Architectural Science 2026: Resilient Futures

XJTLU | DESIGN SCHOOL

Conference programme and paper sessions · 25–28 November 2026

Design School, Xi'an Jiaotong-Liverpool University, Suzhou

Wednesday 25 November

14:30–15:00	Registration and welcome coffee	DB 1F
15:00–15:40	Opening ceremony with students' performance	DB 1F
15:40–16:30	Keynote: Dong Gong	DB 1F
16:30–18:00	Exhibition opening and welcome reception	DB 1F

Thursday 26 November

08:45–10:00	Registration	IA Lobby
10:00–11:00	Keynote: Li Yapeng	IAG08
11:00–11:15	Break	IA
11:15–13:00	Parallel paper sessions	IA103, IA107, IA111, IA121, IA123
13:00–14:00	Lunch	IA GF Lobby
14:00–15:30	Parallel paper sessions	IA103, IA107, IA111, IA121, IA123
15:30–15:45	Break	IA
15:45–17:15	Parallel paper sessions	IA103, IA111, IA123
17:30	Departure for conference dinner	IA Lobby
18:30–21:00	Conference dinner and social programme	

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Friday 27 November

09:00–10:00	Registration	IA Lobby
10:00–11:00	Keynote: Eliana Nigro	IAG08
11:00–11:15	Break	IA
11:15–13:00	Parallel paper sessions	IA103, IA111, IA121, IA123
13:00–14:00	Lunch	IA GF Lobby
14:00–15:45	Parallel paper sessions	IA103, IA111, IA121
15:45–16:15	Break	IA
16:15–17:00	Industry panel	IAG08
17:00–17:45	Architectural Science Annual General Meeting	IAG08
17:45–18:15	Closing ceremony, awards and 2027 handover	IAG08

Saturday 28 November

08:30–12:30	Parallel conference tours	Departure from Design School
12:30–13:30	Return transfer	

Thursday 26 November

T1-1 · Changing Climate · IA103 · 11:15–13:00

Chair: Cheng Zhang

11:15–11:30	1338 · Advancing external wall systems in cool-temperate climates to manage moisture and mould Mark Dewsbury, Liqun Guan, Su Freya and Hartwig Künzel
11:30–11:45	2285 · Hygrothermal Performance in Temperate Climates under Controlled and Uncontrolled Indoor Conditions: Impacts of Temperature and Relative Humidity Liqun Guan
11:45–12:00	3650 · Biomimetic Loose Porous Cavity Interventions: Enhancing Holistic Ecological Resilience of the Saisha Coastline in Hong Kong Xingrun Zhou, Kei Yin Yuen and Provides Ng
12:00–12:15	5775 · Comparative analysis of building integrated energy systems: Energy, comfort, economic, and environmental metrics Favour Agbajor, Hong Xian Li, Olubukola Tokede and Sunliang Cao
12:15–12:30	5998 · How realistic is the Building Performance Simulation Model? A Standard Operating Approach for Predicting Window and Airflow Performance in Apartment Buildings Hirda Lailani Khalid, Michael Donn and Joanna Merwood-Salisbury
12:30–12:45	8786 · Australian housing thermal performance under changing climate Zhengen Ren, Surendra Rauniyar, Ramona Dalla Pozza, David Hoffmann and Ming Liu
12:45–13:00	9970 · Predicting Energy Loss Caused from Building Envelope Defects by Integrating Machine Learning and Numerical Simulation Xiaoyan Dai, Cheng Zhang, Yan Tan, Sihui Huang and Hong Huang

