PROGRAM SCHEDULE | DAY 2 - MONDAY, AUGUST 25 - ALL ROOMS

BUILDING SIMULATION 2025 24-27 AUG BRISBANE CARBON AND CLIMATE RESPONSIVE

0730-0840 Registration (arrival tea and coffee) — Live Stream Room

	Plenary - Plaza Terrace Room	Mezzanine M1	Mezzanine M2	Plaza P1	Plaza P2	Plaza P3	Plaza P4	Plaza P5	S1
0840-0850	**Opening Ceremony:** - Acknowledgment of Country								
0850-0900	**Welcome & IBPSA address** — IBPSAA President - Quentin Jackson								
0900-0940	**Keynote address:** Science isn't finished until it's communicated — Dr Jen Martin								
0940-0950	**Sponsor Address:** Better Building — Darren O'Dea								
0950-1030	**Keynote address:** Occupant-centric approaches to improve energy performance — Zoltan Nagy								

Morning tea 1030-1100 — Poster sessions - in foyer

Theme	BIM to BEM	Climate Change Mitigation & Adaptation CCMA	Climate Change Mitigation & Adaptation CCMA	Indoor Environment Quality IEQ	Energy Efficiency and Sustainability EES	Energy Efficiency and Sustainability EES	Energy Efficiency and Sustainability EES	Urban Planning & Smart Cities UPSC	Innovative Design Exploration & Industry Transformation IDEIT
	Session Chair: Pieter de Wilde	Session Chair: TBC	Session Chair: TBC	Session Chair: TBC	Session Chair: TBC	Session Chair: TBC	Session Chair: TBC	Session Chair: TBC	Session Chair: TBC
1100-1115	IFC-based semiautomated building energy model creation and simplification for Building Energy Simulations — Sayegh, Hasan	Future Overheating Risks in Buildings complying with current Codes — Petersen, Steffen	Viability of free-running buildings in the Nordic region — de Wilde, Pieter	A workflow for designing VR experiments for daylight and view-out studies using real-time stereoscopic videos — Cho, Yunni	Beyond correlation: A causality-driven model for indoor temperature control — Mun, Jeeye	Stochastic simulation of uncertain input parameter in urban building energy modelling — Geske, Mara	Quantifying the compound impact of urban heat island and climate change on cuilding energy consumption in Nanjing's traditional urban center — Linzhi, Zhao	Development and comparison of urban morphological solar energy and building energy consumption models using ANN and linear regression — Poon, Kin Ho	Implementing Dynamo in IFC2Modelica framework for enhanced parametrization — Alzade, Abdella
1115-1130	IFC-based setup of interior spaces for thermal comfort simulations using CFD — Richter, Veronika Elisabeth	Urban heat resilience evaluation and climate-responsive urban design for climate change adaptation — Deng, Lirui	The influence of vegetation structure on urban microclimate: A CFD analysis of urban block and vegetation densities — Rothe, Chinmay Shashikant	Exploring the consistency of UGR calculations, measurements, and evaluations — Mahdavi, Ardeshir	Identification of simplified control strategies in multisource optimisation for electric demand flexibility in building energy — Benali, Fatima Zohra	Urban form and energy demand- Impact of height and density height and density for low-energy design in Tropical climate — Deb, Chirag	Empowering urban building energy modeling with city information models: A critical review on the benefits and — Zhang, Xiang	The impact of irregular days on machine learning predictions of office building load and corresponding optimization — Wang, Jingrong	Innovative Miscanthus-based materials — El Khoueiry, Dolly
1130-1145	Building performance analysis at the design stage: A study into the challenges of BIM and BEM integration in the Swedish AEC industry — de Wilde, Pieter	Assessing the impact of future climate on building energy performance with downscaled weather data in Korea — Lim, Eunkyung	Evaluating green roof performance in Korea: heating and cooling load impacts under future climate scenarios — Lee, Semin	Exploring on evaluation of human response to indoor daylighting environment using UES virtual reality modelling: a pilot study — Liang, Runqi	A decision-making method based on economic and environmental life cycle analysis for sustainable controlled — Wang, Liping	Urban building energy simulation for performance analysis of an energy community model in the Italian context — Zhu, Yunxi	Developing building shape indexes at the city-scale for understanding building energy consumption — Hwang, Jeongyun	Quantum approximate optimisation algorithm (QAOA) for surplus energy distribution in urban microgrids — Han, Jung Min	Optimization of HVAC planning of large high-ceiling room for spacecrafts and satellites using CFD and optimization algorithm — Yumino, Saori
1145-1200	Information Requirements for Natural Ventilation in an IFC-based BIM-BEPS workflow — Garlet, Liége	Energy-efficient building spatial layout strategies under future climate change scenarios — Shen, Pengyuan	Examining the effect of heat mitigating strategies on outdoor air temperatures in an educational facility under the hot humid — Mohamed, Maryam Mohamed Jaffar	Data-driven assessment of daylight metrics for building visual environmental quality — Ouyang, Fion Yang	Machine learning-driven optimal control method for subway station VAC systems — Wang, Li	Constructing three-dimensional urban models for Urban Building Energy Modeling using UAV oblique imagery — Su, Fengmin	Shaving monthly peak load by overestimating future load in microgrid model predictive control — Li, Lunlong	Thermal performance predictor for campus exterior spaces: a smart campus mobile application development — Zeng, Tiancheng	A data-driven approach for simulating the energy performance of closed-loop hydronic heating systems — Tseno, Enea Dimitris
1200-1215	Using Large Multimodal Models (LMM) to digitalize scanned HVAC Schematics into Metadata Schemas for Buildings — Hviid, Christian Anker	Bio-retrofit: Potential of mycelium-based composites to future-proof India and Australia's residential buildings against — Debnath, Kumar Biswajit	Geometric model, thermal environment of bus shelters and cooling behaviors of pedestrians in hot–humid areas—a case — Mao, Huijun	Validation of multispectral simulation tools for predicting non-visual lighting metrics across diverse daylight scenarios — Amin, Gontar	A novel occupant-centric control framework for building to urban scale hybrid-energy simulation — Anand, Prashant	Sensitivity analysis of albedo input settings for vertical facades in community-scale solar irradiance simulation — Yoon, Daemin	A knowledge graph-based performance evaluation framework for sustainable residential block design — Wu, Zhaoji	Development of convolutional neural network-based turbulence modelling framework for outdoor wind field simulation — Zhao, Rui	Evaluating the Practical Energy Saving Potential of a Personal Cooling System in the Tropics — Zhan, Sicheng
1215-1230	Building Information Model (BIM) and Life Cycle Analysis tools: A comparative study with specialized software for environmental performance of buildings — Guízar Dena, Andrés Jonathan	Divergent: Passive buildings provide thermal resilience in a dystopian warming climate. — Thounaojam, Amanda	The impact of Chinese wellness habits on cooling-related behaviors of urban residents — Li, Jiahui	Comparative Analysis of Glare Indices in Indoor Environments Affected by Reflected Sunlight — Lee, Jisoo	Generation of synthetic load profiles for different typologies of residential users through metadata-driven generative AI models — Piscitelli, Marco Savino	Urban spatial microclimate prediction with morphological map-based ensemble deep learning method — Hu, Maomao	Characterization of the building stock in the mountain environment: correlations between natural context, building geometry and energy performance — Borelli, Gregorio	Fast prediction of urban wind distribution with deep learning-based surrogate models — Wang, Houzhi	Simple Tool to Evaluate the Performance of Model Predictive Control of Space Heating in the Early Stages of Building Design — Petersen, Steffen

