



2023 Annual Research Symposium

Presented by UL Research Institutes

Building Resilience for a Sustainable Future

Agenda

July 31 – August 2, 2023

Kellogg Global Hub
Northwestern University
Evanston IL

Monday

July 31, 2023

White Auditorium,
Kellogg Global Hub,
Northwestern University

4:00 p.m. – 6:00 p.m. **Shuttles to the Kellogg Global Hub**

Individual shuttles leaving from Hilton Orrington hotel every 20 minutes and from the Graduate at 4:30 p.m. and 5:00 p.m.

5:00 p.m. – 9:00 p.m. **Welcome Reception and Dinner**

6:00 p.m. – 6:05 p.m. **Welcome Remarks**

Milan Mrksich

Vice President for Research, *Northwestern University*

6:05 p.m. – 6:20 p.m. **Opening Remarks**

Chris Cramer

Senior Vice President and Chief Research Officer,
UL Research Institutes

6:20 p.m. – 7:00 p.m. **Keynote Address**

Daniel Hook

CEO, *Digital Science*

8:00 p.m. – 9:30 p.m. **Shuttles to the Hilton Orrington and Graduate Hotels**

Individual shuttles leaving from Kellogg Global Hub to the Hilton Orrington every 20 minutes and to the Graduate at 8:30 p.m. and 9:00 p.m.



Tuesday

August 1, 2023

White Auditorium,
Kellogg Global Hub,
Northwestern University

6:15 a.m. – 8:00 a.m.	Shuttles to the Kellogg Global Hub	Individual shuttles leaving from Hilton Orrington hotel every 20 minutes and from the Graduate at 6:15 a.m. and 7:15 a.m.	
6:30 a.m. – 8:00 a.m.	Breakfast		
8:00 a.m. – 8:10 a.m.	Welcome and Opening Comments	Chris Cramer	Senior Vice President and Chief Research Officer, <i>UL Research Institutes</i>
8:10 a.m. – 10:25 a.m.	Hosted Session: Electrochemical Safety Research Institute (ESRI)		
8:10 a.m. – 8:20 a.m.	Advances in Energy Storage Leading to a Sustainable Future	Judy Jeevarajan	Vice President and Executive Director, <i>Electrochemical Safety Research Institute, UL Research Institutes</i>
8:20 a.m. – 8:45 a.m.	Interface and Thermal Stability of Solid-State Batteries	Partha Mukherjee	Professor of Mechanical Engineering, <i>Purdue University</i>
8:45 a.m. – 9:10 a.m.	Li-S, Na-ion Studies at Naval Research Labs	Rachel Carter	Research Engineer, <i>U.S. Naval Research Laboratory</i>
9:10 a.m. – 9:35 a.m.	Understanding Li Metal Anode in Liquid Electrolyte Metal Battery Systems	Wurigumula Bao	Project Scientist, <i>University of Chicago</i>
9:35 a.m. – 10:00 a.m.	Modeling Studies on Thermal Runaway Including Effects of Venting and Combustion	Jason Ostanek	Associate Professor, <i>Purdue University</i>
10:00 a.m. – 10:25 a.m.	Framework for Safety Evaluation of EVs4ALL (ARPA-E)	Loraine Torres-Castro	Battery Safety Lead, <i>Sandia National Labs</i>
10:25 a.m. – 10:55 a.m.	Break		