T2-1 · Intelligence-Augmented Design · IA107 · 11:15–13:00

Chair: Shu Tang

11:15–11:30	2623 · Augmented Disassembly: A Parametric–AR Workflow for Scaled Evaluation of Emergency Shelter Structures Farkhondeh Vahdati, Mia Tedjosaputro, Asterios Agkathidis and Charles K.S. Moy
11:30–11:45	6839 · From Social Force Model-Based Pedestrian Simulation to AI-Based Prediction: Density Heatmap Generation with Pix2PixHD and CVAE Detthana Pattaphat, Walaiporn Nakapan and Nitipong Praphaphankul
11:45–12:00	7711 · From Automation to Design Intelligence: A Lifecycle Framework for Operationalising Artificial Intelligence as a Catalyst for Resilient Architectural Practice Toktam B. Tabrizi
12:00–12:15	6164 · Montage of Real and Virtual Space: Using MR Technologies in Hybrid Museum Space Design Jing Yang and Yang Song

12:15–12:30	7461 · Authorship, Creativity, and Generative Intelligence: Rethinking Architectural Grammar through a Conditional VAE-GAN Framework Applied to Siza Vieira’s Malagueira Isabel Clara Neves and Ricardo Rocha

T3-1 · Urban Systems & Equity · IA111 · 11:15–13:00

Chair: Daniel Yonto

11:15–11:30	2128 · Ecological Digital Twins and the Intelligent City: Integrating Volumetric Environmental Quality Data into Real-Time Coastal Environments for Urban Resilience Tane Moleta
11:30–11:45	4335 · From the past to resilient futures: water as evidence of resilience in the landscapes of Roberto Burle Marx Susan Wake and Cesar Wagner
11:45–12:00	6078 · A multi-criteria risk assessment of typhoon-induced flooding through GIS-based Analytical Hierarchy Process (AHP) in Sorsogon, Philippines Angelina Isabel Destajo and John Ernest Jose
12:00–12:15	7337 · Informal renting and its impact on incremental housing development: The case of Mati City, Philippines Reyl Espirituoso and Isidoro Malaque III

T4-1 · Materials & Education · IA121 · 11:15–13:00

Chair: Konstantinos Papadikis

11:15–11:30	0730 · Designing Passive Adaptive Façades with 4D-Printed Shape Memory Polymers: From Deformation Behavior to Environmental Performance Yu-Ai Jiang, Serdar A□ut and Eric van den Ham
11:30–11:45	3743 · Stabilisation strategies for additive manufacturing of earthen materials: linking rheology and mechanical performance Jing Che, Wenxin Yu, Leyuan Jiang and Shimeng Hao
11:45–12:00	5932 · Characteristic of Pervious Planting Concrete made from Recycled Autoclaved Aerated Concrete Jun Xia and Jun Wang

T5-1 · Heritage & Conservation · IA123 · 11:15–13:00

Chair: Juan Carlos Dall’Asta

11:15–11:30	0463 · Biochar for Heritage Resilience: Sustainable Adaptation in Traditional Zambian Construction and Land-Use Practices Tusankine Salasini, Marc Aurel Schnabel, Jianli Hao and Hassan Yasini
11:30–11:45	4317 · Beyond Authenticity and Commercialisation: A Cultural Iceberg Framework for Historic District Conservation in China Kaining Zhang, Paola Boarin and Elizabeth Aitken Rose

11:45–12:00	9592 · Augmented Craftsmanship: A Computer Vision-Based System for the Intelligent Assembly of Traditional Timber Joinery Jiangyang Zhao, Jingyang Liu, Jue Qiu and Davide Lombardi
12:00–12:15	5855 · What Are We Actually Losing? A Surface-First Documentation Approach to Volatile Heritage in Hong Kong Yuting Chen and Mohamed Ahmed Mohamed Abdellatif Khalil
12:15–12:30	2885 · Narrative-Enriched Heritage Presentation: The Istanbul Land Walls Elif Erkol and Derya Güleç Özer