Lunch 1230-1330 — Poster sessions - in foyer

Theme	Climate Change Mitigation & Adaptation CCMA	Climate Change Mitigation & Adaptation CCMA	Climate Change Mitigation & Adaptation CCMA	Indoor Environment Quality IEQ	Energy Efficiency and Sustainability EES	Energy Efficiency and Sustainability EES	Energy Efficiency and Sustainability EES	Urban Planning & Smart Cities UPSC	Innovative Design Exploration & Industry Transformation IDEIT
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1330-1345	Urban microclimatic simulation as a tool for social cohesion and improvement in deprived areas, a case study — Diz-Mellado, Eduardo	Embodied carbon emissions of the residential building stock in the united states and the effectiveness of mitigation strategies — Hu, Ming	Optimization of ventilation corridor design parameters based on ventilation performance across different urban forms — Shen, Xiaohan	Comparative analysis of daylight, view, and visual privacy: a New York City case study — Kim, Jaeha	Using timber-based panels to retrofit old university buildings in Korea for carbon emission reduction: A comparative study using LCA and energy performance — Park, Junsung	Single family residence energy efficiency impacts on emissions reduction and energy saving life cycle analysis — Li, Qinbo	Practically feasible and novel approach for predicting electrical power demand of multiple dwellings using a digital tool in building services industry — Mustafa, Murat	Shaping digital twins: exploring uav and web-based 3d modeling technologies for sustainable building simulation — Hu, Dingkun	Energy performance assessment of climate adaptive building envelopes using shading masks — Hong, Wontaek
1345-1400	Modeling resilient multi-energy systems for rural, remote, and disadvantaged communities: A review — Zuo, Wangda	Towards a low-carbon countryside: Lifecycle embedded carbon emission analysis and reduction recommendations for farmhouses — Ye, Yihang	Evaluating the effectiveness of building retrofit strategies for reducing indoor overheating risks in elderly apartments — Gallardo, Andrés	Including households' comfort elasticities in model predictive controllers — Willems, Sara	Operational carbon impact of integrating alternative cooling systems and renewables in arid homes — Mezaien, Ahmed A.	Estimating life-cycle carbon mitigation potential of building integrated photovoltaics (BIPV) façade at the city scale — Zhang, Shihong	A Q-Lattice and EnergyPlus coupled modelling approach to estimate HVAC energy consumption and natural ventilation — Pandey, Pratik Raj	Predicting urban air temperature using UVA Infrared thermography and an artificial neural network — Hyun, Youha	Building design approach in stack effect calculation for complex cases. Multi-instrumental solution — Sultanov, Emil
1400-1415	Helium-based modelling approach for studying thermal-induced airflows in street canyon — Qi, Dahai	Predicting Energy Demand discrepancies in building simulation under climate change for thermally sensitive mental health care — Hamza, Neveen	Implications of window opening assumptions in English overheating regulation on assessing residential heat — Cui, Cheng	BuildSysPro-IAQ : Impact of Energy systems in French residential buildings on IAQ and Energy Consumption. — Wall-Ribot, Benedicte	Clarifying carbon reduction claims and pathways to their achievement using real-world buildings — Goldsworthy, Mark	Techno-economic and environmental feasibility study of non-cloud based Smart Dual Fuel Switching System (SDFSS) for — Bani, Sanaz	Adaptation of the heating curve for heating systems — Le, Huu Thoi	Archetype generation for the district-scale Life Cycle Assessment of buildings — Schildt, Maximilian	Thermo-bimetal responsive building skins: comparative analysis of self-actuated geometric patterning and user override on — Sinha, Ankita
1415-1430	Comparative analysis of cost-benefit quantification methods for equitable resource allocation in building stock — Tseng, Hung Ming	How much will future climate change affect building retrofits for energy equity? — De Silva, Hashani	Nationwide longitudinal study on summertime overheating risk in English care homes — Gupta, Rajat	Assessing inter-sensor variability and calibration of low-cost IAQ sensors through co-location with reference devices — Mathur, Vanitha	Renewable energy communities in Sweden: a techno-economic analysis of single-owner, multiple-consumer building-level energy — Al-Taie, Ziad Amer	How optimal building decarbonization pathways differ when considering energy burden and job creation — Dubois, Ryan	Review of a dynamic simulation approach for heating system sizing — Maton, Luca	Urbanflow: an AI-driven platform for collaborative, multidisciplinary building-level and urban-scale analysis — Ang, Yu Qian	Surrogate modeling of heat transfer in 3D-printed facades with active learning — Bittencourt, Gustavo
1430-1445	Dynamic factors in life cycle assessment: systematic review and categorization — Zong, Chujun	Urban climate control strategies and buildings' retrofitting: a simulation study in the UNESCO heritage site of Valparaíso, Chile — Palme, Massimo	Evaluating occupant behavior model performance considering long-term time use change — Yin, Rumeng	Depressurization risk assessment in multi-unit residential buildings using pressurized corridor ventilation systems — Fylak, Natalie	Design guidance for net zero energy mixed-use buildings in Seoul — Chen, Jingyi	Steering Building Design in India towards net zero with a Whole-Building Carbon Protocol — Jayaram, Sreejith	Development of a simulation tool to assess heat pump integration in Canadian homes — Lachance, Alex	Enhancing microclimate modeling in tropical climates: validation of Envi-Met with experimental data from Reunion Island — Lefevre, Alexandre	A stable geometry transformation module from 3D geometry data to building energy model — Xiao, Jun
1445-1500	Carbon emissions during the design and construction phases of public works: a case study of council housing in Taiwan — Lin, Han-Fei	Long-term analysis of felt-based living green walls: microclimate monitoring and simulation calibration — Gocer, Ozgur	Integrating CityJSON with building performance simulation: A case study of summer indoor overheating in Antwerp — Morales, Richard Dean	Experimental and simulated study on thermal environment of large-scale indoor spaces using radiant panel heating-cooling system — Jing, Wei	RapidRate's role in helping Australia move towards zero carbon homes — James, Melissa	Optimizing a latent heat energy storage tank for a solar collector system: moving towards zero carbon. — Nasir, Alaa	Optimization of cold climate air-air heat pump sizing using simulation data — Lachance, Alex	Innovative approach to enhancing the reliability of urban microclimate simulations — Ordenes Mizgier, Martin Gabriel	A cross-scale normative encoding representation method for 3D building models suitable for graph neural networks — Li, Yihui

