Design Imperatives: the Future is Now

Location: University of Southern California - Hybrid Conference
Date: 16-19 July 2021

Call for Submissions

The theme "*Design Imperatives: The Future is Now*" is an instigation and reflection onto imminent matters that we are confronted with as designers, architects, planners, engineers, innovators and policymakers of the living environment. More than ever, our discipline is facing challenging imperatives including rapid and pervasive digitization and automation, the overwhelming rate of data availability, the question of continuous growth as well as the diminished resources and the impending environmental crisis. These are conditions that generate even greater degrees of uncertainty in conceiving design strategies.

Against this backdrop, the augmentation of new affordances and sensibilities into design practice is deemed necessary for the definition of new paradigms of architectural relevance. Establishing a design practice capable of addressing both issues of the social and material world mandates the reformulation of computational design thinking, the renewal of our methodologies and the reevaluation of frameworks for interdisciplinary synergy and social participation.Central to this new relevance is a critical, unambiguous and active positioning against the face of pressing imperatives. As key considerations we identify: our global ecological health; our duty of care towards helping ourselves and future generations better manage the planetary boundaries; the betterment of the human condition at large as well as the support of resilient and sustainable architectural futures.

Under these circumstances, CAAD Futures 2021 aims to broaden its inquiry into the socio-economic, political, and environmental imperatives as they pertain to space, and the capacity of computational design to intervene. Extending this call, the conference intends to raise these issues within the design-computing discourse, and foster synergistic relationships for their investigation through the lens of design. To instigate discussions we pose the following questions:

- What is the heritage of design-computing and what futures can we imagine?
- Can the reconsideration of computational design thinking serve towards the formulation of a plan of action to address planetary crises underway?
- How does design maintain its disciplinary unity against the situatedness of its knowledges and the multi-modality of its practices?
- What is the future of design-computing practice within the architectural profession?
- How can we advocate for novel funding models and policies that foster scalable and responsible research in line with a resilient and ethical practice?

We cordially invite and encourage researchers, practitioners, and especially doctoral students coming from architecture, design, urban design, geography, social sciences, computer science, engineering, and other relevant disciplines, to submit research papers, critical essays, and projects addressing the following research topics:

1. Past Futures

- **Where have we been/Where are we now?**
  - Histories and critical theories of design-computing
  - The heritage of architecture's 'digital avant-garde'
  - Antecedent computational futures; Other computations; Digital regionalism
- **Politics, aesthetics and ethics of space**
  - Critique of computational design
  - Social and political equity in computational design (intersectionality, norms and political power)
- **Education & Research**
  - CAAD curricula & Computational literacy
  - Computational design research: Methods, methodologies & definitions

2. Architectural Automations & Augmentations

- ***Design***
  - Generative design; Artificial Intelligence & Machine learning
  - Design cognition; Design support systems; Human building interaction
  - Building science; Simulation; Goal & Performance driven design;
- ***Fabrication***
  - Digital fabrication; Robotics; Additive manufacturing
  - Novel fabrication techniques; Autonomous construction
- ***Environment***
  - Intelligent environments & Ubiquitous computing
  - Spatial computing; Virtual environments; Mixed reality
  - Computational urban & landscape design
  - Digital heritage

3. Policies & Practices

- **Collaborative & participatory design practices**
  - Participatory design and community engagement frameworks
  - Interdisciplinary collaboration and multimodal engagement methods
  - Emerging technologies and new project delivery processes (Industry 4.0, IPD, Blockchain, etc.)
- ***Rethinking Sustainability***
  - Circular economies in design: material and immaterial
  - Digital twins and building life cycle
  - Maintenance and care of urban and social infrastructure
- ***New Models of Architectural Diplomacy***
  - Architectural unionization
  - Architecture as service
  - Shared economies and distributed spaces
  - Urban policy; Management of public and private data
  - Tools-of-the-trade: Software, platforms and digital standards
  - Open-source initiatives; Open-data policies

- ***Open Track***

Important Dates:

- Open Call for Submissions: 11 September 2021
- Abstract submission : 18 January 2021
- Workshop proposal submission: 30 January 2021
- Notification of Paper acceptance: 29 March 2021
- Notification of Workshop proposal acceptance: 30 March 2021
- Camera ready paper submission: 15 April 2021
- Workshop dates: 12-15 July 2021
- Conference dates: 16-19 July 2021

We anticipate to carry out a publicly accessible hybrid conference, and we encourage both physical and digital participation in order to widen our discussion about the future trajectories of computation in design. The detailed programme and list of keynote speakers will be announced as we proceed.

Conference chairs

Prof. David Jason Gerber (University of Southern California)
Dr. Evangelos Pantazis (IBI Group, University of Southern California)
Dr. Alicia Nahmad (University Of Calgary, Architectural Association)
Biayna Bogosian (Florida International University, University of Southern California)
Constantinos Miltiadis (Aalto University)

http://www.caadfutures2021.org/