T1-2 · Changing Climate · IA103 · 14:00–15:30

Chair: Zhelun Zhu

14:00–14:15	0424 · Evaluating the thermal performance of curved building envelopes in different climate zones in the Philippines: Towards climate-responsive building design Erwin Albis and Nicolo Precioso del Castillo
14:15–14:30	0681 · Post occupancy IoT monitoring of concealed moisture and condensation risk for resilient futures: A systematic review Adam Hadji, Ehsan Sharifi, Mahendrini Ariyachandra and Martin Lambert
14:30–14:45	1054 · Learning from skin: Data-driven forward and inverse design of bio-inspired thermal panels Jingyang Liu, Jiangyang Zhao and Leyuan Jiang
14:45–15:00	8459 · EcoCanopy: Design and Development of a Multi-Functional Waiting Shed Prototype Integrating Renewable Energy and Water Conservation Systems Aimeelou Jean Demetrio, Kia Joyce Ongayo, Angeleth Monsanto-Lucar, Antonette Navales-Gregorio and Rahcelle Ann Israel-Maestrado
15:00–15:15	2871 · CLIMATE-RESPONSIVE ENHANCEMENT OF CLASSROOM ACOUSTIC QUALITY: A CASE STUDY OF DESIGN STUDIOS IN TROPICAL VIETNAM Le Thi Hong Na, My Ha Nguyen, Tuan Minh Nguyen, Khanh Quynh Bao Phan, Y Dan Nhu Nguyen, Nam Hoang Tran and Tran Chieu Vu

T2-2 · Intelligence-Augmented Design · IA107 · 14:00–15:30

Chair: Shu Tang

14:00–14:15	7404 · AI-Generated Content Production: The Evaluation of Text-to-3D Tools for Architecture Önder Aras and Faruk Can Ünal
14:15–14:30	9576 · Circulation-led wave function collapse for early-stage building floor planning Ziyue Zeng, Likai Wang and Zhelun Zhu
14:30–14:45	2260 · A BIM-Driven Physics-Guided Neural Network (PGNN) for Building Envelope Thermal Bridge Detection Yan Tan, Cheng Zhang, Hong Huang and Xiaoyan Dai

14:45–15:00	2436 · AI Surrogate Models for Pedestrian Travel Time Prediction in Architectural Spaces. Detthana Pattaphat, Walaiporn Nakapan and Nitipong Praphaphankul
15:00–15:15	7463 · Beyond Fragmented AI Adoption: Mapping the Real Capabilities, Gaps, and Strategic Integration Pathways for AI in Early-Stage Architectural Design Mahdiar Ghaffarian, Dermott McMeel and Charles Walker

T3-2 · Urban Systems & Equity · IA111 · 14:00–15:30

Chair: Siti Balkish Roslan

14:00–14:15	2373 · Regenerative futures for industrial built environments in Aotearoa New Zealand: Lessons learned from global experiences Priscila Besen, Luis Eduardo Medrano-Gomez and Paola Boarin
14:15–14:30	2575 · Rewriting the Ground: Urban Ecology, Public Space, and Design Pedagogy in Dense Historical Contexts Sandro Rolla

T4-2 · Materials & Education · IA121 · 14:00–15:30

Chair: Tusankine Salasini

14:00–14:15	1018 · Choreographing the Line: Embodied Spatial Practice and Pedagogy for Resilient Architectural Futures Ines Consuela Essen
14:15–14:30	1195 · Building Information Modeling in Architectural Education: Determining Critical Success Factors from the Perspective of Undergraduate Students Handan Aş Çemrek, Ümit Işıkdağ and Derya Güleç Özer
14:30–14:45	1453 · Designing for Change: Adaptability and Polyvalence in Architectural Education Gergely Csikvari and Mona Azadian
14:45–15:00	8976 · From Principles to Resilient Futures: Embedding AI in Interdisciplinary First-Year Design Education Minjoo Baek
15:00–15:15	9822 · The Synthetic Studio: Conversational Pedagogies and Collective Intelligence in Architectural Education Juan Carlos Dall'Asta and Gianmarco Longo

T5-2 · Heritage & Conservation · IA123 · 14:00–15:30

Chair: Jiawen Han

14:00–14:15	3623 · Participatory heritage placemaking: cultural significance of heritage houses in Glan, Sarangani Province, Philippines Sheena Marie Franco

