

ACADIA 2012 Conference _ Synthetic Digital Ecologies _ San Francisco

SESSION INFORMATION FOR PRESENTERS

Dear ACADIA 2012 Presenters,

We look forward to seeing you soon at ACADIA 2012 in San Francisco. We are asking all conference presenters to upload their final presentations within the coming week. As each session will have a combination of full paper presentations, work-in-progress presentations, and project presentations, it is important to have your Powerpoint presentations in advance to streamline the sessions.

We also ask that you time your presentations accordingly:

18-20 minutes for Full Paper presentations

8-10 minutes for Work-in-Progress presentations

4-5 minutes for Project presentations

Please see the Powerpoint guidelines below. Your presentation must be **uploaded by Sunday, October 14 at 12am PST**. An upload link will be provided to you by email shortly..

We also encourage you to take a look at the recently updated schedule:

<http://2012.acadia.org/schedule.html>. As a courtesy we also ask that you e-mail the Chairs (acadia.conf.2012@gmail.com) ASAP if you will **NOT** be able to present at ACADIA 2012 for any reason!

POWERPOINT GUIDELINES

- 1. Powerpoint:** Please save your presentation as a Powerpoint .ppt, .pptx or .ppsx file. (Note: Keynote, PDF or other formats will not be accepted. You will have an opportunity before your session to confirm that your slides are working correctly, etc.)
- 2. File Naming:** Please refer to the "Session Details for Presenters" in the schedule below to locate your Session # and Presentation Letter. Please name your file accordingly: "session5a_presenterslastname.ppt" or "session5b_presenterslastname.ppt", etc.
- 3. Embed Fonts:** Within Powerpoint go to "File" > "Options" > "Save" > "Embed Fonts in this File" (select "Embed on Characters used in this presentation").
- 4. 4:3 Projection Ratio:** The projectors used at ACADIA 2012 will have a 4:3 ratio with a 1024x768 resolution or bigger. Within Powerpoint go to "Design" > "Page Setup" > "Slides Sized for: Onscreen Screen Show (4:3)".
- 5. Movies / Sound:** .WMV or .MOV or .AVI generally work the best.
- 6.** We recommend that you save your presentation as a packaged presentation by using the "File" > "Save As" > "PowerPoint Show" (.ppsx). This will make it transportable from one computer to the next.

OVERALL CONFERENCE SESSION SCHEDULE

SESSIONS 01, 02, 03 will take place on:

Thursday, Oct 18, 2012 @ UCSF Mission Bay
Fisher Banquet Room, Main Floor
1675 Owens Street, San Francisco, CA

SESSIONS 04, 05, 06 will take place on:

Friday, Oct 19, 2012 @ UCSF Mission Bay
Fisher Banquet Room, Main Floor
1675 Owens Street, San Francisco, CA

SESSIONS 07, 08, 09, 10 will take place on:

Saturday, Oct 20, 2012 @ CCA San Francisco
Main Nave and Timken Lecture Hall
1111 8th St, San Francisco, CA

SESSIONS 11, 12 will take place on:

Sunday, Oct 21, 2012 @ CCA San Francisco
Main Nave and Timken Lecture Hall
1675 Owens Street, San Francisco, CA

Location maps can be found here: <http://2012.acadia.org/hotels.html>

Session 1. Performative Parametrics (*Moderator: Kyle Steinfeld, UC Berkeley*)

With the ubiquity of parametric design, greater emphasis is now placed on analytical feedback between real world data and digital design parameters. Research presented here links analysis - quantifying structural, energy, and even financial data - with design intuition.

a. softBIM: An Open Ended Building Information Model in Design Practice

Gustav Fagerström, Marc Hoppermann, Nuno Almeida, Martin Zangerl, Stefano Rocchetti, Ben Van Berkel

b. Progress Towards Multi-criteria Design Optimisation Using DesignScript with SMART Form, Robot Structural Analysis and Ecotect Building Performance Analysis

Robert Aish, Al Fisher, Sam Joyce, Andrew Marsh

c. Parallel Development of Parametric Design Models Using Subjunctive Dependency Graphs

