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The SimAUD Main Page
provides past event
information, proceedings,
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Program

The following program will be refined as we get nearer to the conference date. Most important: There are two paper discussion sessions, one for the EU/Asia and one for the EU/America region, in which you will be asked to participate.

Display times relative to

Your timezone (Vienna) ▼

Monday, May 25 2020

09:00 - 10:00 ⮐ Enter room	**SimAUD2020 Opening**	
10:00 - 11:00 ⮐ Enter room	Paper Discussion Session **Design Tool Development (EU/Asia)**	**Session Chair** Michela Turrin
▶ Presentation 📄 Paper	Graph Machine Learning using 3D Topological Models *by Wassim Jabi and Abdulrahman Alymani*	
▶ Presentation 📄 Paper	A Three-Tier Architecture Visual-Programming Platform for Building-Lifecycle Data Management *by Mahmoud M. Abdelrahman, Sicheng Zhan and Adrian Chong*	
▶ Presentation 📄 Paper	An Algorithm for Efficient Urban Building Energy Modeling and Simulation *by Orçun Koral İşeri and İpek Gürsel Dino*	
▶ Presentation 📄 Paper	Modeling and Simulation of Municipal Solid Waste Management System based on Discrete Event System Specification *by Chang-Hyun Lyoo, Jinho Jung, Changbeom Choi and Eun-Young Kim*	
▶ Presentation 📄 Paper	Optimizing Urban Systems: Integrated Optimization of Spatial Configurations *by Serjoscha Duering, Angelos Chronis and Reinhard Koenig*	
11:00 - 12:00 ⮐ Enter room	Paper Discussion Session **Spatial Analysis (EU/Asia)**	**Session Chair** Laura Narvaez
▶ Presentation 📄 Paper	Data Modeling of Cities, a Machine Learning Application *by Arman Najari, Diego Pajarito and Areti Markopoulou*	
▶ Presentation 📄 Paper	An Innovative Approach to Determine Building Window-To-Wall Ratios for Urban Energy Simulation *by Xing Shi, Chao Wang, Meng Wang and Peng Tang*	
▶ Presentation 📄 Paper	Vision-Based Lighting State Detection and Curtain Openness Ratio Prediction *by Esat Kalfaoglu, İpek Gürsel Dino, Orçun Koral İşeri, Şahin Akın, Alp Eren Sari, Bilge Erdoğan, Sinan Kalkan and Aydin Alatan*	
▶ Presentation 📄 Paper	Build2Vec: Building Representation in the Vector Space *by Mahmoud M. Abdelrahman, Adrian Chong and Clayton Miller*	
12:00 - 13:00 ⮐ Enter room	Paper Discussion Session **Theory, Views & Visions / VR & AR / Fabrication / Material Studies (EU/Asia)**	**Session Chair** Areti Markopoulou
▶ Presentation 📄 Paper	Wood-Based Responsive Systems: A Workflow for Simulating, Predicting and Steering Material Performance in Architectural Design *by Vasiliki Fragkia and Isak Worre Foged*	

▶ Presentation 📄 Paper	Implicit Representation for 3D-Printing Aware Shape Design *by Efthymia Douroudi*	
▶ Presentation 📄 Paper	Bridging the Gap Between Traditional Japanese Fabrication and Advanced Digital Tools *by Mohammed Makki, Masaaki Matsuoka, Ana Ilic, Lorenzo Franceschini, Jorge Beneitez*	
▶ Presentation 📄 Paper	An Interactive and Responsive Virtual Reality Environment for Participatory Urban Planning *by Helmut Schrom-Feiertag, Martin Stubenschrott, Georg Regal, Thomas Matyus and Stefan Seer*	
▶ Presentation 📄 Paper	Integrated Parametric Design and Production Planning: A Luminaire Design Case Study *by Peter Ferschin and Georg Suter*	

13:00 - 16:00 ⤓ Enter room	Workshop **Geographic Information Systems for Generative Design**	**Presenters** Paula Echeverri Montes Felipe Gutiérrez Duque
13:00 - 16:00 ⤓ Enter room	Workshop **Soft Architecture: Pneumatic Control Strategy - design with air pressure**	**Presenters** Zherui Wang Ji Shi
13:00 - 16:00 ⤓ Enter room	Workshop **Topologic: New perspectives for conceptual design and spatial reasoning**	**Presenter** Wassim Jabi
13:00 - 16:00 ⤓ Enter room	Workshop **SiDMACIB: Structurally informed Design of Masonry Assemblages Composed of Interlocking Blocks**	**Presenter** Elham Mousavian
15:00 - 16:00 ⤓ Enter room	Workshop **Urbano: A Tool to Promote Mobility Aware Urban Design**	**Presenters** Timur Dogan Yang Yang