14:15–14:30	9019 · Form and Function of Shophouses in Downtown Cebu City: A Qualitative Analysis on the Cebuano Organization of Space and Perception of Heritage Nicole Christine Cagande, Sheena Marie Franco and Isidoro Malaque III
14:30–14:45	9391 · From Sanctuary to Settlement: Transferring Regenerative and Systems Thinking Principles from Natural Heritage to Cultural Heritage Conservation Tochukwu Nnaji, Wallace Enegbuma, Rachel Paschoalin, Judith Heshani Silva and Odinaka Chukwu
14:45–15:00	9815 · Data-driven resilience in cultural heritage: walkability-based sustainable route planning in the ancient city of Syedra Ceyda Tok, Derya Güleç Özer and Gulnara Ganbarova

T1-3 · Changing Climate · IA103 · 15:45–17:15

Chair: Marco Cimillo

15:45–16:00	0986 · Energy Efficiency Retrofitting of Office Building Envelopes in China: A Systematic Literature Review Jue Qiu, Marco Cimillo and Fanji Wu
16:00–16:15	3194 · From Prediction to Design: A Review of Interpretable Machine Learning for Urban Wind Studies in a Changing Climate Shuqi Peng, Jinyu Li, Shengbiao Li, Ziqing Zhou, Fei Yan, Chang Liu and Yi He
16:15–16:30	3566 · Physics-Informed Neural Networks for Rapid Wind Assessment of Residential Pilotis with Specially Shaped Columns Jinyu Li, Shuqi Peng, Shengbiao Li, Ziqing Zhou, Fei Yan, Chang Liu and Yi He
16:30–16:45	3413 · Lighting for Two: Evaluating the Psychological Effects of Plant-Growth and Human-Centric Lighting in a Space-like Module Tika Hanjani, Veronica Soebarto, Larissa Arakawa Martins, Carolyn Semmler and Volker Hessel
16:45–17:00	5330 · Landscape-responsive vernacular strategies: Adaptive housing and architectural interventions in Agusan Marsh, Philippines Renzo Isidore Malaque and Isidoro Malaque III
17:00–17:15	8102 · From Post-Design Optimization to Data-Informed Generation: An LLM-Driven Cymatic Façade Framework with Orientation-Modulated Environmental Performance Rowan Elselmy

T3-3 · Urban Systems & Equity · IA111 · 15:45–17:15

Chair: Siti Balkish Roslan

15:45–16:00	1143 · Comparing Acoustic Metrics Across Classroom Standards: Implications for Mainstream, and Autism-Spectrum Learning Environments Sara Saidi, Paola Boarin, Alessandro Premier and Suzanne Purdy
16:00–16:15	4822 · Typology of stakeholders' participation in provision of sites and services in informal, regularised, and formal housing in Davao City, Philippines Micah Amor Yares, Samantha Arbotante, Aprille Dawn Golimlim and Isidoro Malaque III

16:15–16:30	6837 · Resilience through reuse: evaluating policy mechanisms for adaptive reuse in architecture Katie Skillington
16:30–16:45	9159 · Beyond the Mirror and the Fence: Te Aranga Design Principles as a Framework for Equitable Driveway Safety in Aotearoa New Zealand Anne Marie Bendsen and Tane Moleta

T5-3 · Heritage & Conservation · IA123 · 15:45–17:15

Chair: Adam Brillhart

15:45–16:00	1458 · Immersive Tectonic Cognition: An AR-assisted Framework for Analysing and Assembling Traditional Chinese Timber Architecture Yang Song and Ho Man Yau
16:00–16:15	5395 · Designing Awe in Virtual Reality: An Architectural Simulation of a Buddhist Pure Land Building Yutong Jin, Antony Pelosi and Nadia Pantidi
16:15–16:30	9616 · CULTURAL HYBRIDITY AND THE TRANSFORMATION OF THE ARCHITECTURAL SPACE OF KHMER BUDDHIST PAGODAS IN VINH LONG PROVINCE, VIETNAM Le Thi Hong Na, Tu Duong Nguyen and Dan Thi Tam Nguyen
16:30–16:45	7091 · From Archival Photograph to Gaussian Heritage Scene: AI-Assisted 3D Reconstruction of Thai Pagodas Walaiporn Nakapan, Nitipong Praphaphankul and Detthana Pattaphat

