OAK RIDGE National Laboratory

AGENDA

MANAGED BY UT-BATTELLE LLC FOR THE US DEPARTMENT OF ENERGY

2025 International Vacuum Insulation Symposium

September 10-11, 2025

Crowne Plaza Hotel Downtown Knoxville

401 W Summit Hill Dr, Knoxville, TN 37902

Agenda as of (August 13, 2025)

Event contact	Som Shrestha, 865-241-8772 (office); 515-509-4646 (mobile); shresthass@ornl.gov Andre Desjarlais, 865-574-0022 (office); 865-368-2364 (mobile); desjarlaisa@ornl.gov Admin: Nicole White, 865-341-2242 (office); whitenl@ornl.gov		
Day 1			
Time	**Event**	**Location & Topics**	**Lead**
Wednesday, September 10, 2025			
8:00am-8:30am	Registration/Breakfast	Summit 2	Nicole White Kristen Summey
8:30am-8:40am	Welcome Address (Organizing Committee)	Summit 1	Josh Pihl, Buildings and Transportation Science Division Director, ORNL
8:40am-9:0030am	Keynote	Summit 1	Sven Mumme, Technology Manager, Building Technologies Office (BTO) at the U.S. Department of Energy (DOE) for Opaque Envelope and Thermal Energy Storage R&D
9:00am – 10:15am	Session 1: Core Materials and Their Properties. Session Chair: *Prof. Harjit Singh, Brunel University of London, UK*. Location: Summit 1		
9:00am-9:25am	Analysis of outgassing from natural fibers VIP core to improve their long-term performance. *Achutha Tamraparni, Oak Ridge National Laboratory, USA*		
9:25am-9:50am	Thermal performance evaluation of Calcium Silicate and Fumed Silica composite core materials for Vacuum Insulation Panels. *Waseem Abbasi, University of Brighton, UK*		
9:50am-10:15am	Development of Compacted Panels Based on Micronized Micro- and Nanocellular Polymers for Vacuum Insulation Panels (VIPs) *Victoria Bernardo, University of Valladolid, Spain*		

10:15 am – 10:45 am	**Coffee Break**
10:45am-12:25pm	Session 2: Core Materials and Their Properties. Session Chair: *Dr. Stefano Fantucci, Politecnico di Torino, Italy*. Location: Summit 1
10:45am-11:10am	Life cycle assessment of various core materials for vacuum insulation panels used at temperatures up to 70 ℃. *Tarek Raad, Brunel University of London, UK*
11:10am-11:35am	Core materials for vacuum insulation panels made of renewable resources – characterization of selected thermal and mechanical aspects. *Sebastian Treml, Forschungsinstitut für Wärmeschutz, Germany*
11:35am-12:00pm	Preparation and properties of renewable PLA fiber reinforced vacuum insulation panels, *Shengda Cao, Nanjing Tech University, China*
12:00pm-12:25pm	On the reusability of expanded perlite cores- A critical step towards green vacuum insulation panels, *Tarek Raad, Brunel University of London, UK*
12:25pm-1:30pm	Posters Presentations: Salon A 1. Developing an Active Vacuum Insulation System for Buildings. *Kaarle Strailey, University of Alaska Fairbanks, USA*. 2. Study of Low-Cost VIP Core by Utilizing High-Fibrous Content. *Mark Connell, Rincon Consulting, USA*. Exhibition: Mezzanine ***Working Lunch***: Summit 2
1:30pm-2:45pm	Session 3: Core Materials Properties, Performance Evaluation, and Testing. Session Chair: *Andre Desjarlais, Oak Ridge National Laboratory, USA*. Location: Summit 1
1:30pm-1:55pm	Cost-effective VIPs with aerogel cores. *Massimo Bertino, Virginia Commonwealth University, USA*
1:55pm-2:20pm	Cost-effective thermal conductivity measurement system for vacuum insulation panels at temperatures up to 500 ℃. *Dron Kaushik, Brunel University of London, UK*
2:20pm-2:45pm	Long-term performance of glass fiber Vacuum Insulation Panels exposed to severe operating conditions in buildings. *Stefano Fantucci, Politecnico di Torino, Italy*
2:45pm-3:10pm	Medium-term thermal insulation performance test of an in situ-installed transparent vacuum insulation panel. *Erkki Hirvonen, Hokkaido University, Japan*
3:10pm-3:40pm	**Coffee Break**
3:40pm-5:20pm	Session 4: Performance Evaluation and Testing. Session Chair: *Prof. Zhaofeng Chen, Nanjing University of Aeronautics and Astronautics, China*. Location: Summit 1

