



ACADIA 2014 DESIGN AGENCY

USC School of Architecture, Los Angeles

Proceedings of the 34rd Annual Conference
of the Association for Computer Aided Design in
Architecture

Edited by David Gerber, Alvin Huang and Jose Sanchez

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CONFERENCE GENERAL SCHEDULE

CONFERENCE SCHEDULE

MONDAY 20TH
TUESDAY 21ST
WEDNESDAY 22ND
THURSDAY 23RD
FRIDAY 24TH
SATURDAY 25TH
SUNDAY 26TH

CONFERENCE LOCATIONS

KEYNOTES

2014 AWARD WINNERS

PANEL DISCUSSIONS

WORKSHOPS

HACKATHON

EXHIBITION

2014 PUBLICATIONS

ACADIA ORGANIZATION

CONFERENCE MANAGEMENT & PRODUCTION

PEER REVIEW COMITEE

VOLUNTEERS

SPONSORS

	Monday 20/10/14	Tuesday 21/10/14	Wednesday 22/10/14	Thursday 23/10/14	Friday 24/10/14	Saturday 25/10/14	Sunday 26/10/14
8:00am							
9:00am	Workshops Introduction	Workshops Session 03	Workshops Session 05	Openning Remarks	Acadia Session 3: Material Agency Session Chair: Alisa Andrasek <i>7 speakers + roundtable</i>	Acadia Session 5: Temporal Agency Session Chair: Neil Leach <i>7 speakers + roundtable</i>	Acadia Session 6: Data Agency Session Chair: Kyle Steinfeld <i>7 speakers + roundtable</i>
10:00am	Workshops Session 01			Acadia Session 1: Design Agency Session Chair: Roland Snooks <i>7 speakers + roundtable</i>	Acadia Session 2: Parametric Agency Session Chair: Kris Mun <i>7 speakers + roundtable</i>		Acadia Hackathon <i>Hosted by Annenberg Innovation Lab</i>
11:00am							
12:00am							
1:00pm	Lunch	Lunch	Lunch	Lunch	Lunch	Lunch	Lunch
2:00pm	Workshops Session 02	Workshops Session 04	Workshops Session 06	AIA Tap Panel	Acadia Session 4: Fabrication Agency Session Chair: Matias del Campo <i>7 speakers + roundtable</i>	Paradigms in Computing Panel	Acadia Hackathon <i>Hosted by Annenberg Innovation Lab</i>
3:00pm				Acadia Session 1: Design Agency Session Chair: Roland Snooks <i>7 speakers + roundtable</i>	Acadia Session 2: Parametric Agency Session Chair: Kris Mun <i>7 speakers + roundtable</i>	Acadia Session 5: Temporal Agency Session Chair: Neil Leach <i>7 speakers + roundtable</i>	
4:00pm						Acadia Session 6: Data Agency Session Chair: Kyle Steinfeld <i>7 speakers + roundtable</i>	
5:00pm							
6:00pm					Ice-cream social / Exhibition opening	Acadia Annual General Meeting	
7:00pm		Evening Keynote: <i>Hosted by Sci-Arc</i> Greg Otto	Evening Keynote: <i>Hosted by USC School of Architecture</i> Marc Fornes	Evening Keynote: <i>Hosted by USC</i> Will Wright	Evening Keynote: <i>Hosted by USC Visions and Voices</i> Zaha Hadid	Evening Keynote: <i>Hosted by USC</i> Casey Reas	
8:00pm				Catered Dinner provided by ACADIA		Banquet Dinner provided by ACADIA	
9:00pm				Exhibition Opening		Awards Ceremony	
				Suggested evening venue: Rooftop @ The Standard Hotel	Suggested evening venue: Upstairs @ The ACE Hotel	Suggested evening venue: EightyTwo	

(A) USC School of Architecture
 (B) USC Bovard Auditorium
 (U) USC Ronald Tutor Center Grand Ballroom
 (L) Loker Conference Center @ California Science Center
 (I) USC Annenberg Innovation Lab
 (S) Sci-Arc

THURSDAY 23RD - MORNING
SESSION 1: DESIGN AGENCY

USC Ronald Tutor Center Grand Ballroom - Room A	Ⓢ	9:00AM		Introduction by the Chairs
		9:30AM		Session Introduction - Roland Snooks DESIGN AGENCY
		9:40AM	SPEAKER 1:	iGeo: Algorithm Development Environment for Computational Design Coders with Integration of NURBS Geometry Modeling and Agent Based Modeling Satoru Sugihara
		9:55AM	SPEAKER 2:	Bounded Agency: Integrating Informed Multi-agent Systems with Architectural Subtractions Joshua M Taron - Matthew Parker
		10:10AM	SPEAKER 3:	Agent-based models for computing circulation Renee Puusepp
		10:25AM	SPEAKER 4:	Context-Aware Multi-Agent Systems: Negotiating Intensive Fields Rodrigo Shiordia Lopez - David Gerber
		10:40AM	ROUNDTABLE	Round Table
		11:00AM		BREAK
USC Ronald Tutor Center Grand Ballroom - Room A	Ⓢ	11:30AM	SPEAKER 5:	Mesh Agency Gwyllim Jahn - Tom Morgan - Stanislav Roudavski
		11:45AM	SPEAKER 6:	Euclid's Wedge Mark Ericson
		12:00PM	SPEAKER 7:	Designing with Gradients: Bio-Inspired Computation for Digital Fabrication Daniel Richards Martyn Amos
		12:15PM	SPEAKER 8:	The Agency of Event: Event based simulation for architectural design Paul Nicholas Martin Tamke Jacob Riiber
		12:30PM	ROUNDTABLE	Round Table
		1:00PM		LUNCH BREAK

THURSDAY 23RD - MORNING
SESSION 2: PARAMETRIC AGENCY

USC Ronald Tutor Center Grand Ballroom - Room B	Ⓢ	9:00AM		Introduction by the Chairs
		9:30AM		Session Introduction - Kris Mun PARAMETRIC AGENCY
		9:40AM	SPEAKER 1:	Interactive Shaping of Forces Corentin Fivet - Denis Zastavni
			SPEAKER 2:	Illustrated Programming Antonio Leítao - José António Branquinho De Oliveira Lopes - Luís Santos
		9:55AM		
		10:10AM	SPEAKER 3:	Digital Wallpaper and Envelopes: Tiles of proliferation and continuity Sabri Gokmen - Daniel Baerlecken
		10:25AM	SPEAKER 4:	Smart Nodes: A System for Variable Structural Frames with 3D Metal-Printed Nodes Kristof Crolla - Nicholas Williams
		10:40AM	ROUNDTABLE	Round Table
USC Ronald Tutor Center Grand Ballroom - Room B	Ⓢ	11:00AM		BREAK
		11:30AM	SPEAKER 5:	HARVEST Shade Screens: Programming material for optimal energy building skins Jonathan Grinham - Robert Blabolil - Jeremy Haak
		11:45AM	SPEAKER 6:	Snap-fit Joints - CNC fabricated, Integrated Mechanical Attachment for Structural Wood Panels Christopher Robeller - Paul Mayencourt - Yves Weinand
		12:00PM	SPEAKER 7:	Simplexity: Unitized FRP Façade Systems Mark Cabrinha Jeff Ponitz
		12:15PM	SPEAKER 8:	Fabrication Aware Form-Finding: A Combined Quasi-Reciprocal Timber and Discontinious Post-tensioned Concrete Structure Iain Maxwell David Pigram Ole Egholm-Pedersen
		12:30PM	ROUNDTABLE	Round Table
		1:00PM		LUNCH BREAK

THURSDAY 23RD - AFTERNOON
SESSION 1: DESIGN AGENCY

USC Ronald Tutor Center Grand Ballroom - Room A	U	2:00PM		AIA TAP Panel
USC Ronald Tutor Center Grand Ballroom - Room A	U	3:00PM		Roland Snooks - Introduction to part 2
		3:05PM	SPEAKER 1:	DESIGN AGENCY Exploring Interactions For Parametric Modeling, Starting from Text Maher Elkhaldi Robert Woodbury
		3:20PM	SPEAKER 2:	Configurations of Intensity Mirco Becker
		3:35PM	SPEAKER 3:	Productive Hybrids: Folding Social Media As Urban Analysis Alexander Webb
		3:50PM	ROUNDTABLE	Round Table
		4:10PM		BREAK
USC Ronald Tutor Center Grand Ballroom - Room A	U	4:40PM	SPEAKER 4:	Imperative / Functional / Object-Oriented: an alternative ontology of programmatic paradigms for design Kyle Steinfeld Carlos Sandoval
		4:55PM	SPEAKER 5:	Everyone is an Architect Claudia Otten
		5:10PM	SPEAKER 6:	Polyomino – reconsidering serial repetition in combinatorics. Jose Sanchez
		5:25PM	SPEAKER 7:	Emergent Inactivities: From the Primitive Hut to the Cerebral Hut Neil Leach
		5:40PM	ROUNDTABLE	Round Table
USC Ronald Tutor Center Grand Ballroom - Room A-B	U	6:30PM	KEYNOTE	Keynote Lecture by Will Wright
USC School of Architecture	A	8:00PM	DINNER	Dinner provided by ACADIA