Afternoon tea 1500-1530 — Poster sessions - in foyer

Theme	Innovative Design Exploration & Industry Transformation IDEIT	Climate Change Mitigation & Adaptation CCMA	Climate Change Mitigation & Adaptation CCMA	Indoor Environment Quality IEQ	Energy Efficiency and Sustainability EES	Energy Efficiency and Sustainability EES	Energy Efficiency and Sustainability EES	Urban Planning & Smart Cities UPSC	Innovative Design Exploration & Industry Transformation IDEIT
	Session Chair: Quentin Jackson	Session Chair: TBC	Session Chair: TBC	Session Chair: TBC	Session Chair: TBC	Session Chair: TBC	Session Chair: TBC	Session Chair: TBC	Session Chair: TBC
1530-1545	Evaluating optical distortion in high performance glazing — Jones, Nathaniel L	Heat Where It Hurts - Spatiotemporal weighting for efficient heat impact assessment in Vienna — Khalili Nasr, Behrooz	How to combine direct and indirect adiabatic cooling into an air handling unit for resilient tertiary buildings — Breteau, Antoine	Analysis of the influence of CCT and Ra of common lighting sources on visual experience and energy efficiency — AL-Mowallad, Ezzaddeen Ali Mohammed	Activation strategies for decentralized booster heat pumps based on dynamic pricing models — Jacobs, Stef Gino R	The Cornwall: Improving wellbeing for rural older population in cold climates using locally available agriculture waste. — Yang, Di	Alternative pathway for a nearly zero emission building stock in 2050 — Seigne, Héloïse	Integrating UHIE mitigating measures in the urban planning process — Rawal, Rajan	Building Performance Simulation of a semitransparent Trombe wall Coupled with a Latent Thermal Energy Storage — Cekon, Miroslav
1545-1600	Behaviour and light: A human-centric study on how choice and shared spaces influence light exposure and wellbeing — Ganjehzadeh, Nazanin	Integrating spatial proximity analysis and explainable machine learning to evaluate building energy retrofit potential under urban heat island effects — Lei, Zhen	A novel BIM-to-UHI workflow for integrating UHI analysis as a key driver in BIM retrofit projects — Campos-Rosa, Lucia	Evaluating front yard greenery for enhanced indoor environmental quality and energy efficiency — Shisheberi, Vali	Simultaneous heating and cooling in museums: evaluation of micro-encapsulated phase change slurry as a thermal storage medium for multi-purpose heat pumps — Schito, Eva	Socio-techno-economic optimization of energy systems with seasonal thermal storage: a study on a Swiss single-family house — Fiorentini, Massimo	ZEB retrofit planning methodology for existing office buildings using building energy simulation — Miyata, Masato	Integrated optimization of urban open space morphology for mitigating heat island effects and enhancing ventilation performance — Fu, Hanxun	Variations in Operational Performance of an Occupant-Centric Design due to Uncertainties in Occupants and Building Operation — Ono, Eikichi
1600-1615	Multi-objective optimization design of windows combining granular aerogel glazing and double glazing systems — Zheng, Dongmei	High-resolution downscaling simulation of urban wind-thermal environments: An interpretable machine learning analysis of urban morphology — Jie, Pengyu	Scaling impact of urban green infrastructure on urban climate and energy: A critical review — Chen, Wenqi	Performance comparison of lighting design objectives parameters based on calculation and simulation: case study of a pool hall and café — Hermawan, Ikhwan Muttaqien	Modeling and integration of photovoltaic thermal hybrid solar collectors in a fifth-generation district heating and cooling network — Li, Guowen	From Poverty to Power- Investigating essential energy services in low-income households in developing nations — Jana, Arnab	Energy consumption pattern analysis of housing in warm-humid climate — Ranavainshaw, Deepali	Reducing the gap between predicted and measured urban microclimate through handling parameter uncertainty and model form uncertainty — Setyantho, Gigih Rahmandhani	Simplifying decision-making in model-based co-design of building energy systems through automatically generated optimal controls — Louis, Hermans
1615-1630		Machine Learning-based thermal environment classification and prediction for historical neighborhoods — Li, Jingru	Analytical dehumidification performance evaluation of a novel window-type liquid desiccant ventilation system based on CFD — Goo, Jabin	Investigating the built-environment and behavioural prerequisites for occupant satisfaction within the low-income — Sarkar, Ahana	Verification of the accuracy of the Degree Day method using building simulation — Sako, Haruki	Rebuilding in conflict-affected built environments: a simulation-based framework — Render, Elaina Rose	Developing practical approaches and tools for optimizing zeb designs — Ota, Nozomu	The influence of ancient city wall on cooling effect of water: A case study of Nanjing Ming City Wall — Song, Dan	Prediction of internal pressure and door operation risk in high-rise buildings under time-varying external conditions — Ito, Shogo
1630-1645	Building for the Future - Considering future weather extremes in assessing building energy efficiency — Dr Ramona Dalla Pozza	Using EPPY scripts to enable automated building electrification modeling with flexibility and scalability — Sheng, Maggie	Revealing integration effects of the built and operating environment of substation infrastructure from a multi-scale perspective — Wan, Qi	Lighting quality evaluation in underground public spaces — An integrated field and simulation study — Sui, Gerui	A comparative study of residential building energy performance in Belgium utilizing three different solar panel configurations — T'Jollyn, Ilya	An integrated EnergyPlus simulation framework for Building Information modelling based building envelope generative design — Aydin, Mehmet Akif	Impact of Space Utilization on Energy Cost and Energy Performance of a nearly Zero-Emissions Office Building — Norouziasas, Alireza	Li, Lee Kwan	Demonstrating the feasibility of LLMs to develop complex building energy models — Sur, Dipashreya A.
1645-1700	**Student Competition Presentation 1**	Data acquisition on building systems and operations in Urban Building Energy Modeling — Oikawa, Nana	The influence of vegetation on the thermal comfort of open transitional spaces — Galán Marín, Carmen	Exploring energy implications in a mixed-mode building by linking air quality and occupant behaviour — Garg, Vishal	A shadow-cost-based long-term model predictive controller for a solar-based district heating system with tank thermal energy storage — Jansen, Jelger	Coupling of multi-zone dynamic energy simulations with life cycle assessment for residential building renovation — Scheipers, Hannelore	Impact of refrigerant undercharge and overcharge faults on building indoor conditions and HVAC system performance during cooling seasons: Field measurements — Im, Piljae	Phichetkunbodee , Non	Clustering-based framework for large urban studies: A case study in Taipei City — Chen, Yuehong	Integrating artificial intelligence in urban design: A neural network-driven approach for noise mitigation optimization — Guo, Mengdi
1700-1715	**Student Competition Presentation 2**	Deep learning-based surrogate modeling for optimal control of climate-responsive adaptive façade systems — Zhang, Chengshen	Modeling the impact of diverse extreme climate scenarios on residential buildings with renewable energy and storage in cold regions: A techno-economic analysis — Rehman, Hassam ur	Personal Comfort Models in shared spaces: a review of trends, challenges, and future directions — Alamirah, Haneen Nader	Advanced solar radiation decomposition model: utilizing Random Forest-Symbolic Regression across diverse climatic zones — Gevorgian, Aleksandr	Exploring the energy and CO2 emissions implications of climate-responsive design strategies applied to residential dwellings in Latin America — Chi Pool, Doris Abigail	Radiant floors as a feasible solution for residential heating and cooling: a simulation-based performance analysis — Bizzarri, Marco	Identification of simple dynamic Building-Stock Energy Models for the heat dynamics in residential buildings — Van Hove, Matthias	Transfer learning of surrogate models for building energy prediction — Evins, Ralph
1715-1730	**Day Recap and Close:** IBPSAA President - Quentin Jackson								
1730-1930	**Conference poster and exhibitor cocktail function**								