Friday 27 November

T1-4 · Changing Climate · IA103 · 11:15–13:00

Chair: Giancarlo Di Marco

11:15–11:30	0649 · Mapping post-disaster urban mining in residential buildings: a technical foundation for socio-technical evaluation in Aotearoa New Zealand Luis Eduardo Medrano-Gomez, Michael Davis, Paola Boarin, Alessandro Premier, Isla Turner and Andrew Barrie
11:30–11:45	3617 · Inferring occupant behaviour from buildings. A multi-signal framework for diagnosing natural ventilation when direct occupant data are unavailable Veronica Garcia-Hansen, Soha Matour, Kun Lyu, Francisca Rodriguez, Kirsty Volz and Sara Omrani
11:45–12:00	4920 · Assessment of thermal bridging occurrences in apartment building construction Mary Myla Andamon, Jin Woo and Priyadarsini Rajagopalan
12:00–12:15	6746 · Testing and design of S1200 ultra-high-strength steel I-section stub columns Jianing Cai, Yao Sun and Guobin Gong

12:15–12:30	7800 · Do green roofs deliver in hot and humid climates? An energy and life cycle assessment with socio-environmental insights. Sharron Vanessa and Andrea Pianella
12:30–12:45	8498 · A Framework for Integrating Indoor Chemical Emissions into Life Cycle Assessment of Building Materials Huixin Peng and Emina Petrović
12:45–13:00	8785 · Beyond Thermal Comfort: Bio-Responsive Architecture and Intelligent IEQ for Child Well-being in Smart Domestic Spaces Azin Ehteshami and Richard Tucker

T3-4 · Urban Systems & Equity · IA111 · 11:15–13:00

Chair: Yunqing Xu

11:15–11:30	1251 · A Methodological Framework for Computational Design of Urban Low-Altitude Logistics Networks Yiyao Zhang, Xinyin Zhang, Jiayin Li and Yi He
11:30–11:45	3310 · Emergence of informal trading along suburban residential corridor: Case of Elenita Heights Subdivision, Davao City, Philippines Isidoro Malaque III
11:45–12:00	5664 · “Living Locally”: Towards a Practical Framework for Urban Planning and Design Beheshteh Gharaei and David Kroll
12:00–12:15	7867 · Drone Acceptance and Vertical Urban Design in China: VR Experiment in Office and Residential Contexts Hongyang Zhang and Jiawen Han
12:15–12:30	3945 · Recognition and Temporality in CPTED: Conditional Relationships Between Visibility, Familiarity, and Urban Safety in High-Mobility, Mixed-Tenure Environments Bryan Steven Borja and Kristin Faye Olalo

T4-4 · Materials & Education · IA121 · 11:15–13:00

Chair: Silvia Albano

11:15–11:30	4903 · Gamified Urban Street Planning as a Platform for Sustainability Education and Collective Design Yurou Wang and Jingyang Liu
11:30–11:45	6592 · Perceived Game Culturalization: Development and Validation of a Game Authenticity Framework in Endless Runner Games Ruben Jr. Felizarte, Jose Antonio Bimbao and Nappy Navarra
11:45–12:00	8721 · Designing with Growth: Biomaterial Design Thinking and Pedagogy Mia Tedjosaputro and Siti Balkish Roslan
12:00–12:15	6520 · An Empathetic Design Framework for Multispecies-Centred Architecture in Architectural Education Siti Balkish Roslan, Silvia Albano and Samuel Evans

