



9 SEPTEMBER 2022
 SINGAPORE UNIVERSITY OF
 TECHNOLOGY AND DESIGN
 ALBERT HONG LECTURE THEATRE
 BUILDING 1, LEVEL 1

IBEW AN AFFILIATED
 EVENT OF IBEW
 SUTD Architecture and
 Sustainable Design
 SINGAPORE UNIVERSITY OF
 TECHNOLOGY AND DESIGN
 EVENT SPONSORED
 BY THE ESTATE OF
 HONG HIN KAY ALBERT

The Singapore University of Technology and Design (SUTD) is proud to present the inaugural 'Frontiers & Trends' conference organized as part of the International Built Environment Week (IBEW) 2022.

Through this conference, SUTD aspires to highlight the cutting-edge research that faculty and key industry stakeholders have been involved in throughout the years. As a progressive Institute of Higher Learning (IHL), SUTD strongly believes in the value of fostering a more coordinated and collaborative approach between government agencies, IHLs and the industry to tackle the complex issues within the Built Environment.

This conference aims to catalyse a collective response towards a brighter, more sustainable, and inclusive future for the sector.

To sign up for the full IBEW conference pass that includes 'Frontiers & Trends' conference as a complimentary add-on

[IBEW WEBSITE](#)

For attendees who are only interested in signing up for 'Frontiers & Trends' conference

[REGISTER](#)

(Due to limited seating capacity, priority will be given to attendees with full IBEW conference pass)

Time	Segment
0900-0930	Opening address by Professor Chong Tow Chong, President of SUTD Keynote address by Ms Indranee Rajah, Second Minister for National Development
0930-1030	Future of Cities
1030-1045	Break Time
1045-1145	Future of Building
1215-1345	Lunch
1400-1500	Future Health
1500-1515	Break Time
1515-1615	Climate Change
1615-1630	Break Time
1630-1730	Artificial Intelligence and Architecture
1730-1815	PM Panel Discussion & Closing address
1815	End of Event

Future of Cities

Shaping Urban Futures

This segment highlights SUTD's cutting edge contributions to urban research, planning and design over the last ten years and maps out important approaches to addressing major challenges cities face in the 21st Century. We will share new technologies created at SUTD including for urban sensing, analysis, digital planning and design as well as examples of practical applications. Can we know how a space makes people feel in real time? How can we shape the future of Singapore as a city in nature in three dimensions? How can digital tools help to generate urban form that is resilient, sustainable and economically viable? We will debate these questions with leading figures from academia and practice in a discussion that will chart a path for the next decade of research on the future planning and design of cities.



Assistant Professor
Frederick Peter Ortner



Professor
Thomas Schroeffer



Associate Professor
Bige Tunçer



Director (Design & Planning Lab), Urban Redevelopment Authority
Ching Tuan Yee



PhD Alumni & Lecturer,
School of Architecture and Planning,
University of Auckland
Chung I-Ting

Future of Building

Building Systems Design for Reduced Carbon and Design Variability

This segment presents SUTD's building technology research which reconsiders the materiality, assembly, and design of buildings to reduce their carbon footprint while expanding design possibilities. Contributions leverage emerging technologies including Mass Engineered Timber design, design-for-disassembly, circular design, LCA informed design, responsive architecture, biomaterial design, and lightweight/tensegrity structures. Manifested through demonstrator prototypes, student designs, digital design tools and full-scale projects the work develops workflows that integrate simulation and analysis with design automation that considers the logistics of production and assembly. We will present visions of the future of building construction and debate these trajectories with leading figures from academia and practice.



Associate Professor
Carlos Bañón



Assistant Professor
Michael Budig



Professor
Thomas Schroeffer



Assistant Professor
Kenneth Tracy



Acting Group Director,
Built Environment Research and Innovation Institute (BERII) / Built Environment Technology Alliance (BETA), Building and Construction Authority (BCA)
Jonathan Cheng



Director,
Haring Timber Technology
Laurent Corpataux



ASD Alumni
Chia Sheng Wei

Future Health

A Human-centric Approach to Designing

Future Healthcare Systems Designers of tomorrow's healthcare systems are confronted by a wicked set of issues ranging from novel communicable diseases to an aging population. In this presentation, we showcase work undertaken by ASD faculty, researchers, and students at the Social Urban Lab (SOULab) and Future Health Lab-Studio in partnership with collaborators such as Singhealth and MOH Office of Transformation to address this overarching design challenge. Can we apply the concept of 'Urban Acupuncture'—using data analytics, gamification techniques, and innovative urban design strategies to nudge residents' behaviours towards active living and preventive health? How do we design occupant aware buildings that respond to the changing needs of individual patients? Can we reduce the carbon footprint of medical architecture without detracting from the level of care delivered? These are some questions we will discuss while outlining possible design directions for the healthcare systems of tomorrow.



Associate Professor
Chong Keng Hua



Lecturer
Jason Lim



Assistant Professor
Christine Yogiama



Faculty Fellow
Zheng Kai



Director,
Tsao Foundation
Radha Basu



Senior Vice President, CPG Consultants Pte Ltd
Jerry Ong



ASD Alumni
Sofia Foo



ASD Alumni
Natasha Yeo

Climate Change

From geo specificities toward universal emergencies: The need for a Planetary Project

This segment aims to share how interdisciplinary research culture, political, cultural, business, academic and community leaders in key regions can convene to explore the interplay between critical factors such as climate change, the built environment and social, cultural and political structures. Insights will be drawn from fore runners that are amongst the earliest to evidence the impacts of climate change and its inequities across the planet. During the seminar, a multi-lateral action plan that is developed by an alliance between PaceUniversity, Pratt Institute, and SUTD will also be launched. The plan will focus on advancing climate solutions targeted at water resiliency and climate justice. Understanding the shifts produced by climate change as an assemblage of networked interactions, so colossal that it escapes spatio-temporal specificity, research will extend beyond and into other regions nationally and/or globally that align with the alliance's mission and its specific geological, climatological and social areas of interest. Projects that epitomise the alliance's approach toward the futures imagined will be shared.



Professor of Practice
Eva Castro



Chairperson, Department of Graduate Architecture and Urban Design, Pratt Institute's School of Architecture
David Erdman



Divisional Director (Planning), Sentosa Development Corporation
Lee Cheh Hsien



ASD Alumni
Benedict Tan

Artificial Intelligence and Architecture

Generative Automation with AI, Metaverse & NFTs

The future of artificial intelligence (AI) is not just about AI alone, but an AI that is increasingly interwoven with other emerging technologies related to synthetic datasets, metaverses, and blockchains, that are posed to challenge the traditional disciplinary understanding of what used to constitute the AEC industry. In particular, architects will have to grapple with the rise of automated generative design using deep neural networks, the expansion of scope of work that includes designing intelligent cyber-physical metaverses, and the architectural appropriation of blockchain-based non-fungible tokens (NFTs) managed by decentralised autonomous organisations (DAOs). In this segment, ASD will showcase a series of AI-driven and industry-funded research projects by Faculty as well as a selection of student projects that creatively address the architectural implications of AI, metaverse and blockchain technologies. Industry partners will also shed light on how these technologies will change the future of artificial intelligence within the AEC context.



Assistant Professor
Immanuel Koh



CEO & Founder, Alethea AI
Arif Khan



Lead (Artificial Intelligence and Research), Bifrost
Joel Huang