BUILDING SIMULATION 2025 24–27 AUG BRISBANE CARBON AND CLIMATE RESPONSIVE

PROGRAM SCHEDULE | DAY 3 - TUESDAY, AUGUST 26 - ALL ROOMS

0820-0900	**Registration (arrival tea and coffee)**								
	Live Stream Room								
	Plenary - Plaza Terrace Room	**Mezzanine M1**	**Mezzanine M2**	**Plaza P1**	**Plaza P2**	**Plaza P3**	**Plaza P4**	**Plaza P5**	**S1**
0845-0900	**Welcome & IBPSA address** IBPSAA Treasurer - Nicki Parker								
0900-0940	**Keynote address:** AI in Building Performance Simulation — Professor Pieter de Wilde								
0940-0950	**Sponsor Address:** Aurecon								
0950-1030	**Keynote address:** How NABERS is reducing measured emissions and improving building simulation practice — **PC Thomas**								
Morning tea 1030-1100	**Poster sessions - in foyer**								
Theme	**Indoor Environment Quality IEQ**	**Climate Change Mitigation & Adaptation CCMA**	**Energy Efficiency and Sustainability EES**	**Indoor Environment Quality IEQ**	**Energy Efficiency and Sustainability EES**	**Energy Efficiency and Sustainability EES**	**Energy Efficiency and Sustainability EES**	**Urban Planning & Smart Cities UPSC**	**Innovative Design Exploration & Industry Transformation IDEIT**
	Session Chair: TBC	**Session Chair: TBC**	**Session Chair: TBC**	**Session Chair: TBC**	**Session Chair: TBC**	**Session Chair: TBC**	**Session Chair: TBC**	**Session Chair: TBC**	**Session Chair: TBC**
1100-1115	Aleatoric and epistemic uncertainties in occupant behavior models for residential buildings: real-life cases — Kim, Sunghyun	Estimating indoor mortality and heat risk in residential dwellings in extreme weather scenarios — Nagy, Zoltan	Modelling the impact of occupant behaviour on direct load control of HVAC systems — Gunay, Burak	An IoT Scheme for Energy Efficiency, IAQ with Noise Characterization and Measurement in the Smart Building — Dehra, Himanshu	Electrochemical Modelling of a Sodium Metal based Desalination Battery for Electrolysis and Trigeneration using Direct-Current Generator in Ships — Dehra, Himanshu	Building renovation level requirements for a 5th Generation District Heating and Cooling Network — Dell'Isola, Anna	A RAG-based framework for material matching in LCA: integrating semantic and character similarity with AI-driven explanations — Chen, Hongrui	Impact of local weather in urban building simulation studies — Rajput, Mayuri	Advanced parametric and machine learning techniques for reducing embodied carbon in concrete structures — Lyu, Yiwei
1115-1130	Estimating the number of occupants using machine learning based on carbon dioxide concentration data from IoT sensors in two — Kim, Jehyun	Evaluation of active mitigation measures in improving residential district cooling resilience — Wu, Yi	Application of an Adaptive Gaussian Mixture Regression for Fault Detection and Diagnosis across various HVAC Systems — Dahal, Sujit	Fast prediction model for indoor temperature distribution based on adaptive spatio-temporal graph convolutional — Wen, Shuqing	A hybrid GSHP operation strategy to mitigate ground temperature variations in ground heat exchangers — Park, Young-Joon	Model-based co-design of LowEx heat supply and active thermal insulation systems — Weiß, Dirk	Multi-agent reinforcement learning approach for large cooling water system control — Wang, Xiao	Modelling the error structure in Urban Building Energy Models with a Gaussian Process-based approach — Wang, Chunxiao	Decarbonizing existing buildings using high-temperature ground-source heat pumps — Faucher, Jasmin
1130-1145	Feasibility study on predicting personal thermal comfort using EEG in dynamically changing thermal environments — Park, Jeongan	Evaluating global residential energy demand based on decent living standards through bottom-up simulations — Gomi, Yushin	IBPSA Project 2 Building Optimization Testing Framework (BOPTEST): Overview, new software features, and example use — Wang, Zhe	Long-range airborne infection analysis of a classroom under different occupancy scenarios — Xiao, Yao	Comparing collective air-source and collective ground-source heat pumps in fully integrated, optimally controlled residential — Verleyen, Lucas	Design and numerical modelling of seasonal water-based tank-in-tank thermal energy storage for district heating systems — Tosatto, Alice	Development of an on-line Australian residential building stock model — Chen, Dong	Safe reinforcement learning for smart building's energy optimization with vehicle-to-everything (V2X) technology — Pagri, Muhammad Ihza Febriyan	Deep learning foundation model framework for the surrogate modeling for efficient design exploration — Han, Jung Min
1145-1200	Modelling and predicting classroom indoor air quality using machine learning algorithms — Dong, Jierui	A digital platform for heatwave vulnerability assessment in non-air-conditioned residential buildings: Lyon Metropolis case — Maratier, Julien	Price-aware RL for HVAC control: maintaining comfort and enhancing flexibility validated across dual open-source — Wang, Xinlin	Predicting health risk due to Legionella pneumophila bacteria while showering — De Jonge, Laura	A TRNSYS modeling approach to optimize the design and operation of heat pump systems in district energy networks — Gallant, Mathilde	Integrated optimal control and borefield sizing for (small) hybrid heating and cooling systems — Hermans, Louis	Analyzing the energy efficiency benefits of advanced control strategies in district cooling systems: a real-world case study — Ho, Julia Lien	Estimation of occupant behavior by GMM-HMM with data measured by HEMS — Yuasa, Masataka	Optimizing energy predictions: a generalized surrogate modeling approach for diverse building designs and climates — Elwy, Ibrahim
1200-1215	A comprehensive review of machine learning techniques for optimizing daylight in high-performance buildings — Heidari Matin, Negar	How much active cooling is needed in Estonian multifamily apartment buildings to comply with Category II thermal comfort? — Onemar, Kätriin	Enhancing indoor air quality and energy efficiency through life cycle cost analysis — Schluter, Philipp	Coupling health impact and building performance: a virtual testbed for health-centric building system operation — Fung, Siu-Fung	Fast model for air source heat pump frosting and defrosting behavior — Scoccia, Rossano	Transitioning to low-temperature district heating: A large-scale feasibility mapping of multi-family apartment buildings in Greater — Sheikh Khan, Donya	Large-Scale Cooling System Modeling and Control Optimization of a Real-Life Building — Kim, Young-Sub	A tale of twin cities — Raming, Simon	Is Operative Temperature Control in early Design Stage Tools a reasonable Trade-off between Precision and Usability? — Petersen, Steffen