Naghmi Shireen, Halil Erhan, David Botta, Robert Woodbury

d. Project Presentation: Dynamic Support Steel + Connection Design Methods: A Case Study Under Construction

Reese Campbell, Demetrios A Comodromos, RA., David Stasiuk

e. Synthesizing Design Performance: An Evolutionary Approach to Multidisciplinary Design Search

Dr. David Jason Gerber and Shih-Hsin "Eve" Lin

*** Session 1 Duration: 0 WIP (0 mins) + 4 Full papers(80 mins) + 1 Project (5mins) + Discussion (20mins) = 105 mins

Panel 1. SOFTWARE FUTURES PANEL

Presentation Order: Robert Aish, Brian Lilley, Reg Prentice, Andrew Kudless

Moderated by: Nancy Cheng

Session 2. Material Intensities (*Moderator: Mark Cabrinha, Cal Poly San Luis Obispo*)

This category presents research that explores active modeling approaches which develop extensive geometry from intensive energies, and seek to understand materiality not simply in terms of metrics and tables, but through key relationships that affect architectural performance.

a. Graded Territories: Towards the Design, Specification and Simulation of Materially Graded Bending Active Structures (Full Paper)

Paul Nicholas, Martin Tamke, Mette Thomsen, Hauke Jungjohann, Ivan Markov

b. Generation and Integration of an Aerodynamic Performance Data Base within the Concept Design Phase of Tall Building (Full Paper)

David Menicovich, Daniele Gallardo, Riccardo Bevilaqua, Jason Vollen

c. Work-in-Progress: Material Intensities

Demetrios A Comodromos, RA., Jefferson Ellinger, RA.

d. Project Presentation: Manta: A Reactive Acoustic Surface

Seth Edwards, Zackery Belanger, Guillermo Bernal, Eric Ameres

e. Ceramic Perspiration: Multi-scalar Development of Ceramic Material (Full Paper)

Brian Lilley, Roland Hudson, Kevin Plucknett, Rory Macdonald, Nancy Yen-Wen Cheng, Stig Anton Nielsen, Olympia Nouska, Monika Grinbergs, Stephen Andematten, Kyle Baumgardner, Clayton Blackman, Matthew Kennedy, Monthira Chatinthu, Dai Tianchen, Chen Sheng-Fu

*** Session 2 Duration: 1 WIP (10 mins) + 3 Full papers(60 mins) + 1 Project (5mins) + Discussion (20mins) = 95 mins

Session 3. Responsive Material Systems (*Moderator: Thom Faulders, CCA*)

Often beginning with experiments conducted at full scale, works presented in this category focus on constructing a digital to physical feedback loop, and suggest a synthetic relationship between formal morphology and material behavior.

a. Digital Steam Bending: Re-Casting Thonet through Digital Techniques

Steven Mankouche, Joshua Bard, Matthew Schulte

b. Process through Practice: Synthesizing a Novel Design and Production Ecology

Jane Burry, Mark Burry, Martin Tamke, Mette Ramsgard Thomsen, Phil Ayres, Alex Pena de Leon, Daniel Davis, Abders Deleuran, Stig Nielson, Jacob Riiber

c. Work-in-Progress: Low Fidelity

Erin Besler

d. Project Presentation: Unnatural Materials

Virginia San Fratello, Ronald Rael

e. Emergent Reefs

Alessio Erioli, Alessandro Zomparelli

*** Session 3 Duration: 1 WIP (10 mins) + 3 Full papers(60 mins) + 1 Project (5mins) + Discussion (20mins) = 95 mins

Session 4. Robotic Constructions (*Moderator: Bill Kreysler, Kreysler Associates*)

The introduction of industrial robots in architectural production represents not only the next step in computer aided manufacturing, but potentially enables a systematic intertwining of the design to production loop linking material behavior and the tectonics of assembly.

a. Machinic Morphospaces: Biomimetic Design Strategies for the Computational Exploration of Robot Constraint Spaces for Wood Fabrication

Tobias Schwinn, Oliver David Krieg, Achim Menges, Boyan Mihaylov, Steffen Reichert

b. In-Situ Robotic Construction: Extending the Digital Fabrication Chain in Architecture