THURSDAY 23RD - AFTERNOON
SESSION 2: PARAMETRIC AGENCY

USC Ronald Tutor Center Grand Ballroom - Room B	U	2:00PM		Talk: Jordan Brandt - Technology Futurist “The Complexity of Compiling Matter”
USC Ronald Tutor Center Grand Ballroom - Room B	U	3:00PM		Kris Mun - Introduction to part 2 PARAMETRIC AGENCY
		3:05PM	SPEAKER 1:	Parametric Planting: Green Wall System Research + Design using BIM Danelle Briscoe
		3:20PM	SPEAKER 2:	Digitally Designing Collaboration: Computational Approaches to Process, Practice, and Product Andrew Heumann - Ryan Mullenix
		3:35PM	SPEAKER 3:	Reverberating Across the Divide: Bridging virtual and physical contexts in digital design and fabrication Madeline Gannon
		3:50PM	ROUNDTABLE	Round Table
		4:10PM		BREAK
USC Ronald Tutor Center Grand Ballroom - Room B	U	4:40PM	SPEAKER 4:	Easy to use yet not necessarily useful: New Technology in the Architectural Schematic Design Process Eliei De La Cruz - Martin Tomitsch - Mary Lou Maher
		4:55PM	SPEAKER 5:	A Framework for Linking Design and Fabrication in Geometrically Complex Architecture Heinz Schmiedhofer - Martin Reis - Simon Flöry - Florian Rist - Georg Suter
		5:10PM	SPEAKER 6:	Communicating Climate-Smart Scenarios with Data-Driven Illustrations Nancy Cheng - Brian Lockyear
		5:25PM	ROUNDTABLE	Round Table
USC Ronald Tutor Center Grand Ballroom - Room A-B	U	6:30PM	KEYNOTE	Keynote Lecture by Will Wright
USC School of Architecture	A	8:00PM	DINNER	Dinner provided by ACADIA

FRIDAY 24TH - MORNING
SESSION 3: MATERIAL AGENCY

Loker Conference Center @ California Science Center	L	9:00AM		Session Introduction - Alisa Andrasek MATERIAL AGENCY
		9:10AM	SPEAKER 1:	The Social Weavers: negotiating a continuum of agency Paul Nicholas - David Stasiuk - Tim Schork
		9:25AM	SPEAKER 2:	Computational Sand Pile Techniques for Rough Acoustical Ceramics. Rhett Russo
		9:40AM	SPEAKER 3:	Additive Formwork: 3D Printed Flexible Formwork Brian Peters
		9:55AM	SPEAKER 4:	Tensile Effects: Semi-Ridged Concrete Formwork Kenneth Tracy - Christine Yogiaman - Lavender Tessmer
		10:10AM	ROUNDTABLE	Round Table
		10:30AM	BREAK	
Loker Conference Center @ California Science Center	L	11:00AM	SPEAKER 5:	Bug-Out Fabrication: A Parallel Investigation using the Namib Darkling Beetle as a Biological Model and Incremental Sheet Metal Forming as a Fabrication Method Ammar Kalo - Michael Jake Newsum
		11:15AM	SPEAKER 6:	Towards a Digital Anisotropic Materiality Daniel Rhomberg
		11:30AM	SPEAKER 7:	From Surface to Volume - An Approach to Poche` with Composites Nazareth Ekmekjian
		11:45PM	SPEAKER 8:	4D Printing and Universal Transformation Skylar Tibbits - Carrie McKnelly - Carlos Olguin - Shai Hirsch - Daniel Di
		12:00PM	ROUNDTABLE	Round Table
Loker Conference Center @ California Science Center	L	12:20PM	AWARD TALK	Awards Lecture by Neil Gershenfeld
		1:00PM	LUNCH BREAK	

FRIDAY 24TH - AFTERNOON
SESSION 4: FABRICATION AGENCY

Loker Conference Center @ California Science Center	L	2:00PM		Session Introduction - Matias Del Campo FABRICATION AGENCY
		2:10PM	SPEAKER 1:	Centennial Chromagraph: Data Spatialization and Computational Craft Adam Marcus
		2:25PM	SPEAKER 2:	Behavioral Strategies: Synthesizing design computation and robotic fabrication of lightweight timber plate structures Tobias Schwinn - Oliver David Krieg - Achim Menges
		2:40PM	SPEAKER 3:	Form Complexity - Rewind ‘God’s Eye’ Sukkahville 2013 Michail Georgiou - Odysseas Georgiou - Theresa Kwok
		2:55PM	SPEAKER 4:	Caret 6 and the Digital Revival of Gothic Vaults Kory Bieg
		3:10PM	ROUNDTABLE	Round Table
		3:30PM	BREAK	
Loker Conference Center @ California Science Center	L	4:00PM	SPEAKER 5:	Nearly Minimal: How intuition and analysis inform the minimal surface geometries in the Pure Tension pavilion. Alvin Huang - Stephen Lewis
		4:15PM	SPEAKER 6:	Integrative computational design methodologies for modular architectural fiber composite morphologies Moritz Dörstelmann - Marshall Prado - Stefana Parascho - Jan Knippers - Achim Menges
		4:30PM	SPEAKER 7:	Designing Intricate Stereotomic Assemblies with Finite Element Method (FEM) Surface Buckling Simulation Justin Diles
		4:45PM	SPEAKER 8:	Post-forming Composite Morphologies: Materialization and design methods for inducing form through textile material behavior Sean Ahlquist
		5:00PM	ROUNDTABLE	Round Table
USC School of Architecture	A	5:30PM		Ice cream Social and Exhibition Opening
USC Bovard Auditorium		6:30PM		Collect Zaha Hadid Tickets at Bovard Hall
USC Bovard Auditorium	B	7:00PM	KEYNOTE	Keynote Lecture by Zaha Hadid

SATURDAY 25TH - MORNING
SESSION 5: TEMPORAL AGENCY

USC Ronald Tutor Center Grand Ballroom - Room A	Ⓢ	9:00AM		Session Introduction - Neil Leach TEMPORAL AGENCY
		9:10AM	SPEAKER 1:	Interface Activated Design Agency: Case for an Architectural Singularity Through Robotically Actuated Motion, Sense-Based Interaction and Computational Inference
		9:25AM		Guvenc Ozel
			SPEAKER 2:	This is not a Glitch: Algorithms and Anomalies
		9:40AM		Jason Johnson Matthew Parker
			SPEAKER 3:	Seeing and is Doing: Synthetic Tools for Robotically Augmented Fabrication in High-Skill Domains
				Joshua Bard - Madeline Gannon - Zachary Jacobson-Weaver - Michael Jeffers - Brian Smith - Mauricio Contreras
		9:55AM	SPEAKER 4:	One and Many: An Agent Perspective on Interactive Architecture
USC Ronald Tutor Center Grand Ballroom - Room A	Ⓢ			Henri Achten.
		10:10AM	ROUNDTABLE	Round Table
		10:30AM	BREAK	
		11:00AM	SPEAKER 5:	Adaptive Pneumatic Frameworks
				Frank Melendez - Madeline Gannon - Zachary Jacobson-Weaver - Varvara Toulkeridou
		11:15AM	SPEAKER 6:	PneuSystems: cellular pneumatic envelope assemblies
				Kathy Velikov - Geoffrey Thun - Mary O'Malley
		11:30AM	SPEAKER 7:	Casting Non-Repetitive Geometries with Digitally Reconfigurable Surfaces
USC Ronald Tutor Center Grand Ballroom - Room A	Ⓢ			Brad Bell - T. Cord Read - Austin Ede - Nathan Barnes
		11:45PM	SPEAKER 8:	Peristalsis: A Real-World Lesson in Adaptable Space
				Michael Fox - Juintow Lin
		12:00PM	ROUNDTABLE	Round Table
		12:20PM	AWARD TALK	Awards Lecture by Jenny Sabin
		1:00PM	LUNCH BREAK	

SATURDAY 25TH - MORNING
SESSION 6: DATA AGENCY

USC Ronald Tutor Center Grand Ballroom - Room B	Ⓢ	9:00AM		Session Introduction - Kyle Steinfeld DATA AGENCY
		9:10AM	SPEAKER 1:	Understanding social behaviors in the indoor environment, a complex network approach
				Mani Williams - Jane Burry - Asha Rao
		9:25AM	SPEAKER 2:	Hierarchical Plane Extraction (HPE): An Efficient Method for Extraction of Planes from Large PointCloud Datasets.
		9:40AM	SPEAKER 3:	Naveen Anand Subramaniam - Kevin Ponto
				ROBOTHERMODON: An Artificial Sun Study Lab with a Robot Arm and Advanced Model Platform - A Thermal Heliodon(STEVE: Solar Thermal Evaluation Experiment)
		9:55AM	SPEAKER 4:	Mehrnoush Latifi Khorasgani - Daniel Prohasky - Jane Burry - Aliakbar Akbarzadeh
		10:10AM	ROUNDTABLE	Using Physical Models in Design to Evaluate the Acclimatization of Kinetic Facades for Daylight and Thermal Performance
USC Ronald Tutor Center Grand Ballroom - Room B	Ⓢ	10:30AM	BREAK	Kamil Sharaidin
		11:00AM	SPEAKER 5:	Acomodating Change in Parametric Design
				Robert Vierlinger - Klaus Bollinger
		11:15AM	SPEAKER 6:	Interacting with Thousands: A Parametric-Space Exploration Method in Generative Design
				Halil Erhan - Ivy Wang - Naghmi Shireen
				Improving Genetic Algorithm for Design Optimization Using Architectural Domain Knowledge
		11:30AM	SPEAKER 7:	Zhouzhou Su - Wei Yan
				BIM and Knowledge Management for Archaeological Heritage
USC Ronald Tutor Center Grand Ballroom - Room B	Ⓢ	11:45PM	SPEAKER 8:	Davide Simeone - Stefano Cursi - Ilaria Toldo - Gianfranco Carrara
				Round Table
		12:00PM	ROUNDTABLE	Round Table
		12:20PM	TALK	Talk TBD
		1:00PM	LUNCH BREAK	