1215-1230	Improving indoor environment quality through digital twin integration for office spaces — Ito, Sei	Analysis of multifactorial drivers of the Urban Heat Island effect in Vienna: A scalable method for urban settings using open data sources. — Khalili Nars, Behrooz	Experimental analysis of an innovative RC-Mapping model for flexibility quantification of building air conditioning systems — Wang, Huilong	Indoor thermo-photometric occupant's evaluation: what lies beneath perception, discomfort and preferences? — Rakotoarivelo, Toky	Hybrid Heat Pumps, the answer for the future electric grids? — Videau, Jean-Baptiste		Synergies in comfort, energy and cost by removing the exhaust air between glazing and interior roller blind — Maurer, Christoph	A novel approach to generate occupancy schedules based on human mobility and lstm-gan model — Yang, Yiting	Paving the path to sustainability: Laterite quarry rejuvenation — Rangaswamy, Deepa Rani
Lunch 1230-1330	**Poster sessions - in foyer**								
Theme	**Education**	**Climate Change Mitigation & Adaptation CCMA**	**Energy Efficiency and Sustainability EES**	**Indoor Environment Quality IEQ**	**Energy Efficiency and Sustainability EES**	**Energy Efficiency and Sustainability EES**	**Energy Efficiency and Sustainability EES**	**Energy Efficiency and Sustainability EES**	**Urban Planning & Smart Cities UPSC**
	Facilitator: Pamela (Fennell	**Session Chair: TBC**	**Session Chair: TBC**	**Session Chair: TBC**	**Session Chair: TBC**	**Session Chair: TBC**	**Session Chair: TBC**	**Session Chair: TBC**	**Session Chair: TBC**
1330-1345	**Panel:** Educating the next generation of BPS professionals—What are the gaps?	Bounding long-term building energy performance with single-year extreme weather files — Crawley, Drury	Lessons Learned from a Field Study on Deep-Learning-Based Model Predictive Control for Optimizing the Operation of Façade Ventilation Units — Lorenz, Clara-Larissa	Using neural networks for the classification of activities in an office: An application for a better prediction of CO2 concentration in tertiary buildings — Sayegh, Hasan	Multi-objective optimization method application based on genetic algorithm in energy and cost saving for existing houses in Australia — Zhang, Zhe	Optimizing energy efficiency and indoor comfort through predictive models of building envelope heat transfer — Yuan, Jihui	Unlocking calibration periods: energy clustering with white-box models — Guerrero Ramirez, Karla	High-Fidelity Building Emulator for Integrated Comfort and Energy Analysis using EnergyPlus and Radiance — Yu, Tammie	A Parametric Study on the Impact of Building Volume Extension on Potential for integrated solar energy utilization - A Case Study of Nanjing — Zhao, Baikun
1345-1400		Optimization of heating and cooling energy demand and indoor thermal comfort under oceanic climate conditions using machine — Salehipour Bavarsad, Fatemeh	Evaluation of "Active Cavity Transition" (ACT) Facade modelling based on Measured Data of a 1:1 Scale Test Mock-up — Hiller, Marion	Toward multi-domain occupant-centric indoor-environmental quality indicators — Mahdavi, Ardeshir	Optimizing retrofit strategies for terraced dwellings: ConstrucThor case study — Ritosa, Katia	Multi-objective building envelope optimization for thermal comfort and energy efficiency of educational buildings in india — N Nair, Ajith	Standardizing the Quantification of the Energy Performance Gap in Buildings — Odeh, Khaleel	Workflow to accurately model vegetation canopy effects in building energy simulation — Grewal, Kuljeet Singh	Investigating the full potential of demand response programs using granular occupancy schedules — Doma, Aya
1400-1415		Comparing micro climate weather conditions from the weather research and forecasting (wrf) model with typical — Li, Fengqi	Effects of the types of double-skin facades on sunlight availability and potential food self-sufficiency for agri-facades in temperate — Zhang, Xi	Predicting sex-based thermal sensation differences: a multilevel ordinal regression approach — Favero, Matteo	Effective Retrofitting: Energy Efficiency measures for vintage buildings in Boston — Deng, Bianca	A comparative study on photovoltaic vacuum glazing (PVVG) for office buildings in Shanghai — Bi, Qianru	Performance analysis of simple grey-box RC models for simulating strategic heating reductions — Decleyre, Merel	Improving building stock energy models: a bayesian calibration approach with multi-resolution data — Zhang, Xukang	A Data-Driven analysis of electrical energy use in Lombardy: Clustering and Statistical Analysis — Ferrando, Martina
1415-1430		A novel approach of hourly weather data downscaling from GCM for building performance simulation — Shen, Pengyuan	Assessing solar performance in advanced facades: Comparative analysis of control strategies using a dynamic key performance — Gazzin, Riccardo	Enhancing thermal comfort in public spaces through agent-based and performance-based modeling — Wang, Xiaotong	Evaluating the impact of remodeling and purpose change on the performance and energy efficiency of modern educational — Park, Haedeun	Semi-Passive Adaptation of Glazing Visible Transmittance for Optimizing Indoor Daylighting — Shokri, Elham	When deterministic models fall short: A motivation for enriching building simulations with data-driven stochasticity — Walnum, Harald Taxt	Investigating the sustainable design of a shipping container building using advanced building energy modeling and Bayesian — Laporte-Chabasse, Quentin	The importance of strongly coupling human activity, appliance use and electricity tariffs for load curve simulation in the residential — Schumann, Mathieu
1430-1445		Evaluating climate model accuracy for building energy predictions: A performance-based multi-model ensemble approach — Iddio, Emmanuel	Enhancing U-value accuracy: A simulation-based approach to building envelope assessment — Song, Ahhyun	Spatio-temporal prediction of indoor thermal environment based on Graph Neural Networks and Recurrent Neural Networks — Wang, Yingshan	Disentangling rebound effects and construction errors in building retrofits using integrated energy signature analysis — Lee, Doyeon	Cooling potential of transparent roof spray on public buildings: Evidence from hot-humid areas — Mao, Huijun	Assessing the impact of modelling variability on building performance simulation results — Yang, Jingxuan	A hybrid approach for uncertainty quantification in dynamic building energy systems modeling — Zhang, Yiting	Assessing data uncertainty in large-scale energy model — Piro, Matteo