Volker Helm, Selen Ercan, Fablo Gramazlo, Matthias Kohler

c. Work-in-Progress: Digital Vernacular

Lin Mei-Ling, Ling Han, Shankara Kothapuram, Song Jiawei

d Project Presentation: Flowing Matter: Robotic Fabrication of Ceramic Systems - Explorations in Geometry and Material Behaviour

Aurgho Jyoti, Stefano Andreani, Jose Luis Garcia del Castillo, Nathan King, Prof. Martin Bechthold

e. Morphfaux: Probing the Proto-synthetic Nature of Plaster through Robotic Tooling

Steven Mankouche, Joshua Bard, Matthew Schulte

*** Session 4 Duration: 1 WIP (10 mins) + 3 Full papers(60 mins) + 1 Project (5mins) + Discussion (20mins) = 95 mins

Session 5. Structural Formations *(Moderator: Andrew Kudless, CCA)*

Research presented in this category employs computational workflows to create feedback between empirical experimentation, and digital / analog form-finding. Projects detailed here combine a rational yet expressive logic in the formation of structural solutions.

- a. Zero-Waste, Flat Packed, Tri-chord Truss: Continued Investigations of Structural Expression in Parametric Design
Chris Beorkrem, Dan Corte
- b. A Method for the Realization of Complex Concrete Gridshell Structures in Pre-cast Concrete
Niels Martin Larsen, Ole Egholm Pedersen and Dave Pigram
- c. Work-in-Progress: Parametric Precast Concrete Panel System
Brad Bell
- d. Work-in-Progress: Fabricating Sustainable Concrete Elements: A Physical Instantiation of the Marching Cubes Algorithm
Jesse Jackson, Luke Stern
- e. Project Presentation: Cutwork: Robotic Hotwire Foam Cutting for Producing Variable Pre-Cast Building Units
Glenn Wilcox, Anca Trandafirescu
- f. Digital Plaster: A Prototypical Design System
Stella Dourtme, Claudia Ernst, Manuel Jimenez Garcia, Roberto Garcia

*** Session 5 Duration: 2 WIP (20 mins) + 3 Full papers(60 mins) + 1 Project (5mins) + Discussion (20mins) = 95 mins

Session 6. Energetic Assemblies *(Moderator: Hugh Hynes, CCA)*

Building assemblies do not simply develop from their intrinsic tectonics, but as energetic expressions of the environment in which they are assembled. This research demands a reconsideration of the natural - artificial separation, from an architecture that is insulated from the environment to one that is actively intertwined with it.

- a. Re-Framing Architecture for Emerging Ecological and Computational Design Trends for the Built Ecology
Kelly Winn, Jason Vollen, Anna Dyson
- b. The Greenhouse & Cabinet of Future Fossils: Interfacing Nature in the Built Environment
Jenny E. Sabin
- c. Work-in-Progress: Smart Disassembly or: How I Learned to Take Things Apart
Thomas Kelley, Sarah Blankenbaker
- d. Project Presentation: Gleaned Sukkah
Christine Yogiama, Ken Tracy, Forrest Fulton
- e. Architecture of an Active Context
Sean Lally

*** Session 6 Duration: 1 WIP (10 mins) + 3 Full papers(60 mins) + 1 Project (5mins) + Discussion (20mins) = 95 mins

Session 7. Material Feedback *(Moderator: Ron Rael, , UC Berkeley)*

Moving beyond the familiar divide between formal expression and the intrinsic behavior of materials, this session examines the application of information technology applied to fabrication and construction, and asks if recent advances have fundamentally destabilized the separation of formal exuberance and material expression.

- a. Glass Cast: A Reconfigurable Tooling System for Free-form Glass Manufacturing
Wes McGee, Catie Newell and Aaron Willette

- b. Functionally Graded Aggregate Structures: Digital Additive Manufacturing with Designed Granulates
Karola Dierichs, Achim Menges

- c. Project Presentation: Sand Tectonic Prototype
Ahmed Abouelkheir, Behdad Shahi, Ji-Ah Lee, Peter Wong

- d. Project Presentation: Digital Plaster
Stella Dourtme, Claudia Ernst, Manuel Jimenez Garcia, Roberto Garcia