16:00 - 17:00 ⤓ Enter room	Keynote **Azam Khan**	
▶ Presentation 📄 Paper	SimAUD Grand Challenge: A Decade of Action *by Azam Khan*	

17:00 - 18:00 ⤓ Enter room	Paper Discussion Session **Design Tool Development (EU/America)**	**Session Chair** Holly Samuelson
▶ Presentation 📄 Paper	Flexible Parking - a Model for Calculating Parking Norms Based on Urban Form and Accessibility Factors *by Todor Stojanovski and Yusak Susilo*	
▶ Presentation 📄 Paper	Solving Heat Transfer Problems for Architectural Applications with OpenFOAM *by Patrick Kastner and Timur Dogan*	
▶ Presentation 📄 Paper	SpeckleViz: A Web-Based Interactive Activity Network Diagram For AEC *by Paul Poinet, Dimitrie Stefanescu and Eleni Papadonikolaki*	
▶ Presentation 📄 Paper	How can Bio-Mapping the Foraging Excursions of Ants Translate Into a Prototype for Human Living on Mars? *by Farah El-Hakim and Wassim Jabi*	
▶ Presentation 📄 Paper	Data-driven Design Based on the Outdoor Thermal Comfort *by Navid Hatefnia, Marjan Ghobad and Paul Carew*	
▶ Presentation 📄 Paper	Conditional Generative Adversarial Networks for Pedestrian Wind Flow Approximation *by Sarah Mokhtar, Aleksandra Sojka and Carlos Cerezo Davila*	
▶ Presentation 📄 Paper	Suggesting Design Directions: Simulation-Based Guidance for Common Model Types *by Nathan Brown*	
▶ Presentation 📄 Paper	Performance-Based Facade Framework Automated and Multi-Objective Simulation and Optimization *by Mahsa Minaei and Ajla Aksamija*	
▶ Presentation 📄 Paper	PANDO: Parametric Tool for Simulating Soil-Plant-Atmosphere of Tree Canopies in Grasshopper *by Ata Chokhachian and Marion Hiller*	

18:00 - 19:00 ⤓ Enter room	Paper Discussion Session **Spatial Analysis (EU/America)**	**Session Chair** Gabriel Wainer
▶ Presentation 📄 Paper	SpaceAnalysis: A Tool for Pathfinding, Visibility, and Acoustics Analyses in Generative Design Workflows *by Rhys Goldstein, Simon Breslav, Kean Walmsley and Azam Khan*	
▶ Presentation 📄 Paper	cogARCH: Simulating Wayfinding by Architecture in Multilevel Buildings *by Michal Gath-Morad, Leonel Aguilar, Ruth Conroy Dalton and Christoph Hölscher*	

Presentation
Paper
From Semantic-Based Rule Checking to Simulation-Powered Emergency Egress Analytics
by Muhammad Usman, Yi Mao, Davide Schaumann, Petros Faloutsos and Mubbasir Kapadia

Presentation
Paper
Urban Public Spaces as Network Configurations Through Real-Time Traffic Data
by Eirini Androutsopoulou and Eleftherios Anagnostopoulos

Presentation
Paper
Spatial Interpolation of Outdoor Illumination at Night Using Geostatistical Modeling
by Bess Krietemeyer, Jason Dedrick, Camila Andino and Daniela Andino

Presentation
Paper
Urban Intervention Strategy for Networking Zografos Public Spaces
by Eirini Androutsopoulou

Presentation
Paper
Predicting Space Utilization by Multi-Objective Assessment of Outdoor Thermal Comfort around a University Campus Building
by Patrick Kastner and Timur Dogan

Presentation
Paper
Evaluating Jogging Routes in Mass Models
by Mathew Schwartz

19:00 - 20:00 **Enter room**	Paper Discussion Session **Theory, Views & Visions / VR & AR / Fabrication / Material Studies (EU/America)**	**Session Chair** Amber Bartosh

Presentation
Paper
Reviewing Building Design Modeling in Virtual Reality
by Will Wang

Presentation
Paper
Indoor Localization and Building Occupancy Count Estimation using LTE-A Ultra-Dense Networks
by Ala'a Al-Habashna, Vinu S. Rajus, Nicolás Arellano Risopatrón, Cristina Ruiz Martin, Stephen Fai, Liam O'Brien and Gabriel Wainer

Presentation
Paper
Simulation-Powered Smart Buildings enabled by Visible Light Communication
by Yehuda E. Kalay, Haripriya Sathyanarayanan, Davide Schaumann, Albert Wang, Gang Chen and Ramdas G. Pai

Presentation
Paper
Evaluating Temporal and Spatial Light Exposure Profiles for Typical Building Occupants
by Megan Danell, María L. Ámundadóttir and Siobhan Rockcastle