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10:55 a.m. – 1:10 p.m. Hosted Session: Chemical Insights Research Institute (CIRI)			
10:55 a.m. – 11:00 a.m.	Introduction to CIRI	Marilyn Black	Vice President and Senior Technical and Strategic Advisor, <i>Chemical Insights Research Institute, UL Research Institutes</i>
11:00 a.m. – 12:05 p.m.	Panel 1: Climate Impacts on Building Environments	Opening Remarks and Introduction of Speakers	Holley Henderson Director of Strategic Partnerships and Education, <i>Chemical Insights Research Institute, UL Research Institutes</i>
		The Changing Climate and Impact on Air Pollution	Mike Bergin Sternberg Family Professor of Civil & Environmental Engineering, <i>Duke University</i>
		Climate Stressors on the Built Environment	Mark Wilson Director of Exposure Science, <i>Chemical Insights Research Institute, UL Research Institutes</i>
		WUI Fire Potential Impacts, Fuels and Emissions	Elliott Horner Lead Scientist, <i>UL Solutions</i>
12:05 p.m. – 1:10 p.m.	Panel 2: Exploring the Intersection of Wildfires and Human Health	Opening Remarks and Introduction of Speakers	Christa Wright Director of Toxicology at the Toxicology and Health Sciences Center, <i>Chemical Insights Research Institute, UL Research Institutes</i>
		Wildfires and Impact on Human Health	Jeff Burgess Professor and Director of the Firefighter Health Collaborative Research Program, <i>University of Arizona Zuckerman College of Public Health</i>
		Epigenetic Biomarkers of Toxicity in California Firefighters Working In the Wildland Urban Interface	Jackie Goodrich Research Associate Professor, Department of Environmental Health Sciences, <i>University of Michigan School of Public Health</i>
		Assessment of Adverse Pregnancy Outcomes Among U.S. Female Firefighters	Michelle Valenti Graduate Research Associate, <i>University of Arizona Zuckerman College of Public Health</i>



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1:10 p.m. – 2:00 p.m.	Lunch		
2:00 p.m. – 2:45 p.m.	Poster Session	Presented by UL Research Institutes Researchers, Interns and Partner Organizations	Located in the Innovation Lab on the lower level
2:45 p.m. – 3:00 p.m.	Break		
3:00 p.m. – 5:15 p.m. Hosted Session: Fire Safety Research Institute (FSRI)			
3:00 p.m. – 3:25 p.m.	Fire Service Research to Impact	Keith Stakes	Lead Research Engineer, <i>Fire Safety Research Institute, UL Research Institutes</i>
		Craig Weinschenk	Lead Research Engineer, <i>Fire Safety Research Institute, UL Research Institutes</i>
3:25 p.m. – 3:45 p.m.	Numerical Modeling of Compartment Effects in Benchmark Compartment Fire Configurations	Arnaud Trouvé	Professor & Director of Graduate Studies, Fire Protection Engineering, <i>University of Maryland</i>
3:45 p.m. – 4:10 p.m.	Material Decomposition Research to Fire Modeling	Jason Floyd	Lead Research Engineer, <i>Fire Safety Research Institute, UL Research Institutes</i>
		Mark McKinnon	Lead Research Engineer, <i>Fire Safety Research Institute, UL Research Institutes</i>
4:10 p.m. – 4:35 p.m.	Wildland Urban Interface	Gavin Horn	Principal Research Engineer, <i>Fire Safety Research Institute, UL Research Institutes</i>
		Joseph Willi	Research Engineer, <i>Fire Safety Research Institute, UL Research Institutes</i>



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4:35 p.m. – 4:55 p.m.	Firebrand Ignition of Building Materials	Stanislav I. Stoliarov	Professor & Director, FireTEC, Fire Protection Engineering, <i>University of Maryland</i>
4:55 p.m. – 5:15 p.m.	Fire Safety of Batteries	Ofodike A. Ezekoye	Joe C. Walter Jr. Chair in Engineering, <i>The University of Texas at Austin</i>
5:30 p.m. – 6:30 p.m.	Shuttles to the Hilton Orrington and Graduate Hotels		Individual shuttles leaving from Kellogg Global Hub to the Hilton Orrington every 20 minutes and to the Graduate at 5:30 p.m. and 6:00 p.m.

This concludes day one of the UL Research Institutes 2023 Annual Research Symposium.

Open Evening – please check with your institute/office for dinner arrangements or feel free to explore the local Evanston area restaurant scene.