3:40pm-4:05pm	Long-term thermal performance of vacuum insulation panels in district heating pipes: Nine years of field measurements. *Ali Naman Karim, Chalmers University of Technology, Sweden*
4:05pm-4:30pm	Vacuum Insulation Panel Heat-Loss and Overall Thermal Resistance Based on Thermal Modeling. *David Yarbrough, R&D Services, Inc., USA*
4:30pm-4:55pm	Climate Dependent Aging of Vacuum Insulation Panels (VIPs). *Phalguni Mukhopadhyaya, University of Victoria, Canada*
4:55pm-5:20pm	Performance Evaluation of Vacuum Insulated Panel (VIP) Retrofits. *Emishaw Iffa, Oak Ridge National Laboratory, USA*
5:20pm-6:20pm	IVIS Board meeting – Executive Boardroom 1 Break / Beverages?
6:20pm-8:20pm	Symposium Keynote presentation- ***Working Dinner,*** Location Summit 2 Prof. Harjit Singh, IVIS Scientific Committee, Brunel University of London, UK John Peavey, Home Innovation Research Lab, USA. Issues associated with building retrofitting using VIPs.
8:20pm	Depart

Day 2			
Thursday, September 11, 2025			
Time	**Event**	**Location & Topics**	**Other Details**
8:00am-8:30am	Registration/Breakfast	Summit 2	Nicole White Kristen Summey
8:30am-8:45am	Keynote	Summit 1	Jungho Kim, Program Director, Advanced Projects Research Agency-Energy (ARPA-E), USA
8:45am-9:00am	Keynote	Summit 1	Vladimir Pogač, President of the Vacuum Insulation Panel Association (VIPA)
9:00am-10:15am	Session 5: Innovations in Vacuum Insulated Glazing. Session Chair: *Dr. Som Shrestha, Oak Ridge National Laboratory, USA*. Location: Summit 1		
9:00am-9:25am	Experimental and Simulation Analysis of Thermal Transmittance of Vacuum Insulated Glazing for Predicting Service Life. *Alexander Hayes, National Research Council of Canada, Canada*		
9:25am-9:50am	Transparent vacuum insulation panels for window insulation retrofit. *Takao Katsura, Hokkaido University, Japan*		
9:50am-10:15am	Innovations in VIG and the Barriers to Adoption. *Mahabir Bhandari, Oak Ridge National Laboratory, USA*		
10:15am-10:45am	**Coffee Break**		
10:45am-12:25pm	Session 6: Monitoring and Predictive Techniques of VIPs and Innovations in Vacuum Insulated Glazing. Session Chair: *Prof. G. Kumaresan, Anna University, India*. Location: Summit 1		
10:45am-11:10am	Residual Gas Conductance in Vacuum Insulated Glass. *Cenk Kocer, University of Sydney, Australia*		
11:10am-11:35am	Updated VIG Thermal Performance Model in the WINDOW Software Tool. *Charlie Curcija, Lawrence Berkeley National Laboratory, USA*		
11:35am-12:00pm	Real-Time Vacuum Monitoring and Lifespan Prediction of Vacuum Insulation Panels Using Fiber Bragg Grating Sensors and Acoustic Vibration Techniques. *Zhaofeng Chen, Nanjing University of Aeronautics and Astronautics, China*		
12:00pm-12:25pm	Real-Time Structural Health Monitoring of VIPs Using Metal Oxide and MXene-Based Sensors. *Mahdi Mourad Laichaoui, Nanjing University of Aeronautics and Astronautics, China*		