Presentation
Paper
Assessing the Emotional Impact of Cognitive Affordance in the Built Environment through Augmented Reality
by Stefan Florescu and Diana Elena Nistor

Tuesday, May 26 2020

09:00 - 10:00 **Enter room**	Paper Discussion Session **Generative Design (EU/Asia)**	**Session Chair** Kean Walmsley

Presentation
Paper
Urban Space Simulation Based on Wave Function Collapse and Convolutional Neural Network
by Bo Lin, Wassim Jabi and Rongdan Diao

Presentation
Paper
Case Study of Collaborative Urban Design based on Generative Modeling and Simulation
by Xiao Wang and Peng Tang

Presentation
Paper
The Use of CA to Generate Informal Architectural Systems
by Song Jie Lim, Varvara Vasilatou and Shih Hsin Wuu

Presentation
Paper
Rural Urban Transformation: Parametric Approach on Metabolism-Based Planning Strategies in Ethiopia
by Diellza Elshani, Ekaterina Vititneva, Artem Gilmanov, Reinhard König, Martin Dennemark, Sven Schneider, Philippe Schmidt and Abdulmalik Abdulmawla

Presentation
Paper
Context Specific Evolutionary Design: An Analysis on Computational Abstraction of Modern Urban Complexity
by Yufeng Zhai and Elisabeth Riederer

Presentation
Paper
The Development of Optimization Methods in Generative Urban Design: A Review
by Yufan Miao, Reinhard Koenig and Katja Knecht

10:00 - 11:00 **Enter room**	Paper Discussion Session **Building Physics / Life Cycle & Retrofitting (EU/Asia)**	**Session Chair** Byron Mardas

Presentation
Paper
Energy Consumption in Naturally Ventilated DSF and SSFs in Four Different Climate Regions in China
by Seyedehelham Sadatiseyedmahalleh and Xiaofeng Li

Presentation
Paper
Application of Ontologically Structured Data for Building Performance Analysis
by Dawid Wolosiuk and Ardeshir Mahdavi

Presentation
Paper
How People Use Their Thermostats? High-Resolution Data Analysis of Two Years of System Operations in Office Rooms
by Negar Sheikh Mohammadi Khamseh, June Young Park, Enrico De Angelis and Zoltan Nagy

Presentation
Climate Change Impact on Multi-Objective Optimization: A Case Study

Paper
on Educational Buildings
by Şahin Akın, Orçun Koral İşeri, Çağla Meral Akgül, Bilge Erdoğan and İpek Gürsel Dino

Presentation
Paper
Fine Tuning Of Aperiodic Ordered Structures For Speech Intelligibility
by Antigoni Karaiskou, Martin Tenpierik and Michela Turrin

Presentation
Paper
A Performance-Driven Approach for the Design of Cellular Geometries with Low Thermal Conductivity for Application in 3D-Printed Façade Components
by Valeria Piccioni, Michela Turrin and Martin J. Tenpierik

11:00 - 12:00 **Enter room**	Paper Discussion Session **Design Exploration (EU/Asia)**	**Session Chair** Thomas Wortmann

Presentation
Paper
Building Cluster Optimization to Integrate Energy Performance and Outdoor Thermal Comfort
by Francesco De Luca, Emanuele Naboni, Gabriele Lobaccaro and Abel Sepúlveda

Presentation
Paper
Programming Spatiality: Simulating Social Interaction as a Parameter of the Building's Geometrical Volatility
by Anna Karagianni, Vasiliki Geropanta and Panagiotis Parthenios

Presentation
Paper
Investigation on the Impact of Passive Design Strategies on Care Home Energy Efficiency in the UK
by Shan Shan Hou

13:00 - 14:00 **Enter room**	Keynote **Bige Tuncer**	

Presentation
Paper
Data Driven Design to Design Driven Data
by Bige Tunçer

16:00 - 17:00 **Enter room**	Keynote **Christina Hopfe**	

Presentation
Paper
The dilemmas of decision making
by Christina J Hopfe

17:00 - 18:00 **Enter room**	Paper Discussion Session **Generative Design (EU/America)**	**Session Chair** Evangelos Pantazis

Presentation
Paper
A Multi-Objective Optimization Workflow based on Solar Access and Solar Radiation for the Design of Building Envelopes in Cold Climates
by Abel Sepúlveda and Francesco De Luca

Presentation
Paper
Parametric Design and Structural Performance Assessment of a Topologically Interlocked Arch
by Niloufar Emami

Presentation
Paper
A Deep Image of the City: Generative Urban-Design Visualization
by Ariel Noyman and Kent Larson

Presentation
Paper
Evaluating QRD Arrays generated with Shape Grammars
by Jonathan Dessi-Olive and Timothy Y. Hsu