1445-1500		Improved urban canopy model for building energy simulation with ray tracing — Bourquin, Léo	A reliable and simplified whole-of-home energy rating tool for housing retrofitting — Ren, Zhengen	A study on the shielding effect of neck fan on air pollutants at the mouth and nose area — Zhang, Haotian	Towards an evaluation framework to enhance building energy independence and flexibility by means of transparent responsive building envelope elements — Li Castri, Ginevra	Quantifying the Simulation-Reality Gap in Building Simulations — Zech, Philipp	Are hourly building energy simulations underestimating peak demand? A case for finer time resolutions. — Rush, Megan	Developing early design stages tools for windows considering sky conditions, solar radiation, and shading control — Xiao, Luming	Assessing pedestrian level barriers using mobile robot to achieve 15-minute city concept — Zong, Chujun
Afternoon tea 1500-1530	**Poster sessions - in foyer**								
Theme		**Climate Change Mitigation & Adaptation CCMA**	**UBEM**	**Indoor Environment Quality IEQ**	**Energy Efficiency and Sustainability EES**	**Energy Efficiency and Sustainability EES**	**Energy Efficiency and Sustainability EES**	**Energy Efficiency and Sustainability EES**	**Urban Planning & Smart Cities UPSC**
		Session Chair: TBC	**Session Chair: Martina Ferrando Francesco Causone**	**Session Chair: TBC**	**Session Chair: TBC**	**Session Chair: TBC**	**Session Chair: TBC**	**Session Chair: TBC**	**Session Chair: TBC**
1530-1545		Thermal mitigation strategies based on the study of facades and roofs at an urban scale — Galán Marín, Carmen	**Workshop:** Archetypes for Urban Building Energy Modelling (UBEM)	FDTD-based simulation and optimization of open plan offices involving novel acoustic lattices and retroreflectors — Zeng, Tiancheng	Bridging methodological gaps in building life cycle assessment: a case study in the Indian context — Saini, Himanshu	Dealing with corner cases in occupant-centric control: do physics-informed models help? — Zhan, Sicheng	Merit order of energy efficiency actions in tertiary buildings — Hounsou, Meleika	Validation of a meso-scale Urban Building Energy Model of domestic peak heating load and annual heat demand in England and Scotland — Sandoval Bustamante, Javier	Impact of Environmental Noise Transition From Internal Combustion Engine to Electric Vehicles On Building — Monty, Annisa Zafirah
1545-1600		Research on the influence of traditional street morphology on outdoor thermal comfort in dry and hot regions: A case study of Kashgar Terraced Households — Abuduwayiti, Abudureheman		A library of frits for daylight and visual comfort simulation: recommendations and testing in Canadian climates — Jakubiec, J. Alstan	Energy saving potential analysis of indoor aquaculture through optimal control strategies based on building energy simulation — Goo, Jabin	Pi-DON: Physics-Informed Deep Operator Network for Control-Oriented Modeling of Thermal Systems in Cluster of Buildings — Saeed, Muhammad Hafeez	Multi-objective optimization of energy, thermal comfort and daylighting for exhibition building design based on a spatial archetype — Yan, Xiaoyue	Development and validation of a generic evaporator model of chillers — Dou, Hongwen	Analysis of the applicability of fifth-generation district heating and cooling systems for community zero energy renovation — Choi, Won-Jong
1600-1615	**Clear Room for Dinner Setup**	Numerical Simulation of the Effect of Indirect Green Façades on the Wind Environment — Su, Meifang		A CFD-based corrected nodal approach to better assess people exposure to pollutants in a room — Carnec, Nicolas	Dynamic integrated modelling for controlled environment agriculture: methodology and experiment — Wang, Liping	Grey-box room model for thermal MPC control in classrooms: a virtual experiment — Van Hove, Matthias	Marginal Emission Factors (MEFs)-based electricity load optimization for various building types — Kang, Seongyun	Sufficiency-first: Combining sufficiency measures with optimal retrofitting to reach net-zero residential buildings in Switzerland — Sommer, Til	Impact of window views on occupant's well-being and readiness to pay in residential buildings: A case from Mumbai Metropolitan Region, India — Parmar, Vipul
1615-1630		Distributed model-based predictive control for peak load management using Arduino-based LoRa communication — Choi, Kwangwon		A CFD Study on the Impact of User-Adjusted HVAC System Controls in Open-Plan Offices — Loeser, Brenda	Quantifying time delays in environmental, behavioral, and energy consumption data to understand occupant space usage patterns — Kim, Jiwon	Optimal control of building integrated rooftop greenhouse for energy efficiency — Lee, Doyun	Enhancing transfer learning for building energy data time series using pattern-based hidden Markov models — Liguori, Antonio	Educational building retrofit: a data-driven modelling approach for optimized energy efficiency — Carnieletto, Laura	A validated methodology using real electric consumption for simulating building demand and shared energy in Renewable — Rugani, Roberto
1630-1645		A unified approach to modeling modern heat pump technologies — Kruis, Neal		Assessing energy savings potential of Personalised Environmental Comfort Systems (PECS) in air-conditioned — Fabrizio, Enrico	IBPSA Project 2 BOPTEST: An update on the test cases available in the framework for testing advanced control strategies in — Zanetti, Ettore	Open set domain adaptation and universal domain adaptation for enhancing activity recognition in smart buildings — Bouguila, Nizar	Evaluation and optimization of the thermal and energy performance of a university classroom in Medina, Saudi Arabia — Alaboud, Mosaab	Easier, faster and better planning of glazing using a product data network with methods as a service — Maurer, Christoph	Stochastic occupancy profiles for Urban Building Energy Modelling (UBEM): a case study in northwestern Italy — Banfi, Alessia
1645-1700		Scalability of multi-agent control for buildings: automated setup from BACnet to control — Sievers, Felix		Simulating the impact of air purifiers on indoor PM2.5 concentration and optimization of natural ventilation — Pernigotto, Giovanni	Role of control strategies in unlocking energy flexibility using building thermal mass — Afroz, Zakia	Impact of window performance on the thermal comfort and energy consumption in the building equipped with internal — Seo, Rosa	Improving daylight performance and energy efficiency of traditional dwellings through multiple courtyards: a case study in Suzhou, — Liu, Haoran	Adaptive hydronic balancing for heating systems — Le, Huu Thoi	Virtual Horizon Method: Fast shading calculations for UBEM using lidar data rasterization — Gu, Jingwen
1800-1845	**Poster sessions - in foyer**								
1900-2300	**Conference Gala Dinner**								

