

IUSSTF Symposium
on
Advanced Sensors and Modeling Techniques for Nuclear Reactor Safety
15th-19th December 2018, IIT Bombay
Venue : VMCC (2nd Floor)

Time	Program	
15th December 2018		
8:30 AM -3:30 PM	Pre-Symposium Workshops (Only For Separately Registered Persons For This Workshop)	
8:30 AM -12:30 PM	Software Carpentry: Katy Huff	F-24, 1st Floor Mechanical Engineering
1:30 PM - 3:30 PM	Open Monte Carlo: Jeremy Roberts	
3:00 PM	Registration, VMCC (2nd Floor)	
4:00 - 5:10 PM	Inaugural Ceremony: Chief Guest AERB Chairman Shri S. A. Bharadwaj	
<i>5:15 PM High Tea</i>		
7:00 PM	Welcome Dinner	Gulmohar Banquet Hall IIT Bombay

16th December 2018		
9:00 AM-12:50 PM	General Thermal Hydraulics and Reactor Safety Session Chair: K. Velusamy	
9:00 – 9:45 AM	Keynote Talk: Kannan Iyer “Instabilities in Natural Circulation Systems”	
9:50 – 10:25 AM	Invited Talk: Caleb Brooks “Advanced Measurement and Modeling of Gas-Dispersed Flows with Phase Change”	
<i>10:30 AM Tea Break</i>		
11:00 – 11:35 AM	Invited Talk: Arun Nayak “Demonstration of Corium Retention in Calandria of PHWRs in Severe Accident”	
11:40 – 12:15 PM	Invited Talk: Manmohan Pandey “Analysis of Instabilities, Nonlinear Oscillations and Startup Transients in Advanced Nuclear Reactors”	
12:20 – 12:50 PM	Invited Talk: Hitesh Bindra “Stratification and Mixing in the Hot Plena of Liquid Metal-Cooled Reactors”	
<i>12:55 PM Lunch Break</i>		
2:00 PM-5:20 PM	Reactor Physics Session Chair: A. S. Pradhan	
2:00 – 2:45 PM	Keynote Talk: Umasankari Kannan “Inherent Safety in Advanced Nuclear Reactors- A Physical Approach ”	
2:50 – 3:25 PM	Invited Talk: Amitava Gupta “Trends in Nuclear Reactor Control: Load Following Operation”	
<i>3:30 PM Tea Break</i>		
4:00 – 4:35 PM	Invited Talk: Anurag Gupta “Application of Advanced Computational Techniques for Efficient Solution of Deterministic Neutron Transport at BARC”	
4:40 – 5:15 PM	Invited Talk: K. Obaidurrahman “Coupled Modeling of NPPs: Evolution, Current Trends and Future Prospects”	

17th December 2018

17th December 2018		
9:00 AM-12:25 PM	Sensors and Detectors Session Chair: Umasankari Kannan	
9:00 – 9:45 AM	Keynote Talk: Douglas Mcgregor “Micro Structured Sensors for Neutron Detection”	
9:50 – 10:25 AM	Invited Talk: Debabrata Datta “Radiation Detection and Measurement”	
<i>10:30 AM Tea Break</i>		
11:00 – 11:45 AM	Keynote Talk: Prabhat Munshi “Application of Tomography for Nuclear Safety Applications”	
11:50 – 12:25 PM	Invited Talk: William Dunn “Backscatter Scanning for Detection of Hidden Defects”	
<i>12:30 PM Lunch Break</i>		
1:30 PM - 4:50 PM	Advances in Experimental Thermal-Hydraulics Session Chair: Arun Nayak	
1:30 – 2:15 PM	Keynote Talk: Masahiro Kawaji “High Temperature Gas Flow and Heat Transfer Phenomena of Importance in Gen-IV High Temperature Gas Reactors”	
2:20 – 2:55 PM	Invited Talk: Mark Kimber “Thermal Hydraulics Verification and Validation”	
3:00 – 3:35 PM	Invited Talk: K. Velusamy “Investigations into Fuel Subassembly Flow Blockage, Molten Material Relocation and Post-Accident Heat Removal in Sodium Cooled Fast Reactors”	
<i>3:40 PM Tea Break</i>		
4:10 – 4:45 PM	Invited Talk: Naveen Kumar “Design of Natural Circulation Systems: Issues and Challenges”	
5:45 PM	Plenary Talk: Gautam Biswas (NPCIL) “Bridging The Energy Deficit by LWR Technology in India: Impact on Society, Business & Economy” & Gala Dinner	Beatle Hotel, Hiranandani, Powai