Presentation
Paper
Multi-Objective Optimization Of Robotically Bent In-Situ Reinforcement System
by Milad Showkatbakhsh, Elif Erdine and Alvaro Lopez Rodriguez

Presentation
Paper
An Adaptive Workflow to Generate Street Network and Amenity Allocation for Walkable Neighborhood Design
by Yang Yang, Samitha Samaranayake and Timur Dogan

Presentation
Paper
Multi-Objective Optimization for Zero-Energy Urban Design in China: A Benchmark
by Thomas Wortmann and Jonathan Natanian

Presentation
Paper
Automated Parametric Building Volume Generation: A Case Study for Urban Blocks
by Iuliia Osintseva, Reinhard Koenig, Andreas Berst, Martin Bielik and Sven Schneider

Presentation
Paper
Optimisation of Complex Geometry High-Rise Buildings based on Wind Load Analysis
by Erron Estrado, Michela Turrin and Peter Eigenraam

Presentation
Paper
Exploring Homeomorphism in Building Plans
by Sabri Gokmen

Presentation
Paper
Hallucinating Cities - A Posthuman Design Method based on Neural Networks
by Matias Del Campo, Sandra Manninger and Alexandra Carlson

18:00 - 19:00 **Enter room**	Paper Discussion Session **Building Physics / Life Cycle & Retrofitting (EU/America)**	**Session Chair** Billie Faircloth

Presentation
Paper
Energy Co-Simulation of the Hybrid Cooling Control with Synthetic Thermal Preference Distributions
by Siliang Lu, Zhiang Zhang, Erica Cochran Hameen, Berangere Lartigue and Omer Karaguzel

Presentation
Paper
Hydrogel-Based Evaporative and Radiative Cooling Prototype for Hot-Arid Climates
by Dorit Aviv, Maryam Moradnejad, Aletheia Ida, Zherui Wang, Eric Teitelbaum and Forrest Meggers

Presentation
Paper
Configurational Optimization of Building Details via Parametric Numeric Simulation: A Case Study of Windows with Vacuum Glass
by Magdalena Wölzl, Ulrich Pont, Ardeshir Mahdavi and Peter Schober

Presentation
Paper
Simulating Invisible Light: Adapting Lighting and Geometry Models for Radiant Heat Transfer
by Dorit Aviv, Miaomiao Hou, Eric Teitelbaum, Hongshan Guo and Forrest Meggers

Presentation
Paper
Lifetime Energy Performance of Residential Buildings: A Sensitivity Analysis of Energy Modeling Input Parameters
by Diba Malekpour, Manon Geraudin and Ulrike Passe

19:00 - 20:00 Enter room	Paper Discussion Session **Design Exploration (EU/America)**	**Session Chair** Rhys Goldstein

Presentation
Paper
Floor Plan Embedding with Latent Semantics and Human Behavior Annotations
by Vahid Azizi, Muhammad Usman, Samarth Patel, Davide Schaumann, Honglu Zhou, Petros Faloutsos and Mubbasir Kapadia

Presentation
Paper
A Case of High-Performance Building Form Design Workflow Informed by Computational Simulation
by Haobo Liu, Adam Rysanek, andrea Frisque and Jeanie Chan

Presentation
Paper
Simulation-Based Design Optimization for Mixed-Use Recreational Buildings with TEUI, TEDI, and GHGI Targets
by Jeanie Chan, Haobo Liu, Luisa Drope and Andrea Frisque

Presentation
Paper
Effects of Balconies on the Wind Pressure Coefficients of Naturally Ventilated High-Rise Office Buildings
by Íris Maria Costa Fajardo W. Loche, Kauan Polli de Oliveira, Matheus Durante Oliveira, Bruna Costa Fracalanza and Letícia de Oliveira Neves

Presentation
Paper
Radiation Modeling Strategy for Incorporating Vegetation in Urban Microclimate Simulations
by Sarith Subramaniam, Mili Kyropoulou and Sabine Hoffmann

20:00 - 21:00 Enter room	**Papers Panel (EU/America)**	**Session Chairs** Azam Khan Christina Hopfe

Wednesday, May 27 2020

10:00 - 11:00 Enter room	**Papers Panel (EU/Asia)**	**Session Chairs** Bige Tuncer Ardeshir Mahdavi

13:00 - 14:00 Enter room	**Workshops Wrap - Up**	

14:00 - 15:00 Enter room	**SimAUD Dataset Repository Session**	

15:00 - 16:00 Enter room	**SimAUD Educational Community Session**	

16:00 - 17:00 Enter room	Keynote **Ardeshir Mahdavi**	

Presentation
Paper
Bringing HIM closer to HER
by Ardeshir Mahdavi

17:00 - 18:00 Enter room	**Awards - Closing Session**	

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