International Building Performance Simulation Association Australasia

AIRAH HVAC&R FOR A BETTER WORLD

PROGRAM SCHEDULE | DAY 4 - WEDNESDAY, AUGUST 27 - ALL ROOMS

BUILDING SIMULATION 2025 24–27 AUG BRISBANE CARBON AND CLIMATE RESPONSIVE

	Plenary - Plaza Terrace Room		Mezzanine M1	Mezzanine M2	Plaza P1	Plaza P2	Plaza P3	Plaza P4	Plaza P5	S1
0820-0900	**Registration (arrival tea and coffee)**									
0845-0900	**Welcome & IBPSA address**	IBPSAA President - Quentin Jackson								
0900-0940	**AGM, IBPSA Awards & Student Competition Award**									
0940-0950	**Sponsor Address:** Design Builder - PC Thomas									
0945-1030	**Keynote address:** The useful lie: QA in BPS and the quest for code compliance	Dr Mike Donn								
Morning tea 1030-1100	**Poster sessions - in foyer**									
Theme	**Energy Efficiency and Sustainability EES**		**Energy Efficiency and Sustainability EES**	**Energy Efficiency and Sustainability EES**	**Indoor Environment Quality IEQ**	**Energy Efficiency and Sustainability EES**	**Energy Efficiency and Sustainability EES**	**Energy Efficiency and Sustainability EES**		
	Session Chair: TBC		**Facilitator: Priya Gandhi**	**Session Chair: TBC**	**Session Chair: TBC**	**Session Chair: TBC**	**Session Chair: TBC**	**Session Chair: TBC**	**Session Chair: TBC**	**Session Chair: TBC**
1100-1115	Using CFD as an energy efficiency design tool for an auditorium and airport baggage hall	Vogt, Jonathan William	**Panel:** From performance to policy - how to bring NABERS to your country	Energy Performance Gap in a Net-Zero Building: Taxonomy of Noise and Entropy Indices for Power, Exergy and Energy Availability	Determining the optimal specifications of cooling systems in highly glazed buildings using design of experiments method	Research on energy influence factors and operational optimization strategies of subway station HVAC systems: A case study of Suzhou	Harnessing digital twin for simulation performance analysis, using a hempcrete building	Simplified energetic assessment of complex properties through single-zone modeling		
1115-1130	Green walls for solar shading: a novel thermal performance model applied to a case study	Rugani, Roberto		Explainable transfer learning for activity recognition in smart buildings	The impact of virtual reality-simulated learning space design on high school students' attention and stress levels: An	Evaluating local energy sharing potential for enabling net zero energy communities	AI-Driven multi-objective optimization of pavement and roofing strategies for enhanced thermal comfort in urban Indian	Operational energy-saving rate prediction of one office building renovated to comply with GB 55015-2021 under three different		
1130-1145	Simulating cooling loads for personal environment comfort systems	Rawal, Rajan		Innovative design of adjustable multi-slat photovoltaic shading devices for energy-efficient office spaces in Sydney	Topological optimization of 3DP plasters for indoor moisture buffering	Impact of occupancy patterns on buildings performances gaps: how the gap is sensitive to stochastic occupancy behavior?	Toward urban decarbonization: environmental and financial evaluation of neighborhood-scale multifamily retrofit	Comparative evaluation of ANN and NARX models for localized air temperature prediction in Al Ain, UAE		
1145-1200	Comparison of a "model of the model" approach with directly measured reference values for assessing the energy efficiency of	Hudjetz, Stefan		Contribution of CFD simulation on the design and characterization of a wind tunnel for air leakage measurements	A Simulation-Based Approach to Assess and Support Acoustic Characterization and Desing in Classrooms	Towards a digital shadow: Methodology development for continuous commissioning of domestic hot water systems	Adaptive energy management of Swedish residential buildings using artificial intelligence and reinforcement learning for	ETNA empirical validation: initial steady-state cases and simulation trials		
1200-1215	IBPSA Modelica Working Group: Open-source model development based on open standards to accelerate decarbonization	Wetter, Michael		Evaluating the descriptive and predictive ability of the grey-box modelling technique during summertime in a Passivhaus office	Bayesian optimization of supply air direction in existing aircraft for cabin air quality improvement	Strengthening the effectiveness of building energy efficiency labels for existing office buildings in Taiwan	Finding the root cause of a control issues, does an artificial intelligence optimise a building more effectively than automated	Correlation analysis between energy conservation potential and spatial form of existing buildings in hot summer and cold		
1215-1230	Design guidelines based on the impact of indoor living walls on building cooling energy consumption	Iddio, Emmanuel		Sensitivity analysis of US housing stock building characteristics using ResStock	Thickness-dependent coupled thermo-optical model of translucent material: a case study of glazing unit filled with granular silica aerogel	Perfect Matching: Comparison of methods for deriving energy-optimized occupancy schemes	Summer thermal control through window-integrated ventilation systems in a real laboratory	The influence of Spatial Volume on building performance in Sports Arenas		