SATURDAY 25TH - AFTERNOON
SESSION 5: TEMPORAL AGENCY

USC Ronald Tutor Center Grand Ballroom - Room A	U	2:00PM		Paradigms in Computing Panel
		3:00PM		Neil Leach - Introduction to part 2 TEMPORAL AGENCY
		3:05PM	SPEAKER 1:	Architecture in the era of accelerating change Manuel Kretzer
		3:20PM	SPEAKER 2:	Le Cube d’Après, Integrated Cognition for Iterative and generative Designs. Pierre Cutellic
		3:35PM	SPEAKER 3:	InSpire: Integrated Spatial Gesture Based Direct 3D Modeling and Display Teng Teng - Brian Johnson
		3:50PM	SPEAKER 4:	Augmented Agency: Reorienting Trompe L’œil in the Age of Google Earth Joshua M Taron - Matthew Parker
USC Ronald Tutor Center Grand Ballroom - Room A	U	4:05PM	BREAK	
		4:25PM	SPEAKER 5:	Compression Based Growth Modelling Christoph Klemmt
		4:40PM	SPEAKER 6:	Creative Robotic Toolpath Design: Towards Robotic-Production Immanent Design in Micro and Macro Scale Sigrid Brell-Cokcan - Johannes Braumann
		4:55PM	SPEAKER 7:	Robotic Fabrication of Acoustic Brick Walls Maximilian Vomhof - Lauren Vasey - Stefan Braeuer - Kurt Eggenschwiler - Jürgen Strauss - Fabio Gramazio - Matthias Kohler
		5:10PM	ROUNDTABLE	Round Table
USC School of Architecture	A	5:45PM		ACADIA Annual General Meeting (Open to all members and guests)
USC Ronald Tutor Center Grand Ballroom - Room A-B	U	6:45PM	KEYNOTE	Keynote Lecture by Casey Reas
USC Ronald Tutor Center Grand Ballroom - Room A-B	U	8:00PM	BANQUET	Banquet dinner provided by ACADIA and Awards Ceremony Tex-Fab Winner Announcement

SATURDAY 25TH - AFTERNOON
SESSION 6: DATA AGENCY

USC Ronald Tutor Center Grand Ballroom - Room B	U	3:00PM		Kyle Steinfeld - Introduction to part 2 DATA AGENCY
		3:05PM	SPEAKER 1:	‘Attachment’ as Agency in Off-Site and On-Site Indicators of Phenomena in Geospatial Urban Analysis Tools Philip Speranza
		3:20PM	SPEAKER 2:	Synthetic Ecologies: Protocols, Simulation, and Manipulation for Indeterminate Landscapes Justine Holzman - Bradley Cantrell
		3:35PM	SPEAKER 3:	Abstraction versus Case Based: A Comparative Study of Two Approaches to Support Parametric Design Anastasia Globa - Michael Donn - Jules Moloney
		3:50PM	SPEAKER 4:	Selective Interference: Emergent complexity informed by pro-grammatic, social and performative criteria Christopher Welch - Tane Moleta - Jules Moloney
USC Ronald Tutor Center Grand Ballroom - Room B	U	4:05PM	BREAK	
		4:25PM	SPEAKER 5:	MASS REGIMES: Geometrically Actuated Thermal Flows Dana Cupkova - Nicolas Azel
		4:40PM	SPEAKER 6:	Vacuum Insulated Tubes Elizabeth Boone
		4:55PM	SPEAKER 7:	Experimental fibre composite fabrication methods for architectural applications Marco Corazza - Viral Doshi - Axel Körner - Mehnaj Tabassum.
		5:10PM	ROUNDTABLE	Round Table
USC School of Architecture	A	5:45PM		ACADIA Annual General Meeting (Open to all members and guests)
USC Ronald Tutor Center Grand Ballroom - Room A-B	U	6:45PM	KEYNOTE	Keynote Lecture by Casey Reas
USC Ronald Tutor Center Grand Ballroom - Room A-B	U	8:00PM	BANQUET	Banquet dinner provided by ACADIA and Awards Ceremony Tex-Fab Winner Announcement

PARADIGMS IN COMPUTING EVENT BOOK LAUNCH



The Paradigms in Computing event book launch and round table discussion.

The Editors of the Paradigms and Computing Making Machines and Models for Design Agency in Architecture along with our publishers will host a panel discussion amongst the editors and contributors. The event is our launch of the book and an opportunity for continuing, and evoking, the discussion we instigated.



Dr. David Gerber University of Southern California

Dr. Gerber is a designer, educator and researcher focused on research that bridges the architectural design endeavor, with engineering and science. Dr. Gerber’s advises, PhD students from Architecture and Engineering and is a recipient of multiple National Science Foundation and industry grants. He has authored and edited over 40 articles, books and proceedings and has held fellowships at USC, MIT’s Media Lab and Harvard. Professionally, he has worked in architectural practice in the United States, Europe, India and Asia including for Zaha Hadid Architects, Gehry Technologies, Moshe Safdie Architects, The Steinberg Group Architects, and his own practice. Dr. Gerber has been a board level advisor, and an executive officer for design technology companies where as a Vice President of Innovation he has lead teams in research, product development and in consulting and was Vice President of Marketing for Gehry Technologies.

Dr. Gerber is an Assistant Professor of Architecture at the University of Southern California with a joint appointment at USC’s Viterbi School of engineering. Dr. Gerber was full time faculty at the SCIArc, and has taught at UCLA, the AA, the EPFL, Stanford University, the Tecnologico de Monterrey Mexico and at Tsinghua University Beijing.

David Gerber received Bachelor of Arts in Architecture from the University of California Berkeley; his M.Arch from the Design Research Laboratory of the Architectural Association; a Master of Design Studies, and his PhD (Doctor of Design) from the Harvard University Graduate School of Design.

www.djgerber.com



Mariana Ibañez Harvard University, Graduate School of Design

Mariana Ibanez is Associate Professor of Architecture at the Harvard University Graduate School of Design. She teaches in the architecture core design studio sequence.

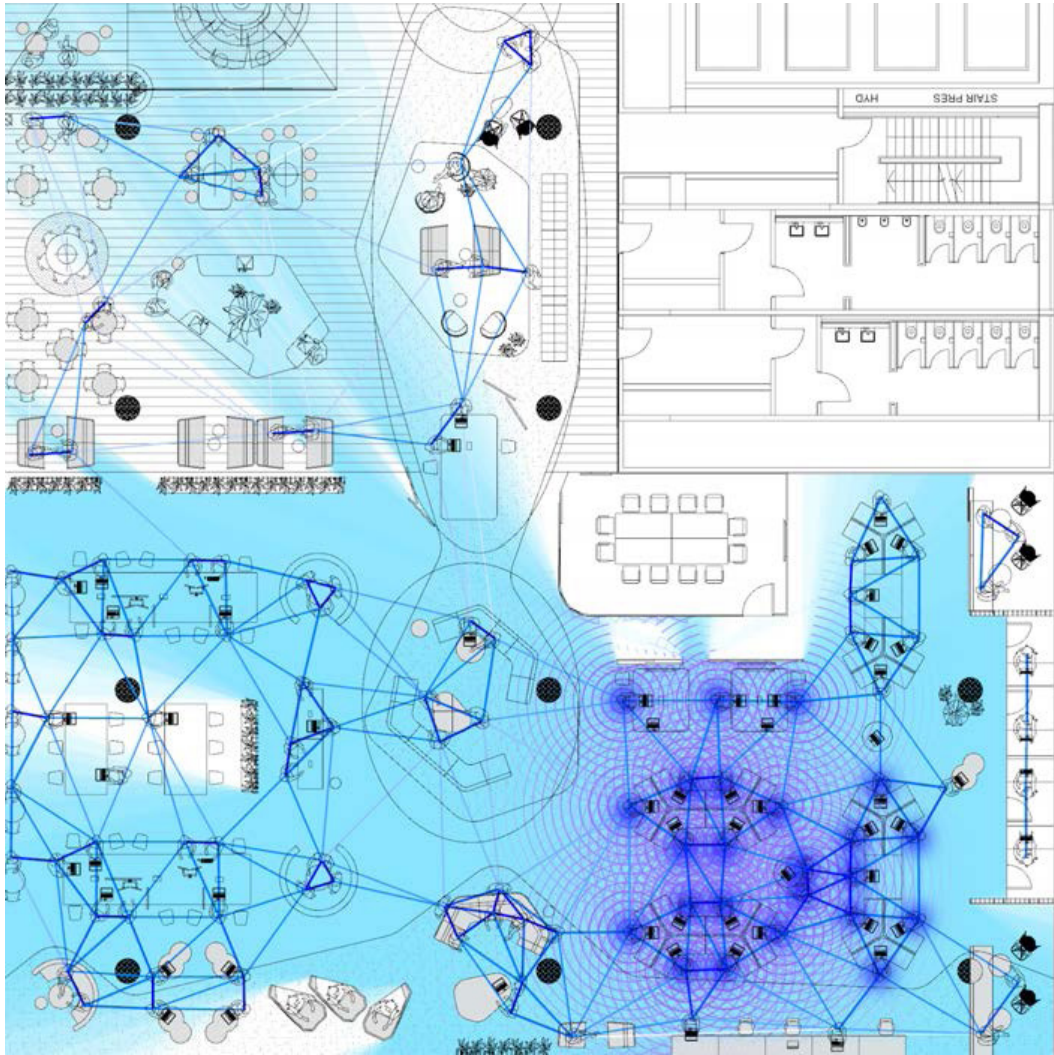
Ibanez is an Argentinean architect and designer. Before attending the Architectural Association in London for her Master of Architecture, she was one of the principals of FIV Architectura, a firm that focused on the design and construction of ephemeral structures for performance spaces.

Her thesis work at the AA focuses on the issue of responsive environments through the implementation of adaptive structures and interphases. The project has been exhibited at the Delft Institute of Technology, the Institute of Contemporary Art in London and the International Biennale of Architecture in Beijing. Reference to this work can be found in publications like AD, Archicreation and Icon magazine.

