

# PowerSkin Conference 2019 Program

January 17th, 2019



## Digital Processes in Façade Design and Construction

How can digital tools and methods promote change towards a decarbonization of the built environment and improve wellbeing?

topic room	ENVIRONMENT CCN - C61			ENVELOPE CCN - C62a			ENERGY CCN - C62b		
time	title	speaker	institute / company	title	speaker	institute / company	title	speaker	institute / company
09:00 - 10:00	Participant's Registration								
10:00 - 10:15				Intro	Prof. Dipl.-Ing. Thomas Auer, Prof. Dr.-Ing. Ulrich Knaack, Prof. Dr.-Ing. Jens Schneider	Technical University of Munich, TU Delft, TU Darmstadt			
10:15 - 11:00				Key Note	<b>Matthias Sauerbruch</b>	Sauerbruch Hutton			
11:00 - 11:20	Coffee Break in the Foyer								
	Session Chairman Prof. Dr.-Ing. Ulrich Knaack			Session Chairman Prof. Dr.-Ing. Jens Schneider			Session Chairman Prof. Dipl.-Ing. Thomas Auer		
11:20 - 11:40	Auxetic Structures and Advanced Daylight Control Systems	Amir Ghoreishi	University of Illinois at Urbana-Champaign	Bio-inspired Transparent Microfluidic Platform as Transformable Networks for Solar Modulation	Mark Alston	University of Nottingham	Three Case Studies of a Prefabricated Window Element for Refurbishments	Vesna Pungercar	Technical University of Munich
11:40 - 12:00	The Plug-n-Harvest Façade: A Second Skin with Active and Passive Components	Verena Dannapfel	RWTH Aachen University	Market Survey of Timber Prefabricated Envelopes for New and Existing Buildings	Annalisa Andaloro	European Research Academy	Fluidglass – The Energy Efficient Glass Façade	Jochen Stopper	Technical University of Munich
12:00 - 12:20	Façades: Past, Present and Future – Marking 50 Years of Continuous Development	Justin Furness	Federation of the European Window and Curtain Wall Manufacturer Associations	Automated Digital Workflows for Façade Detailing and Manufacturing	Martin Manegold	Imagine Computation GmbH	Active Moisture Control of Façades by Smart Ventilation System	Thomas Löwenstein	Deutsche Amphibolin-Werke (DAW SE)
12:20 - 12:40	Impacts on the Embodied Energy of Rammed Earth Façades During Production and Construction Stages	Lisa Nanz	Technical University of Munich	One-and-a-Half Skin Glass Façade	Alberto Raimondi	Università Roma Tre	A Study on the Impact of Climate Adaptive Building Shells on Indoor Comfort	Adele Ricci	University of Bologna
12:40 - 13:00	Comparative Overview on LCA Software Programs for Application in the Façade Design	Rebecca Bach	RWTH Aachen University	4D-Adaptive Textile Building Skin	Jan Serode	RWTH Aachen University	Reliability and Performance Gap of Whole-Building Energy Software Tools in Modelling Double Skin Façades	Elena Catto Lucchino	Norwegian University of Science and Technology
13:00 - 14:00	Lunch Break in the Foyer								
	Session Chairman Prof. Dr. Alberto Raimondi			Session Chairman Prof. Dr.-Ing. Frank Wellershoff			Session Chairman Prof. Madjid Madjidi		
14:00 - 14:20	Novel Technologies to Assure As-Designed Solutions for Energy-Efficient Refurbishment Scenarios	Benedetta Marradi	University of Pisa	ArKol – Development and Testing of Solar Thermal Venetian Blinds	Paul-Rouven Denz	Priedemann Facade-Lab GmbH	A Simulation-Based Framework Exploring the Controls for a Dynamic Façade with Electrochromic Glazing	Abolfazl Ganji Kheybari	TU Kaiserslautern
14:20 - 14:40	SMP Prototype Design and Fabrication for Thermo-Responsive Façade Elements	Jungwon Yoon	University of Seoul	4dTEX – Exploration of Movement Mechanisms for 3D-Textiles Used as Solar Shading Devices	Claudia Lüling	Frankfurt University of Applied Sciences	Optimization of Twisted Vertical Louvers Based on Artificial Neural Networks	Liu Siwei	South China University of Technology
14:40 - 15:00	Materiality and Embodied Carbon Considerations in Contemporary Curtainwall Systems	Mic Patterson	Schüco	Parametric Poetry - Integrated Solutions for Complex Geometries with Structure and Skin	Ragunath Vasudevan	Schneider + Schumacher Computation + Design	Parameters to Design Low-Tech Strategies	Elisabeth Endres	Technical University of Munich
15:00 - 15:20	Adaptive Bricks: Potentials of Evaporative Cooling In Brick Building Envelopes to Enhance Urban Microclimate	Philipp Molter	Technical University of Munich	Parametric Penrose Tiling – Innovative Exterior Shading Skins	Willfried Laufs	Laufs Engineering Design	Trombe Curtain Wall Façade	Thomas Wüest	Lucerne University
15:20 - 15:40	A Visual Digital Tool to Assist the Concept Design of Façades	Giovanni Zemella	Arup	Development of a Holistic Performance Approach for Façade Design	Sinem Kültür	Bahçeşehir University	3D Heat Transfer Analysis: A Parametric Tool for Designers	Alessandro Baldini	Eckersley O'Callaghan
15:40 - 16:00	Coffee Break in the Foyer								
16:00 - 16:45				Key Note	<b>Neil Thomas</b>	Atelier One			
16:45 - 17:00				Outro	Prof. Dipl.-Ing. Thomas Auer, Prof. Dr.-Ing. Ulrich Knaack, Prof. Dr.-Ing. Jens Schneider	Technical University of Munich, TU Delft, TU Darmstadt			

Session I

Session II