ACADIA 2014
DESIGN AGENCY

Projects of the 34th Annual Conference of the
Association for Computer Aided Design in Architecture
USC School of Architecture, Los Angeles

Edited by David Gerber, Alvin Huang and Jose Sanchez

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ACADIA 2014 **DESIGN AGENCY**

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This publication documents the jury-selected and curated research/ practice projects held at the 34th Annual Conference of the Association for Computer Aided Design in Los Angeles, California, from October 23-25, 2014, hosted by the University of Southern California School of Architecture. The projects combine research reflecting new paradigms that are redifining contemporary architecture covering topics that include cloud organization, big data, global project delivery, and new forms of collective intelligence in design, architecture, urbanism, fabrication and media arts. Contributors include international architects, designers, programmers and artists working in these fields.
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PROJECTS

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October 23 – 25, 2014
Los Angeles, California

University of Southern California
University of California, Los Angeles
Southern California Insitute of Architecture

Editors
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ACADIA 2014 DESIGN AGENCY PROJECTS

RESEARCH PROJECTS

PRACTICE PROJECTS

STUDENT RESEARCH PROJECTS

TEX-FAB PLASTICITY

ACADIA 2014 PROJECTS CREDITS

INTRODUCTION

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The Project submission for the 2014 ACADIA DESIGN AGENCY conference at University of Southern California, Los Angeles, was a broad call for design and design research executed in a variety of mediums. Architects, designers, fabricators, engineers, media artists, technologists, software developers, hackers, researchers, students and educators and others in related fields of inquiry were invited to submit proposals that propel the profession towards new ground.

The conference theme of DESIGN AGENCY is intended to highlight experimental research and projects that exhibit and explore new paradigms of computing in architecture. The theme is a purposeful instigation of work that looks at re-defining the term "Agency" through the lens of computational design strategies such as simulation, fabrication, robotics, and novel integrations from science and the media arts.

With Los Angeles as the 2014 host location, the conference draws not only upon the region's legacy of architectural experimentation, but also its history of innovation and pioneering in the media arts and engineering. The theme speaks to a purposeful inclusion of both academic- and practice-based research and designers, but also seeks to be inclusive of researchers working at the intersections of computer science, engineering, synthetic biology, gaming, cinema, interaction design, product design, and behavioral sciences.

The selection of projects highlights the distributed influence of design decisions in a much larger milieu of data. Today, materials, manufacturing, social behavior, economics, define vast data-sets that can inform the design process. Such driving vectors of non-human agents within the design environment suggest an architecture that is enabled by interdisciplinary collaboration and data mining skills, an architecture that is able to define convergences and embody architectural outputs that potentially lay beyond the conventional building. Of particular interest to our call are researchers and practitioners that re-define the notion of agency in architecture, urban design, and design and computation. Intentionally, the use of agency is inclusive of discussions of novel design organizations, of novel approaches to artificial intelligence in physical and virtual settings, and of an in depth look at agent based design and emergence and the new found opportunities for design through the coupling of design with these computational paradigms.

DESIGN AGENCY focuses on the computational design of work that redefines itself through the new paradigms of cloud, big data, global project delivery, and new forms of collective intelligence in design, architecture, urbanism, fabrication and media arts.

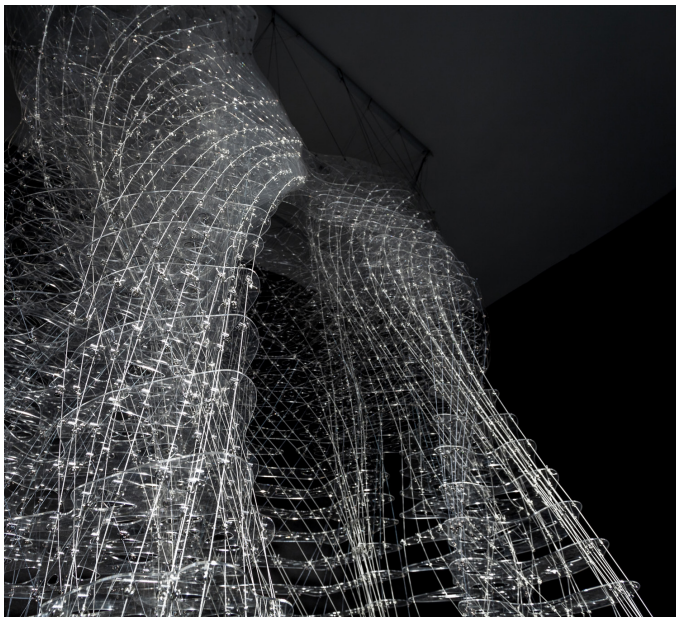
This volume has been organized into 4 chapters including, double blind peer-reviewed Research Projects, Practice projects, Student's Research Projects and the results of a sister organization, that of the Tex-Fab Competition. These four categories display the heterogeneity of interests and the breadth of the field of architecture and our allied disciplines.

In 'Research' we can see the most speculative and radical ideas; some far from being part of the built environment. But in this license of speculation, authors are able to design the future of the discipline and steer different paradigms of design and production.

'Practice' projects celebrate fabrication and feasibility. Often architects need to design creative ways to work with clients and developers in order to push the building closer to the design vision.

'Students Research' is a category that reflects on how our institutions connect with the professional research. Different architecture programs have licenses to speculate in a much more radical ways, and often it is the students who decide to pursue some of these projects in a professional domain.

Finally Tex Fab, building upon a sustained and close relationship with the ACADIA organization, shares in this volume the four finalists for the Plasticity competition; the results of a yearly competition focused on the relation and realization of fabrication, economy and affect.



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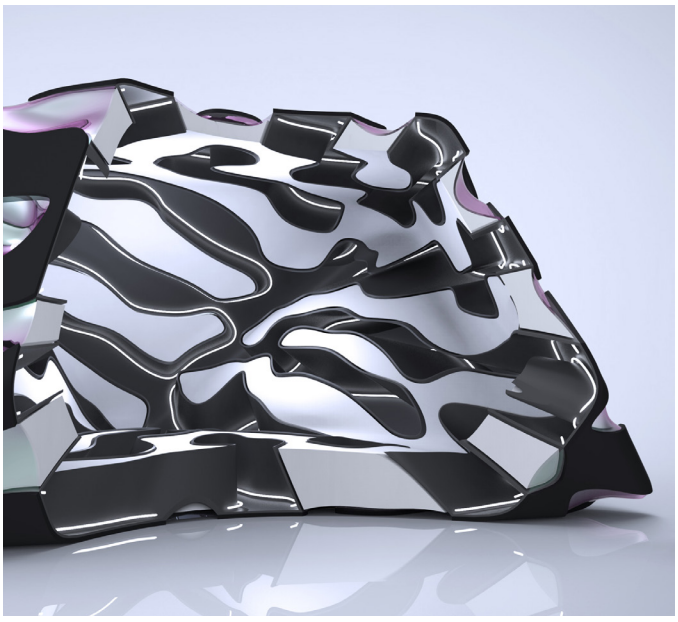
Breathing Wall 2.0. Image credit: Benhaz Farahi



Plastic Stereotomy. Image credit: Justin Diles, TEXFAB entry