- e. Work-in-Progress: Tectonic Tessellations: A Digital Approach to Ceramic Structural Surfaces
Matias Imbern, Felix Raspall, Qi Su

- g. The Digital-Physical Feedback Loop: A Case Study
Jeffrey Kock, Benjamin Bradley, Evan Levelle

*** Session 7 Duration: 1 WIP (10 mins) + 4 Full papers(80 mins) + 1 Project (5mins) + Discussion (20mins) = 115 mins

Session 8. Dynamic Responses *(Moderator: Nicholas DeMonchaux, , UC Berkeley)*

Static models of the world are generally incapable of addressing the temporal dynamics essential to a synthetic approach to design. The research presented here endeavors to bend these static methods into processes capable of addressing a range of dynamic phenomena.

- a. Design Systems, Ecology and Time
Angelos Chronis, Martha Tsigkari, Adam Davis, Francis Aish

- b. Reactive Light Design in the 'Laboratory of the Street'
Esben Skouboe Poulsen, Hans Jørgen Andersen

- c. Work-in-Progress: Synchronous Horizons: Redefining Spatial Design in Landscape Architecture through Ambient Data Collection and Volumetric Manipulation
James Melsom, Luis Fraguada, Christophe Girot

- d. Project Presentation: PLIS / REPLIS
Hyoung-Gul Kook, Ali Momeni, Robin Meier

- e. Project Presentation: Green Negligee: A Sustainable Approach to Adaptive Reuse of the Eastern European Housing Block***
Dana Cupkova, Kevin Pratt

- f. Formal and Functional Implications of Dynamics-Related Solar Design-Schemes
Michele Leidi, Arno Schlüter

*** Session 8 Duration: 1 WIP (10 mins) + 3 Full papers(60 mins) + 2 Project (5mins) + Discussion (20mins) = 100 mins

Session 9. Performative Geometries *(Moderator: Branko Kolarercvic, U. of Calgary)*

Work presented here explores the ecology of architectural production by transferring techniques and discoveries from disciplines both adjacent to architectural design and those further afield. A focus on the performance of specific geometries binds these disparate fields, and unifies the full-scale applied research.

a. The Self-Assembly Line
Skylar Tibbits

b. Design Ecologies for Responsive Environments: Resonant Chamber, an Acoustically Performative System
Geoffrey Thün, Kathy Velikov, Lisa Sauvé, Wes McGee

c. The Forbidden Symmetries
Rima Ajlouni

d. Work-in-Progress: An Exploration into Computational Optimization for Motive Architecture
Ryan Mehann, Elite Sher

e. Project Presentation: Sartorial Tectonics: Installation for The Hyde Collection
Andrew Saunders, Ted Ngai

f. Project Presentation: Dragon Skin Pavilion
Kristof Crolla, Sebastien Delagrangre, Emmi Keskisarja and Pekka Tynkkynen

g. Implicit Fabrication- Fabrication beyond Craft: the Potential of Turing Completeness in Construction
Jelle Feringa

*** Session 9 Duration: 1 WIP (10 mins) + 4 Full papers(80 mins) + 2 Project (10mins) + Discussion (20mins) = 120 mins

Session 10. Emerging Interfaces *(Moderator: Yehuda Kalay, UC Berkeley / Technion)*

Research presented here questions the standard human-computer interface, suggesting a potential bridging of the digital-physical divide into a more synthetic and sensory experience. It combines the tacit knowledge contained in our everyday gestures with the analytical power of computation.

a. 3D Virtuality Sketching: Interactive 3D-Sketching Based on Real Models in a Virtual Scene
Gerhard Schubert, Eva Artinger, Violin Yanev, Gudrun Klinker, Frank Petzold

b. Dancing on the Desktop
Chih-Pin Hsiao, Nicholas M. Davis, Ellen Yi-Luen Do

c. Work-in-Progress: Crowdsourcing Architecture: A Disruptive Model in Architectural Practice
Imdat As, Maria Angelico

d. Project Presentation: IM BLANKY
Carol Moukheiber, Christos Marcopoulos, and Rodolphe el-Khoury

e. Conventions of Control: A Catalogue of Gestures for Remotely Interacting with Dynamic Architectural Space
Michael Fox, Allyn Polancic