Ibanez has been a guest critic at the AA, MIT, RISD and other institutions since 2004 and previously taught Design Studio from 1999 to 2002 at the University of Buenos Aires where she had received her Bachelor of Architecture.

In 2005 she co-founded I/K Studio with Simon Kim, a research and design practice with projects in London and Buenos Aires.

After her graduate studies, she joined the Advanced Geometry Unit at ARUP before going to the office of Zaha Hadid where she developed several projects as well as leading the design for the London Aquatic Centre for the 2012 Olympic Games.



Safdie Architects

AIA TAP PANEL

“DIGITALLY DESIGNING COLLABORATION”

a panel discussion hosted by the AIA Technology in Architectural Practice Knowledge Community

Speakers:

Andrew Heumann, NBBJ

Ryan Mullenix, NBBJ

Richard Crowder, U. Southampton

Gustav Fagerström Buro Happold New York

Moderator:

David Ross Scheer

David Ross Scheer brings a broad background in practice, teaching and research to his work on the effects of digital technologies on architecture. He has been a member of the national advisory group of the AIA Technology in Architectural Practice Knowledge Community (TAP) since 2006 and was its Chair in 2012. Through TAP’s activities he has gained a broad awareness of the evolving uses and effects of BIM and computation throughout the building industry. His interest in digital design tools has not lessened Mr. Scheer’s strong affinity for the tradition of architectural drawing in which he was trained. This led him to write a book titled *The Death of Drawing: Architecture in the Age of Simulation* (Routledge 2014) about the effects of the transition from drawing to digital tools, particularly on how architects think and design.

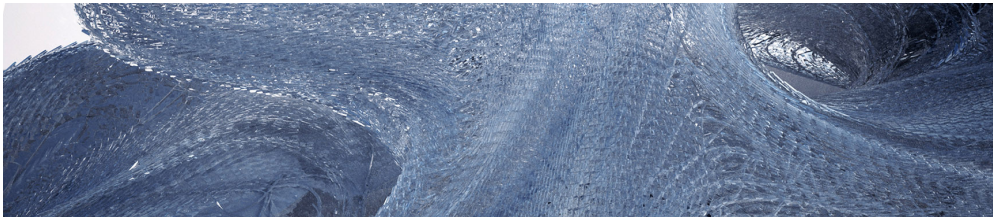
Gustav Fagerström is a registered architect and Associate with Buro Happold New York where he leads the structural BIM and advanced modeling team. Specializing in design computation he operates at the intersection of architecture, engineering and computer science. He has practiced architecture with UFO, KPF and UNStudio and has published, given workshops and been on academic juries at architecture and engineering universities worldwide. Work of his has been presented at the Venice Biennale, CAADRIA, ACADIA, FABRICATE and the SmartGeometry conference.

Andrew Heumann leads NBBJ’s Design Computation team, overseeing strategy, development, and implementation of computational tools for diverse projects and applications.

Ryan Mullenix, Partner at NBBJ, has led the design of numerous award-winning projects, and is currently the lead designer for Google’s new Bay View Campus.

Dr. Richard Crowder is a Senior Lecturer in the Department of Electronics and Computer Science at the University of Southampton. His research interests include robotics, machine learning and agent-based modeling (ABM). He has used ABM to study engineering design teams, evaluating which factors are the best predictors of individual and team success. ABM is a promising method for studying multi-disciplinary building design teams, learning how they can be constituted and organized to increase their effectiveness.

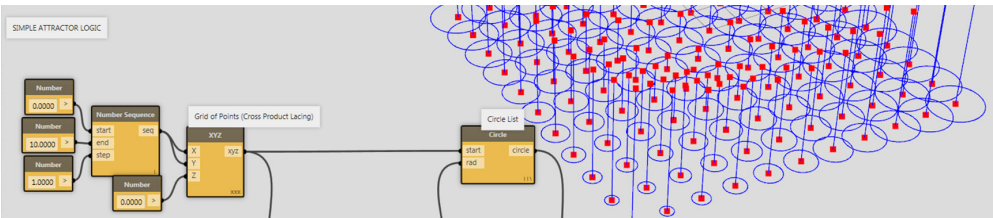
WORKSHOPS



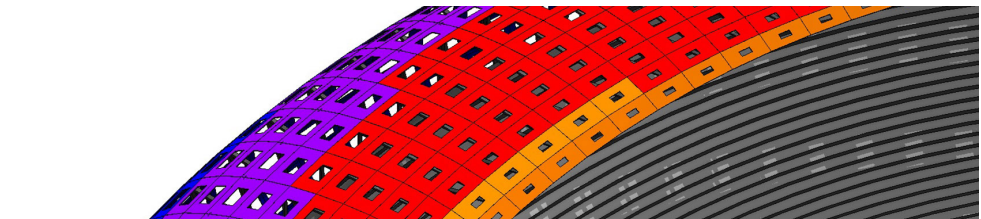
WORKSHOP 1 - ‘SWARM INTELLIGENCE: ALGORITHMIC DESIGN STRATEGIES’
by **Roland Snooks**



WORKSHOP 2 - DESIGN AGENCY
by **Marc Fornes**



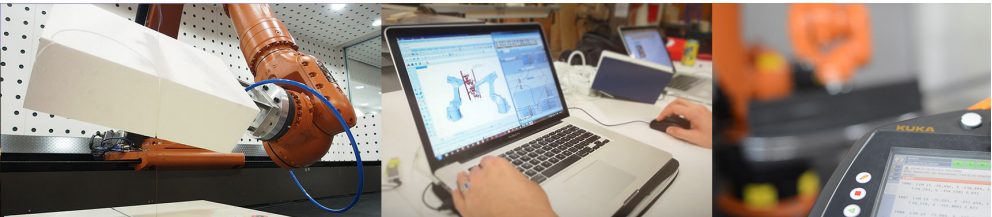
WORKSHOP 3 - ‘ENHANCED PARAMETRIC DESIGN WITH DYNAMO’
by **Autodesk**



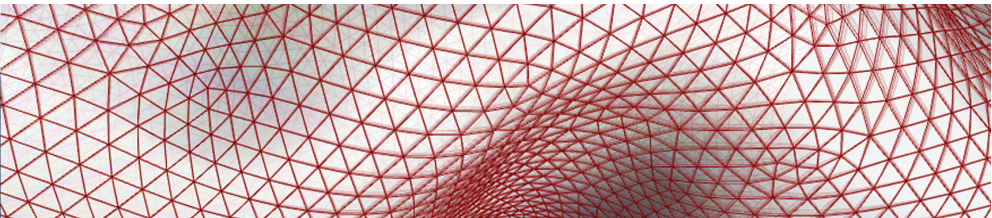
WORKSHOP 4 - ‘SOLAR RADIATION AND DAYLIGHT ANALYSIS WITH DYNAMO’
by **Autodesk**



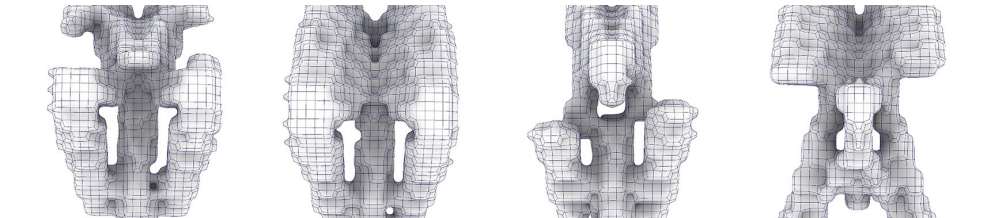
WORKSHOP 5 - PARAMETRIC COLLABORATION
by **Andrew Heumann, NBBJ**



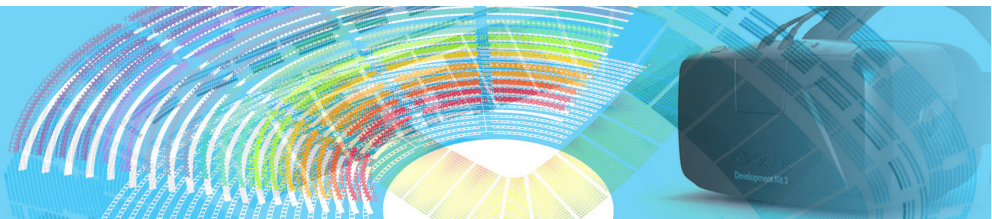
WORKSHOP 6 - PRODUCTION-IMMANENT DESIGN
by **Sigrid Brell-Cokcan & Johannes Braumann / KUKA**



WORKSHOP 7 - INTERACTIVE FORM-FINDING WITH PHYSICS - KANGAROO
by **Daniel Piker**



WORKSHOP 8 - ZAHA CODE - PARAMETRICS
by **Shajay Bhooshan / Vishu Bhooshan / Mostafa El Sayed**



WORKSHOP 9 - PERFORMANCE DESIGN: FROM ANALYTIC TO EMPIRICAL
by **Shane Burger / Brian Ringley / Peter Van Hage**



WORKSHOP 10 - HIGH-THROUGHPUT COMPUTING (HTC) FOR PARAMETRIC EXPLORATION
by **SOM Sebastian Clausnitzer, Neil Katz, Matthew Shaxted, Sejung Kat Park, Robert Yori**

HACKATHON

HOSTED BY UNITY3D AND USC ANNENBERG INNOVATION LAB
SUNDAY 26 OF OCTOBER



Organized by
Jose Sanchez, Kris Mun and Jason Kelly Johnson
Hackathon resident LIVE CODER: Charlie Roberts
Hackathon Champions:

Manuel Jimenez Garcia
Gilles Retsin
Nathan Miller
Satoru Sugihara
Knut Brunier
Ezio Blasetti
Biayna Bogosian
Will Hosikian
Benjamin Dillenburger
Igor Pantic
Soomeen Hahm
Michail Desyllas
Alexandr Kalachev
Tudor Cosmatu
Olga Kavrikova
VicenteSoler
Trevor Patt
Nathaniel Zuelzke
Maiden Llaguno

To conclude ACADIA 2014, we will host a HACKATHON event that will encourage every participant of the conference, to open their laptops and share, co-work and enjoy of an exciting 1 day event hosted by the Annenberg Innovation Lab and powered by Unity3D.