Wednesday

August 2, 2023

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6:15 a.m. – 8:00 a.m.	Shuttles to the Kellogg Global Hub	Individual shuttles leaving from Hilton Orrington hotel every 20 minutes and from the Graduate at 6:15 a.m. and 7:15 a.m.	
6:30 a.m. – 8:00 a.m.	Breakfast		
8:00 a.m. – 8:05 a.m.	Opening Comments	Terry Brady	President & CEO, Board Chair, <i>UL Research Institutes, UL Standards & Engagement</i>
8:05 a.m. – 10:20 a.m.	Hosted Session: Materials Discovery Research Institute (MDRI)		
8:05 a.m. – 8:10 a.m.	Introduction to Session	Stuart Miller	Vice President and Executive Director, <i>Materials Discovery Research Institute, UL Research Institutes</i>
8:10 a.m. – 8:40 a.m.	The Future of Chemistry Is Self-Driving	Alán Aspuru-Guzik	Professor of Chemistry and Computer Science, <i>University of Toronto</i>
8:40 a.m. – 9:10 a.m.	Nanoporous Materials as Smart Adsorbents for Sustainable Processes	Paul Wright	Professor of Chemistry, <i>University of St. Andrews</i>
9:10 a.m. – 9:40 a.m.	Myths Versus Reality: Smart and Programmable Sponges From Basic Science to Implementation and Commercialization	Omar Farha	Charles E. and Emma H. Morrison Professor in Chemistry, <i>Northwestern University</i>
9:40 a.m. – 10:20 a.m.	Panel Discussion: From Research to Reality: The Role of Material Discovery in the Coming Decades	Benjamin Hernandez	Founder & CEO, <i>NuMat</i>
		Philip Llewellyn	CCUS R&D Program Manager, <i>TotalEnergies</i>
		Gavin Towler	Vice President and Chief Technology Officer, <i>Honeywell Performance Materials and Technologies</i>
10:20 a.m. – 10:50 a.m.	Break		

Wednesday

August 2, 2023

White Auditorium,
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10:50 a.m. – 12:30 p.m. Hosted Session: Office of Research Experiences & Education (OREE)			
10:50 a.m. – 11:00 a.m.	OREEthinking Sustainability Education	Kelly Keena	Senior Director, <i>Office of Research Experiences & Education, UL Research Institutes</i>
11:00 a.m. – 11:25 a.m.	K-12 STEM for Resilience: Research must REACH	Prisha Shroff	Youth Consultant, <i>ASU/ULRI Teacher Fellowship</i>
11:25 a.m. – 11:45 a.m.	Why REU's Matter	Chanda Jefferson	Director of Community Engagement and Outreach, <i>University of Pennsylvania Engineering</i>
		Tiffany Reardon	Associate Director of Engineering Excellence Programs, <i>University of California Berkeley Engineering</i>
		Andrea Weinberg	Associate Professor, <i>Mary Lou Fulton Teachers College, Arizona State University</i>
		Iveta Silova	Professor and Associate Dean of Global Engagement, <i>Mary Lou Fulton Teachers College, Arizona State University</i>
11:45 a.m. – 12:15 p.m.	Panel Discussion: Education for a Sustainable Future	Michelle E. Jordan	Associate Professor and Senior Global Futures Scientist, <i>Mary Lou Fulton Teachers College, Arizona State University</i>
		Molly Cashion	Senior Program Manager, Sustainability Teachers' Academies, <i>College of Global Futures, Arizona State University</i>
12:15 p.m. – 12:30 p.m. Moderated Discussion with Panelist and Presenters			
12:30 p.m.	Concluding Remarks	Chris Cramer	Senior Vice President and Chief Research Officer, <i>UL Research Institutes</i>
12:40 p.m. Lunch			
12:45 p.m. – 3:00 p.m.	Shuttles to the Hilton Orrington and Graduate Hotels	Individual shuttles leaving from Kellogg Global Hub to the Hilton Orrington every 20 minutes and to the Graduate at 12:45 p.m. and 2:00 p.m.	

This concludes the UL Research Institutes 2023 Annual Research Symposium.