18th December 2018

18th December 2018		
9:00 AM-12:55 PM	Computational Methods, Modeling Techniques and High Performance computing Session Chair: Manmohan Pandey	
9:00 – 9:45 AM	Keynote talk: David Pointer “Challenges and Opportunities for Multiscale Thermal Hydraulics”	
9:50 – 10:25 AM	Invited talk: Ajith V. D. “Reload Safety Evaluation, Startup Experiments and In-Core Monitoring of KKNPP Reactors”	
10:30 AM <i>Tea break</i>		
11:00 – 11:35 AM	Invited talk: Jeremy Roberts “Preliminary Assessment of Steady-state and Transient Reaction-Rate Measurements at the University of Wisconsin Nuclear Reactor”	
11:40 – 12:15 PM	Invited talk: M.P.S Fernando “Coupling of 3D Space Time Neutronics with Thermal Hydraulics for Safety Analysis of Large PHWRs”	
12:20 – 12:55 PM	Invited talk: Katy Huff “Neutron Kinetics in Liquid-Fueled Nuclear Reactors”	
1:00 PM	<i>Lunch Break</i> & Poster Session	
2:30 PM	Fostering Indo-US collaborations on Nuclear Energy—Road mapping Session (4th Floor Board Room) Moderators: William Dunn (KSU), Alok Mishra (Westinghouse)	
	Arun Nayak “Experiences in Indo-UK and India-S. Korea collaborations”	20 Min Each
	Prashant Jain “Opportunities for Collaboration Through ONRAMP: ORNL Nuclear Resources – Analysis and Modeling Portfolio”	
	Piyush Sabharwall “Capabilities at DOE-NE Nuclear Laboratories and Target areas”	
	Chirayu Batra “IAEA activities and international collaborations”	
Discussions on pathways for future collaborations		

19th December 2018

19 th December 2018	
9:00 AM - 12:30 PM	Selected Presentations 15 minute talks
	Ravi Kumar Bansal “Review of Fuel Management practices at various stages of nuclear fuel cycle in PHWRs in view of Environmental effects”
	Arindam Chakraborty “Xenon Dynamics of AHWR”
	Kumar Gaurav “Simulation of Crystallization of Molten Corium inside Core Catcher of VVER- 1000”
	Lakshay Jain “ Multi-grid Acceleration Scheme for Neutron Transport Calculations using Optimally Diffusive CMFD Method”
	Dwivedi D.K. “Transient simulation of LBE cooled CHTR under natural circulation with 3D multi-physics code ARCH-TH”
	Phani Krishna S. “Transient Analysis of Primary Feed Pump Trip for 700 MWe IPHWR”
	Shubham Mandot “Flow and Thermal Effects of Blockages in a Nano-fluid Cooled Nuclear Fuel Subassembly”
	Anita Gupta “Heavy Water Concentration Measurement in Air”
	Ajay Rawat “Estimation of minimum critical dimensions of process vessels handling Pu Nitrate Solution Using OpenMC”
	Saraswata S.P. “Investigation of non-hyperbolicity of conservation equations of RELAP/SCADAPSIM in nuclear reactor safety results by method of characteristics”
Manish Raj “Characteristics of Pt-Clad Inconel SPNDs for use in IPHWRs”	
12:30 – 12:40 PM	Closing of Symposium
12:45 PM	<i>Lunch Break</i>
1:30 PM	T/H lab visit at IIT Bombay