T5-4 · Heritage & Conservation · IA123 · 11:15–13:00

Chair: Yiwen Wang

11:15–11:30	0643 · Decoding indigenous geometry for architectural design: Computational pattern analysis of T'nalak weaving of T'boli in Lake Sebu, South Cotabato, Philippines Renzo Isidore Malaque
11:30–11:45	1527 · Inheriting the Wenzhou Model: Rethinking the Future of Rural Industrial Landscapes Vincent Peu Duvallon
11:45–12:00	2306 · Recording the Ground: Spatial Documentation and Conservation Analysis of Historic Paving in Suzhou Classical Gardens Yiping Dong
12:00–12:15	2589 · Mapping Living Heritage: Interactive Narratives and Multiple Heritage Discourses in Historic Water Towns Yiping Dong
12:15–12:30	0994 · The afterlife of a domestic landscape: Kenzo Tange's Seijō residence Teo Hidalgo Nacher
12:30–12:45	7900 · Torrão Re-imagined: Research Residencies and AR Documentation for Rural Heritage Resilience Jiashi Yu, Guangyao Cao and Yibin Yu
12:45–13:00	8934 · Architecture and the cultural significance of regional Cinematheque Centres in the Philippines Grace Anne Marie Sumibcay and Samantha Arbotante

T1-5 · Changing Climate · IA103 · 14:00–15:45

Chair: Jiangyang Zhao

14:00–14:15	0002 · A Design-stage Comparative Evaluation Framework for Airtightness and Disassembly at Timber-Frame Window-Wall Interfaces Xinzhi Chang, Antony Pelosi and Elrond Burrell
14:15–14:30	6426 · Guideline for Optimizing Office Workstation Lighting Environment: Morphological Analysis of Selected Indoor Office Desk Plants Hanna Mae Respuesto and Robert Malayao
14:30–14:45	9949 · An Off-Grid Heating, Cooling and Domestic Hot Water Conditioning System Mark Luther and Quang Hung Do

T3-5 · Urban Systems & Equity · IA111 · 14:00–15:45

Chair: Yunqing Xu

14:00–14:15	3180 · Digital Placemaking Through Location-Based AR: Activating Urban Public Space at Community Festivals Jie Jin, Tane Moleta and Andre Brown

T1-5: 14:45-15:45 chaired discussion

14:15–14:30	3330 · Exploring Spatial Justice in Sydney's Urban Heat Policy: A Media Discourse Analysis Chen Cui, Neda Abbasi, Susan Rockloff and Michael Hewson
14:30–14:45	3667 · The Weakest Segment: A Low-Cost Sensing Platform for Assessing School Cycling Route Resilience Mustapha El Moussaoui and Sonia Cabral Matos
14:45–15:00	7368 · Mediating Sustainability: Contextual Drivers and the Reconfiguration of Housing Design Knowledge Kristin Faye Olalo
15:00–15:15	7569 · Free and Open Source in Architecture: Toolmaking, Labour, and the Politics of Digital Workflows Victor Calixto and Juliana Croffi

T4-5 · Materials & Education · IA121 · 14:00–15:45

Chair: Silvia Albano

14:00–14:15	1063 · Beyond the Device: A Spatial-Integration Taxonomy of Smart Home Technologies for Aging-in-Place Jiang Wu, Ning Gu, Rongrong Yu and James Walsh
14:15–14:30	7375 · Residual compressive behaviour of aluminium alloy built-up I-section stub columns after fire Wen Cheng, Zhengyuan Chen, Kang Chen and Yao Sun
14:30–14:45	9215 · A low-cost approach to determining the thermal resistance of rice straw panels Shuaiwen Tang
14:45–15:00	0139 · Rethinking Fieldwork Data Literacy: Bridging Conventional and AI-Enhanced Methods in Student Research Jiawen Han, Jingyang Liu and Yue Zhu
15:00–15:15	3618 · The Value of Project-Based Work Integrated Learning Frameworks for Diverse Stakeholder Ecosystems Azin Ehteshami and Lana Van Galen