The event will host 20 design agency ‘champions’ around which we will form teams and explore different workflows. The participants will be invited to join any of the groups or wonder around absorbing the amazing range of design techniques of our skilled participants.

The Hackathon celebrates a culture of making and sharing and while we will give prizes to the best outputs at the end of the day, every participant will gain an insight from how designers behind key practices and institutions work

The event invites all design desciplines to work together under one roof, with a special guest, Charlie Roberts who will act as our resident LIVE CODING DJ for the event. The event will be free to all ACADIA 2014 Ticket holders.

PUBLICATIONS



ACADIA 2014 PROCEEDINGS
The Proceedings of the ACADIA 2014: DESIGN AGENCY international conference contains the peer-reviewed research papers presented at the 34th annual conference of the Association for Computer Aided Design in Architecture. Presentations by keynote speakers and ACADIA Award recipients are also included.



ACADIA 2014 PROJECTS
The Projects Catalogue of the ACADIA 2014: DESIGN AGENCY international conference contains jury-selected and curated research and practice projects of the 34th annual conference of the Association for Computer Aided Design in Architecture. Projects by researchers, practitioners, students and by the ACADIA partner organization Tex-Fab are included.



PARADIGMS IN COMPUTING
The Editors of the Paradigms and Computing Making Machines and Models for Design Agency in Architecture along with our publishers will host a panel discussion amongst the editors and contributors. The event is our launch of the book and an opportunity for continuing, and evoking, the discussion we instigated.

DESIGN POSTERS EXHIBITION

RESEARCH PROJECTS

FURLINED

Gail Peter Borden

CARET 6

Kory Bieg

ROBOTIC INFILTRATIONS

Andrei Gheorghe

APERTURES

Scott Uriu
Herwig Baumgartner

MODULAR VARIATIONS

Adam Marcus

(URBANNETWORK)

RETHINKING URBAN PUBLIC ENVIRONMENTS
THROUGH GLOBAL INTERACTION

Andrew Wit
Mahesh Daas
Caylon Beville
Shannon Buchanan
Adam Dally

FORMATIVE TECTONIC SCREEN: CRAFT IN DIGITAL AGE

Heamin Kim
Zhenhuan Xu
Heng Zhang

TOPOLOGICALLY OPTIMIZED CONCRETE SHELL STRUCTURE

Alicia Nahmad Vazquez
Shajay Bhooshan
Asbjorn Sondergaard
Chikara Inamura
Joshua Zabel
Mustafa El-Sayed

EXTREME ASSEMBLAGES

Monica Tiulescu
Alexandra Neyman

SOFT TO HARD CANOPY

MAKING LARGE-SPAN TRIDIMENSIONAL STRUC-
TURES FROM SHORT TIMBER ELEMENTS

Djordje Stojanovic

CENTENNIAL CHROMAGRAPH

Adam Marcus

HELIX

Marcella Del Signore
Giuseppe Morando
Elena Del Signore

A(G)NTENSE

INSTALLATION OF SWARM FORMATION AND AGENT BASED
SELF-OPTIMIZATION OF TENSILE AND COMPRESSION
STRUCTURE

Satoru Sugihara

PARAMETRIC FAÇADE SYSTEMS

PERFORMANCE-DRIVEN DESIGN FOR ULTRA-THIN BUILD-
INGS IN HONG KONG

Jason F. Carlow

INTEGRATED WORK OF MAN AND MACHINE

DIGITAL CRAFT AS DESIGN AGENT

Ming Tang
Colin Klimesh

PROJECT 3XLP

POROUS SKIN PROTOTYPE

Nicholas Bruscia
Christopher Romano

VITALIZED GEOMETRY

Kristine Mun

ROBOTIC INCREMENTAL SHEET METAL FABRICATION

Ammar Kalo
Michael Jake Newsum

ARCHITECTURE IN THE MAKING

PERFORMANCE, PROTOTYPING, AND PEDAGOGY AT FULL
SCALE

Adam Marcus
Margaret Ikeda
Evan Jones

STOICHEIA

TESLA’S APOTHEOSIS, ARCHITECTURE AND SOUND

F. Myles Sciotto
Jean-Michel Crettaz

VERTEX.3D

Brian Peters

WHITEOUT

TOPOLOGICAL EVOLUTION OF EMBEDDED GEOMETRIES

Chandler Ahrens
Aaron Sprecher
Eran Neuman

GEOWEAVER

WALKING 3-D PRINTER HEXAPOD

Jeffrey Maeshiro

POLYOMINO

Jose Sanchez

SOFT-MODELLING

Manuel Jiménez García

EIGENFORMS

BUCKLED STEREOTOMIC ASSEMBLIES

Justin Diles

DENSITY AND OPENESS REVISITED

THE IDEAL CITY OF REFIGURED CIVIC SPACE

Christian J. Lange
Ingeborg M. Rocker

ROBOTIC LATTICE SMOCK

Andrew Saunders

BIOLOGICAL DATA-MINING AND OPTIMIZATION

IN THE CASE OF IMMUNORIUM PROJECT

Mayumi Iitsuka

RESONANT SURFACE 01

Christine Yogiaman
Kenneth Joseph Tracy

DOT/O

Biayna Bogosian
Jose Sanchez

MATERIAL SWARM ARTICULATIONS

THE NEW VIEW RECIPROCAL FRAME CANOPY

Evangelos Pantazis
David Gerber
Iason Pantazis

CENTRIPETAL

Simon Kim
Mariana Ibañez

FLIGHT PATTERN
David Freeland
Brennan Buck

CONTEXT-AWARE MULTI-AGENT SYSTEMS
NEGOTIATING INTENSIVE FIELDS
David Gerber
Rodrigo Shiordia Lopez

CALIBRATING AGENCIES IN A TERRITORY OF INSTRUMENTALITY
Alexander Robinson

SOUND AND THE SCHINDLER HOUSE
F. Myles Sciotto

PRACTICE PROJECTS

SELFRIDGES
Marc Fornes
Yayoi Kusama

DOUBLE AGENT WHITE
Marc Fornes

CHROMATAE
Marc Fornes

PURE TENSION PAVILION
Alvin Huang

CHELSEA WORKSPACE
Alvin Huang

DAEGU GOSAN PUBLIC LIBRARY
Alvin Huang

FRP BUILDING
Weiguo Xu
Xiaoan Li

NATIONAL CENTER FOR CONTEMPORARY ARTS
Tom Wiscombe

LAMELLAR FLOWS
DIGITALLY CONCEIVED BUILDING SKIN
Ulla Hell
Holger Kehne
Peter Pichler

DISTORTION
Volkan Alkanoglu

CELLULAR COMPLEXITY “EVOLVE”
Julia Koerner
Marie Boltenstern
Kais Al-Rawi

NEW HARMONY GROTTO
Andrew Vrana
Joe Meppelink
Ben Nicholson

SOUTH AUSTRALIAN HEALTH AND MEDICAL RESEARCH INSTITUTE (SAHMRI)
Shane Burger

MAY/SEPTEMBER
ESKENAZI HOSPITAL PARKING STRUCTURE FAÇADE
Rob Ley

CELLULAR TESSALLATION
Chris Knapp
Jonathan Nelson
Michael Parsons

LA BREA AFFORDABLE HOUSING
Patrick Tighe
John V. Mutlow

STUDENT PROJECTS

CRYSTAL CLOUD
AmirReza Mirmotahari
Joanna Theodosiou
Shahad Thamer Al-Hadeethi

WOVEN CLAY
Jared Friedman
Heamin Kim
Olga Mesa

ROBOFOAM
Elina Christou
Jan Dierckx
Rodrigo Novelo Pastrana
Nikola Papic

ROBOTIC BEAD ROLLING
Jared Friedman
Ahmed Hosny
Amanda Lee

SCATTERED SOLID
Minjae Ko
Jie-Eun Hwang

CELLULAR MORPHOLOGY IN LOS ANGELES
Yuan Yao

DIGITAL GLASSBLOWING FABRICATION
Adam Vukmanov
Tadeas Klaban
Ondrej Michalek

VERTIGUOUS INTERIORS
Marta Piaseczynska
Rangel Karaivanov
Jürgen Strohmayr

BREATHING WALL
Behnaz Farahi

RHEOLOGICAL TRANSLATIONS
Nikita Troufanov
Brennen Huller

TEX-FAB

MONOLITH TRANSLUCENT LATTICE
Vasily Sitnikov

PUFF’D COMPOSITES
Brennen Huller
Nels Long
Nikita Troufanov

PLASTIC STEREOTOMY
TOWARD AN ARCHITECTURE OF LAMINAR POCHÉ
Justin Diles

VISCOPLASTY
Sofia Bennani
Alexandra Singer-Bieder
Agathe Michel

CONFERENCE CHAIRS



Dr. David Gerber University of Southern California

Dr. Gerber is a designer, educator and researcher focused on research that bridges the architectural design endeavor, with engineering and science. Dr. Gerber’s advises, PhD students from Architecture and Engineering and is a recipient of multiple National Science Foundation and industry grants. He has authored and edited over 40 articles, books and proceedings and has held fellowships at USC, MIT’s Media Lab and Harvard. Professionally, he has worked in architectural practice in the United States, Europe, India and Asia including for Zaha Hadid Architects, Gehry Technologies, Moshe Safdie Architects, The Steinberg Group Architects, and his own practice. Dr. Gerber has been a board level advisor, and an executive officer for design technology companies where as a Vice President of Innovation he has lead teams in research, product development and in consulting and was Vice President of Marketing for Gehry Technologies.