Lunch 1230-1330	**Poster sessions - in foyer**									
Theme	**Urban Planning & Smart Cities UPSC**		**Energy Efficiency and Sustainability EES**	**Energy Efficiency and Sustainability EES**	**Energy Efficiency and Sustainability EES**	**Energy Efficiency and Sustainability EES**	**Energy Efficiency and Sustainability EES**	**Energy Efficiency and Sustainability EES**		
	Session Chair: TBC		**Pieter de Wilde**	**Session Chair: TBC**	**Session Chair: TBC**	**Session Chair: TBC**	**Session Chair: TBC**	**Session Chair: TBC**	**Session Chair: TBC**	**Session Chair: TBC**
1330-1345	Deriving high-fidelity residential building archetypes and typical usage patterns from national energy use surveys to enhance "initial guesses" for Urban Building Energy	Li, Chengxuan		Inverse Physics-Informed Neural Networks for thermal parameter estimation of existing buildings	Thermal environment analysis of a radiant floor cooling and underfloor air-conditioning system based on detailed building physics using coupled BES–CFD	On the use of latent thermal energy storage to cut the energy costs in space cooling: from lab to home	Validation of CIE sky models using luminance data from Gurgaon and Chennai, India	Case study on Analysing Whole Carbon Emissions based on Actual Energy Consumption in Existing Buildings		
1345-1400	Integrating TRNSYS and CityGML in urban district simulations: A comprehensive case study in urban energy systems	Pérez, Cecilia		Case study of residential energy management systems with solar PV, wind and battery energy storage	Optimizing indoor environment and energy consumption in a museum building using specialized data-driven software	Urban building energy modeling challenges: Evaluating zoning approaches and window impacts on energy consumption	Enhancing BIPV performance through fin integration: A co-simulation approach	The influence of cement addition on moisture variation in the restoration of lime base brick walls		
1400-1415	Thermal Synergy (TS) for fifth-generation district heating and cooling (5GDHC) networks early-stage design and feasibility	Bilardo, Matteo		Predictive and transactive controls for EVE park net-zero community with AI/ML models	Occupancy profile of residential buildings with remote workers	Multi-dimensional level of detail (LoD) specification for urban energy models	Battery storage potential in meeting NZEB energy performance requirements in Estonia	Developing a calibrated in-situ hygrothermal model of a community center to assess panelized exterior retrofit design suitability.		
1415-1430	Solar potential in the extension of old residential communities based on Inter-Building Effects: a case study of Nanjing	Tian, Yuqi	**Workshop:** IEA Annex 91 – openBIM for Energy Efficient Building Workshop	Optimizing solar energy collection potential in high-rise residential buildings in urban areas	Quantifying the Influence of the Pool Cover on the Water Evaporation Rate in Indoor Swimming Halls	A co-simulation workflow to evaluate the building level performance of Vertical Greenery Wall Systems in climate change scenario for office buildings in temperate climate	A multi-year stochastic optimization model for battery system design and operation: addressing uncertainties alongside degradation effects	Synergistic effects of Phase Change Material and Hygroscopic Materials on heat and moisture transfer in building envelopes		
1430-1445	Synergistic effects of uncertain parameters on the stability of urban building energy modeling	Wang, Chao		Simulation-based benchmarking of VWART for fault detection in heat interface units	Innovative workflow for analysing centralised thermal plant in Northshore Brisbane	Unraveling the energy performance gap: Understanding user-related factors affecting lighting energy consumption in office buildings	Energy savings potential in domestic hot water supply in Germany	Thermal and energy performance assessment of multi-layer façade systems with latent heat storage materials: an analysis of climatic conditions in Montreal		
1445-1500	Spatial autocorrelation analysis for shading effect of buildings in gyeonggi province using local indicators of spatial association	Yi, DongHyuk		Applicability analysis of compressors in subway stations based on load characteristics	Development of a low energy building using an integrated system of bio-phase change materials and roof-top greenery system.	Quantitative analysis of landscape interventions for microclimate improvement in low-rise residential areas of Tiruchirappalli, India	Comparison of machine learning algorithms for building performance evaluation	Differentiable predictive control unlocks latent energy storage in bio-based phase change material enhanced buildings		
Afternoon tea 1500-1530	**Poster sessions - in foyer**									
1530-1600	**IBPSA Women Launch**	Noni Nuriani								
1600-1700	**Closing Keynote:** Back yourself - how to take your spot in the world	Winitha Bonney OAM								
1700-1730	**Next Conference Announcement**									
1715-1730	**Conference Close**	IBPSAA President - Quentin Jackson								
1730-1900	**Conference farewell cocktail function**									

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