

Efficient Building DESIGN

MATERIAL & HVAC EQUIPMENT TECHNOLOGIES

Opening Ceremony

8:45–9:30 am | Jassim Al-Qatami Engineering Lecture Hall

Keynote and Paper Sessions - Thursday October 20, 2022

Time	Paper/ Talk #	Title	Presenting Author	Room Number
Keynote Talk 1 Chair: Fadl Moukalled				
10:15–11:15 am		Bio-Based Materials for Hygric and Thermal Control in Buildings	Sylvie Lorente	Jassim Al-Qatami Engineering Lecture Hall
Session 1- Modeling, Thermal Storage, and Standards Chair: Fouad Azizi; Co-Chair: Carine Habchi				
11:15–11:40 am	2132	Utilization Of Mobilized Thermal Energy Storage (M-TES) System For Heating/Cooling Of Lebanese University Campus: Simulation, Economic and Environmental Analysis.	Rana Hassan Hamza	Jassim Al-Qatami Engineering Lecture Hall
11:40 am–12:05 pm	2131	Energy Requirements & Benchmarking for Aerobic Wastewater Treatment Plants – Case Study in Lebanon	Firas Fayssal	
12:05 –12:30 pm	2102	Thermal Energy Storage Technologies and Their Global Application Examples	Zafer Ure	
12:30–12:55 pm	2130	Development and validation of ISHRAE Indoor Environmental Quality Standard	Sunil Kumar Sansaniwal	
12:55–1:20 pm	2126	Developing a Framework for Delivering Quality toward a Sustainable Built Form Future	Peter George Phillips	
Session 2- Sustainable Ventilation and Climates Chair: Issam Lakkis; Co-Chair: Mariam Itani				
11:15 –11:40 am	2112	Simultaneous Cooling And Fresh Water Production For Classrooms In Hot And Humid Climate	Jean Paul Harrouz	M207
11:40 am –12:05 pm	2142	Natural Convection Airflow in an Open-ended Isothermally Heated Building Shaft	Maram Riad Ammar	
12:05 –12:30 pm	2151	Applying the New Effective Strategies of HVAC System Design with the Focus on Sustainable Development in Public Buildings in Humid Subtropical Climates	Esmail Jalali Lavasani	
12:30–12:55 pm	2145	Modeling of Solar Thermal Cooling System for a Hostel Building in Tropical Climate	Arun Kumar Shukla	
12:55–1:20 pm	2122	A New Passive Design Analysis Methodology And Correlation To Occupant Perception	Mahendra Goroorchurn	
Keynote Talk 2 Chair: Walid Chakroun				
3:00–4:00 pm		Overview of Smart Energy Systems for the Built Environment	Moncef Krarti	Jassim Al-Qatami Engineering Lecture Hall
Session 3- Builiding Façade Chair: Shadi Najjar; Co-Chair: Ziad Haddad				
4:15–4:40 pm	2114	Near Zero Cooling Residential Building Using Hot and Cold Phase Change Material Thermal Storages - Lebanon Case Study	Mohamed Hmadi	Jassim Al-Qatami Engineering Lecture Hall
4:40–5:05 pm	2127	Digitized Insulation System for Energy-Efficient Facade in Warm Countries	Ayman Bishara	
5:05–5:30 pm	2106	Biodome Homesteading: A Community Based Open-Source Subsistence Homesteading Platform	Stephen Charles Welty	
5:30–5:55 pm	2101	Facade-Integrated Mechanical Systems: A New Approach to Deep Energy Retrofits and Heating System Electrification	David Goldstein	Jassim Al-Qatami Engineering Lecture Hall