Dr. Gerber is an Assistant Professor of Architecture at the University of Southern California with a joint appointment at USC’s Viterbi School of engineering. Dr. Gerber was full time faculty at the SCIArc, and has taught at UCLA, the AA, the EPFL, Stanford University, the Tecnologico de Monterrey Mexico and at Tsinghua University Beijing.

David Gerber received Bachelor of Arts in Architecture from the University of California Berkeley; his M.Arch from the Design Research Laboratory of the Architectural Association; a Master of Design Studies, and his PhD (Doctor of Design) from the Harvard University Graduate School of Design.

www.djgerber.com



Alvin Huang University of Southern California

Alvin Huang, AIA is the Founder and Design Principal of Synthesis Design + Architecture. He is an award-winning architect, designer, and educator specializing in the integrated application of material performance, emergent design technologies and digital fabrication in contemporary architectural practice. This exploration of “digital craft” is identified as the territory where the exchange between the technology of the digitally conceived and the artisanry of the handmade is explored. His wide ranging international experience includes significant projects of all scales ranging from hi-rise towers and mixed-use developments to bespoke furnishings.

Alvin received a Master of Architecture and Urbanism from the Architectural Association Design Research Laboratory (2004) in London and a Bachelor of Architecture from the University of Southern California (1998) in Los Angeles. His work has been widely published and exhibited and has gained international recognition, including being selected to represent the UK at the Beijing Biennale in 2008. In 2009 he was awarded a D&AD Award for Environmental Design.

Alvin is currently a Tenure-track Professor at the USC School of Architecture in Los Angeles. He has also taught design studios and master classes at the Architectural Association (London), Tongji University (Shanghai), Tsinghua University (Beijing), University of Lund (Sweden) and Chelsea College of Art (London). He has been an invited critic and guest lecturer at various institutions in the UK, US, Germany, Spain, Sweden, Israel, Switzerland and China.

www.synthesis-dna.com



Jose Sanchez University of Southern California

Jose Sanchez is an Architect / Programmer / Game Designer and is a tenure-track Assistant Professor at USC School of Architecture in Los Angeles, California.

His research ‘Gamescapes’ explores interactive interfaces in the form of video games, speculating on modes of intelligence augmentation, combinatorics and open systems as a design medium. His cross disciplinary research involves education, data-mining, simulation and design, positioning video games as a medium for collaboration and systems thinking.

He is the co-creator of the BLOOM project. BLOOM was the winner of the WONDER SERIES hosted by the City of London for the 2012 Olympics. BLOOM became a UK start-up dedicated to the design and commercialization of building games that can create architectural and spatial installations. The project has since been exhibited all over the world with highlights in The 9th Archilab Exhibition ‘Naturalizing Architecture’ in Frac Centre, France and ‘The Future is Here’ at RMIT, Australia.

His background in computational design and digital manufacturing is linked to Biothing with Alisa Andrasek, were he was a principal designer in numerous projects and exhibitions since 2009. He has taught in various institutions such as The Architectural Association, The Bartlett School of Architecture and University of Southern California.

His practice, the Plethora Project, brings together research, design, education and writing, investing in the future of on-line open-source knowledge. The project sits at the forefront of architectural and design free online initiatives and has a large active community. His video tutorials, together with an open-source library of code, reach a vast global audience.

www.plethora-project.com

KEYNOTE



Will Wright

Renowned game creator of The Sims, SimCity and Spore, widely acknowledged for creating the simulation video game genre, unveiled the highly anticipated Spore™ in September 2008. Fans eagerly embraced the creation tools in Spore and have created over 100 Million pieces of user-created content, as of Summer 2009. Spore has been distinguished with such honors as Popular Science’s “Best of What’s New Award,” Popular Mechanics’s “Breakthrough Award,” PC Magazine’s “Technical Excellence Award,” Time Magazine’s “50 Best Inventions of 2008,” and the Jim Henson Technology Honor. A true gaming industry legend as a result of his pioneering contributions to video games, Wright has been the recipient of several prestigious awards and honors. Rolling Stone named Will Wright “One of the 100 People who are Changing America,” in March 2009, placing him among artists, leaders, scientists, and policymakers who are “fighting every day to show us what is possible.” In 2008, Will received the first-ever Gamer God Award at the Spike Video Game Awards as a testament to his revolutionary work.

KEYNOTE



Casey Reas

University of California, Los Angeles
Co-Creator of Processing

Casey REAS (a k a Casey Edwin Barker Reas, C. E. B. Reas)
Born 1972 in Troy, Ohio. Lives and works in Los Angeles.

Casey Reas writes software to explore conditional systems as art. Through defining emergent networks and layered instructions, he has defined a unique area of visual experience that builds upon concrete art, conceptual art, experimental animation, and drawing. While dynamic, generative software remains his core medium, work in variable media including prints, objects, installations, and performances materialize from his visual systems.

Reas’ software, prints, and installations have been featured in over one hundred solo and group exhibitions at museums and galleries in the United States, Europe, and Asia. Recent venues include the San Francisco Museum of Modern Art and the Art Institute of Chicago, and recent commissions have been awarded by the Whitney Museum of American Art and the New World Symphony in Miami. Reas’ work is in a range of private and public collections, including the Centre Georges Pompidou and the Victoria and Albert Museum.

Reas is a professor at the University of California, Los Angeles. He holds a masters degree from the Massachusetts Institute of Technology in Media Arts and Sciences as well as a bachelors degree from the School of Design, Architecture, Art, and Planning at the University of Cincinnati. With Ben Fry, Reas initiated Processing in 2001. Processing is an open source pro-

gramming language and environment for the visual arts.

Reas recently co-wrote and designed the book 10 PRINT CHR\$(205.5+RND(1)); : GOTO 10 (MIT Press, 2013). Reas and Fry published Processing: A Programming Handbook for Visual Designers and Artists, a comprehensive introduction to programming within the context of visual media (MIT Press, 2007). With Chandler McWilliams and Lust, Reas published Form+Code in Design, Art, and Architecture (Princeton Architectural Press, 2010), a non-technical introduction to the history, theory, and practice of software in the visual arts. Reas’ Process Compendium 2004—2010 documents six years of his work exploring the phenomena of emergence through software.

KEYNOTE



Marc Fornes
THEVERYMANY™
Princeton University and Harvard GSD

Marc Fornes is a registered Architect DPLG and founder of THEVERYMANY™, a New York based studio engaging Art and Architecture through the filter of systematic research and development into applied Computer Science and Digital Fabrication.

His prototypical structures and unique organic environments are included within the permanent collections of the Centre Pompidou, the FRAC Centre and the CNAP. He has been exhibited at institutions worldwide including the Guggenheim (“into the void”) and sold work at Art Basel Miami/GGG, Art Paris, Phillips de Pury and Sotherby’s.

Marc is a TED Fellow. He was artist in residence at the Atelier Alexander Calder (2012). His pop up store for Louis Vuitton & Yayoi Kusama is the very first carbon fiber self-supported shell structure applied to architecture and was awarded an A+ Jury Award as well as the 40th Annual Interior Design Award by the IIDA. His practice was also awarded New Practices New York by the AIA (2012), the Architectural League Prize (2013), Design Vanguard by Architectural Record (2013) and the WAN 21 for 21 Award.

Marc’s on going involvement with academia includes co-starting with Francois Roche (n)Certainties, a graduate studio mixing custom computational protocols with open ended narratives, at Columbia University, the University of Southern California and Die Angewandte in Vienna. He is currently teaching at Princeton University and with Patrik Schumacher at Harvard GSD.

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KEYNOTE



Greg Otto
Walter P Moore

Greg Otto is a Principal for Walter P Moore and Associates, Inc. and the Managing Director of its Los Angeles office. Mr. Otto holds degrees in both architecture and engineering. With over 19 years of combined experience, he has been strategically focused on collaboration between the two disciplines and the potential for innovations that such working can bring.

Greg is a creative thinker and collaborator, who is confident to work beyond discipline silos. He holds a strong belief that the best solutions are found across multiple technical disciplines and is committed to provide the necessary leadership to bring the best out of multi-disciplinary teams.

Mr. Otto brings a wealth of specialist knowledge in the areas of geometrically complex, spatial structures; tensioned fabric and membrane structures; architectural façade systems and specialty construction (materials). Greg is an innovator and has led the charge to integrate digital tools into our workflow (particularly as it relates to these specialist areas) to enhance our engineering capabilities and seek out innovation. His portfolio of work ranges from small, art-centric projects to large scale stadia and airport projects, with the common denominator being the tight integration of design and engineering.

Greg is active in academia and regularly teaches at some of the most prominent universities in the United States. His focus has been to bring contemporary practice related topics to students and leverage the classroom as a laboratory to explore

alternatives and seek out innovation. The result of this effort is a reciprocal exchange between practice and the academy, benefiting the students, advancing our practice and elevating the collective discourse on collaborative, multi-disciplinary working and innovation. For our firm, his academic ties, desire to link research to practice and commitment to innovating make his leadership inspirational and drive his team to some of our most creative and innovative solutions.

