM	Demonstration of Digital Control Room with Human Performance Considerations for SMR Deployments	Ontario Tech University
14:40 PM	Break	
14:50 PM	Student Presentations	
14:50 PM	A proposed refueling scheme for the modular pebble bed reactor	A.H. Elhefnawy a, Hanaa Abou Gabal a, M.A. Gaheen b, Ahmed El Saghir a, * a Department of Nuclear and Radiation Engineering, Faculty of Engineering, Alexandria University, Egypt b Department of Nuclear Safety and Radiological Emergencies, NCRRT Centre, Egyptian Atomic Energy Authority (EAEA), Cairo, Egypt
15:00 PM	Analysis of Digital Control Room for SMRs with Human Performance Considerations	Manir Isham, Ontario Tech University, Canada
15:10 PM	Development of Convolutional Neural Networks and Feature Selection Techniques for EEG-Based Stress Monitoring	John Gaber, Jing Ren, Ontario Tech University, Canada
15:20 PM	The Role of Nuclear Micro Reactors to Reach Net-Zero by 2050	Rajat Rathod, Priyank Rathod, and Himanshu Patel, Nirma University, India
15:30 PM	Integrating Nuclear and Renewable Energy for Africa's Sustainable Energy Transition	Mark Amoah Nyasapoh, University of Energy and Natural Resources (UENR), Sunyani, Ghana
15:40 PM	Characterization of the Nigeria Research Reactor-1 LEU Fuel Using SCALE 6.2.3 to Support Future Spent Fuel Management Plans	John Simon, Ahmadu Bello University, Zaria/National Open University of Nigeria
15:50 PM	Microwave Plasma Torch for Enhanced Waste Treatment,	Mustafa Mansour, Ontario Tech University, Canada
16:00 PM	Optimization of ICP plasma torch for radioactive waste treatment	Roman Stetsiuk, Ontario Tech University, Canada
16:10 PM	Demonstration of Nuclear-Renewable Hybrid Energy System Simulator	Otavio Lopes Alves Esteves, Ontario Tech University, Canada
16:30 PM	Closing Remarks	Dr. Hossam Gaber