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12:25pm-1:30pm	Posters Presentations: Salon A 1. Developing an Active Vacuum Insulation System for Buildings. *Kaarle Strailey, University of Alaska Fairbanks, USA*. 2. Study of Low-Cost VIP Core by Utilizing High-Fibrous Content. *Mark Connell, Rincon Consulting, USA*. Exhibition: Mezzanine **Working Lunch**: Summit 2		
1:30pm-3:10pm	Session 7: Applications in Industry and Construction. Session Chair: *Dr. Mahmood Alam, University of Brighton, UK*. Location: Summit 1		
1:30pm-1:55pm	Industrialization of Vacuum Insulation in Aviation Industry. *Vakhtang Latsuzbaya, University of Stuttgart, Germany*		
1:55pm-2:20pm	Performance Assessment of District Cooling System for a Commercial Building in hot climate zone of India. *Kumaresan Govindaraj, Anna University, India*		
2:20pm-2:45pm-	All-in-One Design and Fabrication of Vacuum Insulation Panels for Ultra-Efficient Pipeline Thermal Management. *Zhou Chen, Nanjing Tech University, China*		
2:45-pm-3:10pm	Development and Research of VIP Cool Box Manufactured with High-performance Phase Change Materials and its Ultra Long-term Thermal Insulation Performance. *Jason Lee, Nantong Ecotherm Insulations Co., Ltd., China*		
3:10pm-3:40pm	**Coffee Break**		
3:10pm-3:40pm	Session 8: Innovations and Advanced Designs. Session Chair: *Prof. Phalguni Mukhopadhyaya, University of Victoria, Canada*. Location: Summit 1		
3:40pm-4:05pm	Self-Healing Ultra-High Barrier Films for Vacuum Insulation Panels. *Natasha Ghezawi, University of Tennessee, USA*		
4:05pm-4:30pm	Scalable Thermal Insulation Structures with Switchable Thermal Resistance for Thermal Insulation and Storage. *Vladyslav Sazhen, University of Missouri, USA*		
4:30pm-4:55pm	Structure design and performance study of high temperature resistant Vacuum Insulation Panel. *Lixia Yang, Nanjing University of Aeronautics and Astronautics, China*		
4:55-5:20pm	Advanced Cryogenic Insulation Solutions Utilizing Vacuum Insulation Panels for Temperatures Below -150°C. *Zhaofeng Chen, Nanjing University of Aeronautics and Astronautics, China*		
5:20pm-5:30pm	Closing remarks, announcement of next IVIS location & adjourn		

International Vacuum Insulated Symposium 2025

Oak Ridge National Laboratory Tour

Prior registration and approval are required for the lab tour

Agenda as of August 13, 2025

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ORNL Tours				
Time	**Event**	**Lead**	**Attendees**	**Place**
September 12th, 2025				
8:30 a.m. – 9:00 a.m.	Load Buses for ORNL Tours	Nicole White		Crown Plaza Knoxville 401 W Summit Hill Dr Knoxville, TN 37902
9:00 a.m. - 9:50a.m.	Depart Crown Plaza Knoxville Downtown head towards ORNL (Rocky Top Tours)	Nicole White		Crown Plaza Knoxville 401 W Summit Hill Dr Knoxville, TN 37902
9:50 a.m.–10:00 a.m.	Arrive at MaxLab & Unload bus; meet in the front lobby	Nicole White	All	Bldg. 4020, Front Lobby
10:00a.m.–10:45 a.m.	MaxLab Tours	Kuma Sumathipala	All	Bldg. 4020
10:45 a.m. – 10:50 a.m.	Load Buses Transition to Graphite Reactor	Nicole White	All	
10:50 a.m. – 11:45 a.m.	Graphite Reactor (first nuclear reactor intended for continuous operation) Tour	Brian Fricke	All	Bldg. 3001
11:45a.m. – 12:00 p.m.	Load Buses Transition to 5100	All	All	

12:00 p.m. – 1:15 p.m.	Working Lunch [Title TBD}	Melissa Lapsa	All	Bldg. 5100 RM 128
1:15 p.m. – 1:20 p.m.	Transition to Summit Tour	Nicole White	All	
1:20 p.m. – 1:50 p.m.	Summit Supercomputer Tour	MacKenzie Boyd	All	Bldg. 5600
1:50 p.m. – 2:20 p.m.	Transition to Manufacturing Demonstration Facility (MDF) Hardin Valley Campus	Nicole White	All	
2:20 p.m. – 2:30 p.m. -	Unload buses; Meet in front lobby	Nicole White	All	Bldg. 2360HVC
2:30 p.m. – 3:30 p.m.	MDF Tour	TBD	All	Bldg. 2360HVC
3:30 p.m. – 3:45 p.m.	Load buses	Nicole White	All	Outside 2360HVC
3:45 p.m. – 4:10p.m.	Depart for Crown Plaza Knoxville Downtown	All		Crown Plaza Knoxville 401 W Summit Hill Dr Knoxville, TN 37902
4:10 p.m.	Arrival at Crown Plaza Knoxville Downtown; then depart	Depart	Depart	Depart