AWARD & KEYNOTE

2014 ACADIA LIFETIME ACHIEVEMENT AWARD



Zaha Hadid
University of California, Los Angeles
Co-Creator of Processing

Zaha Hadid, founder of Zaha Hadid Architects, was awarded the Pritzker Architecture Prize (considered to be the Nobel Prize of architecture) in 2004 and is internationally known for her built, theoretical and academic work. Each of her dynamic and pioneering projects builds on over thirty years of exploration and research in the interrelated fields of urbanism, architecture and design. Born in Baghdad, Iraq in 1950, Hadid studied mathematics at the American University of Beirut before moving to London in 1972 to attend the Architectural Association (AA) School where she was awarded the Diploma Prize in 1977. She founded Zaha Hadid Architects in 1979 and completed her first building, the Vitra Fire Station, Germany in 1993. Hadid taught at the AA School until 1987 and has since held numerous chairs and guest professorships at universities around the world. She is currently a professor at the University of Applied Arts in Vienna and visiting professor of Architectural Design at Yale University. Working with senior office partner, Patrik Schumacher, Hadid’s interest lies in the rigorous interface between architecture, landscape, and geology as her practice integrates natural topography and human-made systems, leading to innovation with new technologies. The MAXXI: National Museum of 21st Century Arts in Rome, the London Aquatics Centre for the 2012 Olympic Games, and Heydar Aliyev Centre in Baku are built manifestos of Hadid’s quest for complex, fluid space. Previous seminal buildings such as the Rosenthal Center for Contemporary Art in Cincinnati and the Guangzhou Opera House in China have also been hailed as architecture that transforms our ideas of the future with new spatial concepts and dynamic, visionary forms. Zaha Hadid Architects continues to be a global leader in pioneering research and



Image credit: Jacopo Spilimbergo



Image credit: Hutton and Crow

design investigation. Collaborations with corporations that lead their industries have advanced the practice’s diversity and knowledge, whilst the implementation of state-of-the-art technologies have aided the realization of fluid and therefore complex architectural structures. Currently Zaha Hadid Architects is working on a multitude of projects worldwide including: the High-Speed Train Station in Naples; the CityLife masterplan and tower in Milan; the Grand Theatre in Rabat and the New National Stadium in Tokyo, as well as major master-planning projects in Beijing, Bilbao, Istanbul and Singapore. ZHA’s portfolio also includes cultural, corporate, academic, sporting and infrastructure projects across Asia, the Middle East, Europe and North and South America, in addition to national institutions such as the new Central Bank of Iraq Headquarters. Zaha Hadid Architects’ work of the past 30 years was the subject of critically-acclaimed exhibitions at New York’s Solomon R. Guggenheim Museum in 2006, London’s Design Museum in 2007, the Palazzo della Ragione, Padua, Italy in 2009, the Philadelphia Museum of Art in 2011 and the Danish Architecture Centre in 2013. Her recently completed projects include the Heydar Aliyev Centre in Baku (2013), Serpentine Sackler Gallery in London (2013), Library & Learning Centre in Vienna (2013), Eli & Edythe Broad Art Museum in Michigan (2012), Galaxy SOHO in Beijing (2012), Pierresvives Library and Archive in Montpellier (2012), CMA CGM Head Office Tower in Marseille (2011), London Aquatics Centre (2011), Riverside Museum in Glasgow (2011), Guangzhou Opera House (2010), Sheikh Zayed Bridge in Abu Dhabi (2010) and MAXXI Museum in Rome (2010). Hadid’s outstanding contribution to the ar-



Image credit: Iwan Baan



Image credit: Iwan Baan

chitectural profession continues to be acknowledged by the world’s most respected institutions including the Forbes List of the World’s Most Powerful Women and the Japan Art Association presenting her with the ‘Praemium Imperiale’. In 2010 and 2011, her designs were awarded the Stirling Prize, one of architecture’s highest accolades, by the Royal Institute of British Architects. Other recent awards include UNESCO naming Hadid as an ‘Artist for Peace’, the Republic of France honouring Hadid with the ‘Commandeur de l’Ordre des Arts et des Lettres’, TIME magazine included her in their list of the ‘100 Most Influential People in the World’ and in 2012, Zaha Hadid was made a Dame Commander of the Order of the British Empire by Queen Elizabeth II.

AWARD

2014 ACADIA AWARD OF TEACHING EXCELLENCE



Neil Gershenfeld
Director of MIT’s Center for Bits and Atoms

Prof. Neil Gershenfeld is the Director of MIT’s Center for Bits and Atoms. His unique laboratory is breaking down boundaries between the digital and physical worlds, from creating molecular quantum computers to virtuosic musical instruments. Technology from his lab has been seen and used in settings including New York’s Museum of Modern Art and rural Indian villages, the White House and the World Economic Forum, inner-city community centers and automobile safety systems, Las Vegas shows and Sami herds. He is the author of numerous technical publications, patents, and books including Fab, When Things Start To Think, The Nature of Mathematical Modeling, and The Physics of Information Technology, and has been featured in media such as The New York Times, The Economist, NPR, CNN, and PBS. He is a Fellow of the American Physical Society, has been named one of Scientific American’s 50 leaders in science and technology, as one of 40 Modern-Day Leonardos by the Museum of Science and Industry, one of Popular Mechanic’s 25 Makers, has been selected as a CNN/Time/Fortune Principal Voice, and by Prospect/Foreign Policy as one of the top 100 public intellectuals. Dr. Gershenfeld has a BA in Physics with High Honors from Swarthmore College, a Ph.D. in Applied Physics from Cornell University, honorary doctorates from Swarthmore College and Strathclyde University, was a Junior Fellow of the Harvard University Society of Fellows, and a member of the research staff at Bell Labs.

Research advances by Dr. Gershenfeld and his students and colleagues working at the boundary between physical science and computer science include: one of the first complete quan-

tum computations, using nuclear spins in molecules; microfluidic bubble logic, with bits that transport materials as well as information; physical one-way cryptographic functions , implemented by mesoscopic light scattering; noise-locked loops that entrain on codes, which led to analog logic integrated circuits that use continuous device dynamics to solve digital problems; asynchronous logic automata to align hardware with software; Internet 0 for interdevice internetworking; microslot probes for ultra-small-sample structural studies; integrated 6-axis inertial measurement based on the dynamics of trapped particles; charge source tomography for electric field imaging and intra-body signaling; electropermanent actuators for high torque at low RPM with static holding; and additive assembly of functional digital materials that can be used in ultralight structures.

He is the originator of the growing global network of field fab labs that provide widespread access to prototype tools for personal fabrication, and directs the Fab Academy, the associated program for distributed research and education in the principles and practices of digital fabrication.

He has done keynote presentations for events including TED, EDUCAUSE, the ACM/IEEE Conference on Supercomputing, IEDM, NSF, the Library of Congress, the White House, Etech, APMM, Nano-Nets, NIP, and PICNIC.

He’s played the bassoon, ski patrolled and raced, and swam competitively.

AWARD

2014 ACADIA DIGITAL PRACTICE AWARD OF EXCELLENCE



Jenny Sabin
Cornell University
College of Architecture, Art, and Planning

Jenny Sabin's work is at the forefront of a new direction for 21st century architectural practice — one that investigates the intersections of architecture and science, and applies insights and theories from biology and mathematics to the design of material structures. Sabin is Assistant Professor in the area of Design and Emerging Technologies in the Department of Architecture at Cornell University. She is principal of Jenny Sabin Studio, an experimental architectural design studio based in Philadelphia and Director of the Sabin Design Lab at Cornell AAP, a hybrid research and design unit with specialization in computational design, data visualization and digital fabrication. Sabin's clients and funders include companies and foundations such as Nike Inc., the National Science Foundation, the American Philosophical Society Museum, the Exploratorium and the Frac Centre. She is co-founder of LabStudio, a hybrid research and design network, together with Peter Lloyd Jones. Sabin holds degrees in ceramics and interdisciplinary visual art from the University of Washington and a master of architecture from the University of Pennsylvania where was awarded the AIA Henry Adams first prize medal and the Arthur Spayd Brooke gold medal for distinguished work in architectural design, 2005. Sabin was awarded a Pew Fellowship in the Arts 2010 and was named a USA Knight Fellow in Architecture, 1 of 50 artists and designers awarded nationally by US Artists. She was recently awarded the prestigious Architectural League Prize for Young Architects by the Architectural League of New York. She has exhibited nationally and internationally most recently at Nike Stadium NYC, the American Philosophical Society Museum and at Ars Electronic, Linz, Austria. Her

work was recently exhibited in the internationally acclaimed 9th ArchiLab titled Naturalizing Architecture at FRAC Centre, Orleans, France. Her work has been published extensively including in The Architectural Review, Azure, A+U, Mark Magazine, 306090, 10+1, ACM, American Journal of Pathology, Science, the New York Times, Wired Magazine and various exhibition catalogues and reviews. She co-authored Meander, Variegating Architecture with Ferda Kolatan.

AWARD

2014 ACADIA SOCIETY AWARD OF EXCELLENCE



Nancy Yen-wen Cheng
Associate Professor, University of Oregon

Associate Professor Nancy Yen-wen Cheng, RA, LEED AP teaches sustainable architectural design and digital methods at the University of Oregon, where she directed the Architecture Department's Portland Program 2009-2013. Interest in how individuals think and interact has driven her design research and teaching. She studies how tools and approaches shape the design process, focusing on digital technology as a nexus for innovation and cultural change. She is interested in maximizing creative engagement through tactile processes such as sketching and material manipulation, then refining ideas through computation.

To research the physical-digital design process, she has been focusing on light and shadow. Her Shaping Light project explores how shading devices with undulating surfaces can block heat and glare while using the sun's movement to create dynamic visual interest. As a Visiting Associate Professor at the RMIT University in Melbourne (Spring 2014), she collaborated with the Spatial Information Architecture Lab to examine the cooling potential of folding surfaces using parametric design, solar simulation and digital fabrication. While on sabbatical 2013-14, she gave lectures and workshops in China, India, Australia and Germany, supervising students to create two light and shadow installations for the Wuhan 403 International Arts Center.