Session 4- Indoor Air Quality and Thermal Comfort Chair: Kamel Ghali; Co-Chair: Elias Kinab				
4:15–4:40 pm	2111	Investigating The Effect Of Individual Control Of Personalized Ventilation Temperature On Cross-Contamination In An Office Space	Elvire Katramiz	M207
4:40–5:05 pm	2113	Numerical Study of The Efficiency of Intermittent Air Supply System in Providing Thermal Comfort in a Classroom With Low Energy Cost	Jennyfer Karam	M207
5:05–5:30 pm	2129	The Assessment and Enhancement of Thermal Comfort in the Makassed Schools, Beirut	Michel Zakharia	
5:30–5:55 pm	2107	Work Smarter, Not Harder: Improving Energy Efficiency and Safety through Smarter Ventilation	Rachel Romero	

Keynote and Paper Sessions - Friday October 21, 2022

Time	Paper/Talk #	Title	Presenting Author	Room Number
Keynote Talk 3 Chair: Kamel Ghali				
9:00–10:00 am		Safe or Save? Cities Smart Resiliency to Airborne Epidemic and its Environmental Costs	Marco Simonetti	Jassim Al-Qatami Engineering Lecture Hall

Session 5- Energy Conservation Strategies Chair: Joseph Zaiter; Co-Chair: Mohamad Kanaan				
10:15–10:40 am	2121	Dual Core Hot Well Approach For High Rise Buildings	Ibrahim Kronfol	Jassim Al-Qatami Engineering Lecture Hall
10:40–11:05 am	2110	Techno-Economic Assessment Of Photovoltaic Glazing System for an Office Building in Saudi Arabia	Noman Ashraf	
11:05 –11:30 am	2118	Analysis of Zero Energy Building through Grid Code Operation of PV Solar and Squall Energy Systems in Oman	Ninzo Thomas	
11:30 –11:55 am	2141	Reducing HVAC Energy Consumption Through Optimal Sub-Zoning Considering Occupant-Centric Control (OCC)	Jeslu Celine Jacob	
11:55 am –12:20 pm	2134	Effect of Thermal Superheating on the Performance of an Air-Conditioning System	Anil Kumar	

Session 6- Renewable Energy and Applications in Buildings Chair: Zaki Zaatari; Co-Chair: Patrick Kattan				
10:15–10:40 am	2140	Solar Heating and Cooling Scheme	Aya Bassam Khalaf	M207
10:40– 11:05 am	2124	Modification Of Clay Plaster Properties Using Sol-gel Coatings	Pooja Anil Kumar Nair	
11:05 –11:30 am	2144	Different Air Distribution System and Aspect of Odour Distribution and Indoor Air Quality	Maciej Danielak	
11:30 –11:55 am	2103	Energy Saving By Using Mains Water Adiabatic Cooling Retrofit Kit For Dry Heat Rejection Equipments	Zafer Ure	
11:55 am –12:20 pm	2143	Design for Manufacture and Assembly (DFMA): Integration Strategies in the HVAC Design of Buildings	Hadi Mamoun	
12:20 –12:55 pm	2109	Local Materials for Improving Environmental Indoor Quality and Identity in Buildings - Case study Yemen	Abdulfattah Mohammed Yahya Almasehali	

Keynote Talk 4 Chair: Samir Traboulsi				
3:00 - 4:00 pm		ASHRAE's Efforts in Decarbonizing the Built Environment	Ginger Scoggins	Jassim Al-Qatami Engineering Lecture Hall

Decarbonization of Buildings: Challenges/Opportunities and the Climate Chair: Nesreen Ghaddar				
4:00–4:15 pm		Basic Terminology for Decarbonization	Ginger Scoggins	Jassim Al-Qatami Engineering Lecture Hall
4:15–4:30 pm		MEP Embodied Carbon Matters in Whole Life Carbon	Luke Lueng	
4:30–4:45 pm		Achieving Zero in Energy and Carbon	Thomas Phoenix	
4:45–5:00 pm		Sustainable Ventilation Strategy Based on Carbon Removal from Indoor Air Using Metal-Organic Framework	Kamel Ghali	
5:00–5:20 pm		Decarbonization Strategic Action: Challenges and Opportunities for Carbon Neutrality	Ghina Annan	
5:20–6:00 pm		Q&A		