In an earlier study of drawing as a source of insight into the conceptual design process, Cheng used a digital pen that stores animations to reveal processes of abstraction, speculation and decision-making. She has presented the progress of her Digital Sketching project in the International Journal of

Architectural Computing and at conferences abroad. She has also conducted workshops on digital sketching for universities and for professional organizations on design communication. This project, which grew out of an earlier investigation of ways to gather, analyze, and represent ideas about place, was awarded competitive grants from the Northwest Academic Computing Consortium, Logitech Corporation, and Intel's Research and Development Arts and Entertainment Division.

She has used online technology to bring in global experts, to strengthen the local learning community and connect to remote clients. From 2008-2011, UO Academic Affairs supported her work with Business, Arts Administration and Education colleagues and the Inter/National Coalition for Electronic Portfolio Research on using Web 2.0 tools to support the development of student reflection, collaboration and communication skills. A complement to online partnerships, Cheng has organized and directed global study programs in Shanghai, Rome, and Hong Kong.

Before joining the faculty at the University of Oregon, Cheng held posts as a visiting scholar at the Massachusetts Institute of Technology and a lecturer at the University of Hong Kong, where she received research support for projects exploring spatial visualization. She also worked for a decade for architecture firms in Massachusetts, including Kallmann McKinnell & Wood Architects, Tams Consultants, Inc., CBT, Inc., Graham/Meus Inc., and Raphael Moneo & Associates. Cheng activities as a designer include a series of lighting installations and collaboration on a design competition entry that was awarded a Gold Medal for Environmental Sensitivity in 2000.

Cheng has been the President of the Association of Computer Aided Design in Architecture (ACADIA) from 2009-2011 and chaired the national AIA's Technology In Architectural Practice knowledge community. She has guest-edited three issues of the International Journal of Architectural Computing and co-chaired the AIA-TAP/ACADIA 2004 Conference on Fabrication. She has served on the ACADIA Steering Committee and research review committees for ACADIA (North American), CAADRIA (Asian), ECAADE (European), SiGRADi, ASCAAD (Arab) computer-aided architectural design groups, and the Association of Collegiate Schools of Architecture. She has also served on the jury of the Far Eastern International Digital Architectural Design award for several years and has acted as a grant reviewer for the Hong Kong Research Grants Council and the American Association for the Advancement of Science. As a double major in Architecture and Mechanical Engineering, she graduated with honors from Yale University, and then received her M.Arch. from Harvard Graduate School of Design where was a teaching assistant for William J. Mitchell.

AWARD

2014 ACADIA INNOVATIVE RESEARCH AWARD OF EXCELLENCE



Martin Bechthold

Director Harvard Graduate School of Design - Technology Platform

Martin Bechthold is Professor of Architectural Technology at the Graduate School of Design (Harvard University), director of the Material Processes and Systems Group, and director of the GSD’s Doctor of Design Program. Bechthold’s interdisciplinary research on material systems investigates and develops novel strategies and solutions for construction at multiple scales. Current projects explore design robotics and strategic customization for architectural ceramics, and contribute to integrating questions of life cycle design into sustainable building design. He co-leads the interdisciplinary Adaptive Living Environments (ALivE) group, a research collaboration between the Harvard Graduate School of Design and scientist from the Wyss Center for Biologically Inspired Engineering. The group is developing new adaptive material systems based on nano-technologies. Recent work has led to several inventions and publications of novel material systems focused on enhancing building performance and occupant’s experiences. The Wyss Institute recently appointed Bechthold as Associate Faculty

Bechthold is the co-author of “Structures” and “Computer-Aided Design and Manufacturing” as well as the author of “Innovative Surface Structures”, a book that addresses the increasing conflation of structural design and digital fabrication techniques through the microcosm of thin shells and membranes. His forthcoming book will be the first comprehensive review of innovation in ceramic construction systems. Bechthold holds a doctor of design degree from Harvard University, and a Diplom-Ingenieur in Architecture degree from the RWTH Aachen, Germany.

AWARD

2014 ACADIA INNOVATIVE ACADEMIC PROGRAM AWARD OF EXCELLENCE



Scott R. Marble

Director of Integrated Design Graduate School of Architecture, Planning and Preservation, Columbia University

Scott Marble is a founding partner of Marble Fairbanks and a faculty member at the Columbia University Graduate School of Architecture, Planning, and Preservation (GSAPP). He is the Director of Integrated Design at the GSAPP and is currently Director of the Integrated Design Studios for The Columbia Building Intelligence Project (CBIP). The work of Marble Fairbanks is widely published internationally, has received numerous design awards and is part of the permanent collection of the Museum of Modern Art in New York. In 2008, the MoMA commissioned their project, Flatform for the exhibition Home Delivery: Fabricating the Modern Dwelling. Their most recently completed project, Glen Oaks Library, was selected as both the Public Choice and the Editor’s Choice for American-Architects Building of the Year 2013. Scott recently completed a new book, Digital Workflows in Architecture: Design / Assembly / Industry published by Birkhäuser.

LOCAL INFO



LOCAL INFO

HOTELS

Registrants are responsible for booking their rooms individually. Please refer to the hotel websites for cancellation policies and other information.

Radisson Midtown USC
3540 South Figueroa Street, Los Angeles, CA 90007
Distance from conference: 0.4 miles (8 min walk)
Phone: 1-800-333-3333

Vagabond Inn at USC
3101 South Figueroa Street, Los Angeles, CA 90007
Distance from conference: 0.7 miles (14 min walk)
Phone: 213-746-1531

ACE Hotel Downtown LA
929 South Broadway, Los Angeles, CA 90015
Distance from conference: 2.8 miles (14 min walk to Pico Metro Station - 3 stops from USC)
Phone: 213-842-3579

Standard Downtown LA
550 South Flower, Los Angeles, CA 90071
Distance from conference: 3.3 miles (3 min walk to 7th St. Metro Station - 4 stops from USC)
Phone: 213-892-8080

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700 S Grand Ave
Los Angeles, CA 90017

Mo Chica
514 W 7th St
Los Angeles, CA 90014

Baco Mercat
408 S Main St
Los Angeles, CA 90013

Maccheroni Republic
332 S Broadway
Los Angeles, CA 90013

LOS ANGELES, CA 90012 RECOMMENDED ARCHITECTURAL SIGHTS IN DTLA

Walt Disney Concert Hall by Frank Gehry
111 S Grand Ave, Los Angeles, CA 90012

Caltrans Building by Morphosis
100 S Main St, Los Angeles, CA 90012

Cathedral of Our Lady of the Angels by Raphael Moneo
555 W Temple St, Los Angeles, CA 90012

High School #9 by Coop Himmelb(l)au
50 N Grand Ave, Los Angeles, CA 90012

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304 S Broadway, Los Angeles, CA 90013

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720 Kohler St, Los Angeles, CA 90021

Millennium Biltmore Hotel by John Portman
506 S Grand Ave, Los Angeles, CA 90071

ABOUT ACADIA

ACADIA MISSION

ACADIA is an international network of digital design researchers and professionals. We facilitate critical investigations into the role of computation in architecture, planning, and building science, encouraging innovation in design creativity, sustainability, and education.

ACADIA MEMBERSHIP

ACADIA is a community and we rely on the support and participation of our members to thrive. As a member of the ACADIA, you gain access to a large network of experts throughout the world and the innovative research they have produced through papers and projects.

ACADIA ACTIVITIES

Conferences

ACADIA holds an annual conference each year in North America in conjunction with a host university. The conference brings together the top experts in the field of design computing for peer-reviewed presentations of papers, projects and special exhibitions. In addition, workshops related to various innovative design softwares and techniques are held prior to the annual conference. In 2011, ACADIA began supporting regional conferences. Click here for more information on past conferences or information on hosting a future conference.

Awards, Grants, and Scholarships

Inaugurated in 1998, the ACADIA Award of Excellence represents recognition, by colleagues worldwide, of consistent contributions and impact on the field of architectural computing. There are several categories of awards covering emerging practice, research, teaching, academic programs, and service to the community. ACADIA also awards grants to help support innovative research within the field and scholarships for students. Click here to learn more about our Awards, Grants, and Scholarships.

Publications

Each year ACADIA publishes Proceedings from the annual conference. These publications gather together the most innovative research papers and projects from the design computation community. In addition, ACADIA is one of the four founding organizations that support the International Journal of Architectural Computing (IJAC).

Website

The ACADIA website serves as the central hub of the community. Members are encouraged to post News , Papers , and Projects. In addition, ACADIA produces a series of online Features on a range of topics of interest to the design computing community.

ACADIA History

ACADIA was founded in 1981 by some of the pioneers in the field of design computation including Bill Mitchell, Chuck Eastman, and Chris Yessios (see full list of founders in the Bylaws section 1.2). Since then, ACADIA has hosted over 30 conferences across North America and has grown into a strong network of academics and professionals in the design computation field.

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ACADIA 2014 DESIGN AGENCY

The ACADIA2014: DESIGN AGENCY conference will be held in Los Angeles California at the USC School of Architecture on October 23-25, 2014.

DESIGN AGENCY will bring together the spectrum of research and creative practice currently occurring within the ACADIA community through the combined support of the research networks of the University of Southern California, University of California Los Angeles and Southern California Institute of Architecture. The conference is a critical step towards the achievement of a common goal.

ACADIA is an international network of digital design researchers and professionals. ACADIA supports critical investigations into the role of computation in architecture, planning, and building science, encouraging innovation in design creativity, sustainability, and education. The conference is a critical step towards the achievement of a common goal of the Association for Computer Aided Design in Architecture.



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