*** Session 10 Duration: 1 WIP (10 mins) + 3 Full papers(60 mins) + 1 Project (5mins) + Discussion (20mins) = 95 mins

Panel 1. DATA-DRIVEN: EMERGING SOFTWARE TRAJECTORIES (AIA TAP)

Presentation Order: Nathan Miller, Satoru Sugihara, Kimon Onuma, TBA

Moderated by: David Scheer

Session 11. Synthetic Optimizations *(Moderator: David Gerber, USC)*

Experimental design methods and tools represent not only the expanding role that quantitative methods have begun to play in experimental practice, but also suggest the emergence of a new aesthetic of the optimal.

a. Adaptive Distributed Architectural Systems

Dino Rossi, Zoltan Nagy, Arno Schlueter

b. Weighted Metrics: Synthesizing Elements for Tall Building Design

David Shook, Mark Sarkisian

e. Conditioning Elegance: A Design Experiment on Intuition and Analysis

Emmanouil Vermissou

c. Work-in-Progress: An Integral Approach to Structural Optimization and Fabrication

Jelle Feringa, Asbjørn Søndergaard

d. Project Presentation: Learning from Candela

Alicia Nahmad, Shajay Bhooshan, Joshua Zabel, Knut Brunier, Mustafa El Sayed

f. Performative Topologies: An Evolutionary Shape Optimization Framework for Daylighting Performance Coupling a Particle-Spring System with an Energy Simulation Tool

Giulio Castorina

*** Session 11 Duration: 1 WIP (10 mins) + 4 Full papers(80 mins) + 1 Project (5mins) + Discussion (20mins) = 105 mins

Session 12. Collaborative Ecologies *(Moderator: Nataly Gattegno, CCA)*

This category explores the boundaries of collaborative design frameworks in order to address problems encountered when designing at scales beyond those within reach of traditional architectural design processes.

a. A Parametric Multi-criterion Housing Typology

Bryce R. Willis and Timothy L Hemsath

b. Edible Infrastructures: Emergent Organizational Patterns for the Productive City

Darrick Borowski, Nikoletta Poulimeni, Jeroen Janssen

c. Work-in-Progress: Emergent Constructions, Experiments Towards Generative On-site Design and Build Strategies Using Customised Digital Devices

Jeroen van Ameijde, Brendon Carlin, Denis Vlieghe

d. Project Presentation: Architecture Spring Challenge

Andrei Gheorghe (presenting), Bence Pap, Trevor Patt, Irina Bogdan, Clemens Preisinger, Moritz Heimrath

e. A Web-based Geographic Virtual Environment for the Deliberation of Alternative Urban Development Projects Prepared for Brussels

Burak Pak, Johan Verbeke

*** Session 12 Duration: 1 WIP (10 mins) + 3 Full papers(60 mins) + 1 Project (5mins) + Discussion (20mins) = 95 mins

For internal planning purposes only - subject to change:

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Maximum Session Durations

THURS OCT 18

*** Session 1 Duration: 0 WIP (0 mins) + 4 Full papers(80 mins) + 1 Project (5mins) + Discussion (20mins) = 105 mins / 1:45

*** Session 2 Duration: 1 WIP (10 mins) + 3 Full papers(60 mins) + 1 Project (5mins) + Discussion (20mins) = 95 mins / 1:35

*** Session 3 Duration: 1 WIP (10 mins) + 3 Full papers(60 mins) + 1 Project (5mins) + Discussion (20mins) = 95 mins / 1:35

FRI OCT 19

*** Session 4 Duration: 1 WIP (10 mins) + 3 Full papers(60 mins) + 1 Project (5mins) + Discussion (20mins) = 95 mins / 1:35

*** Session 5 Duration: 2 WIP (20 mins) + 3 Full papers(60 mins) + 1 Project (5mins) + Discussion (20mins) = 95 mins / 1:35

*** Session 6 Duration: 1 WIP (10 mins) + 3 Full papers(60 mins) + 1 Project (5mins) + Discussion (20mins) = 95 mins / 1:35

SAT OCT 20

*** Session 7 Duration: 1 WIP (10 mins) + 4 Full papers(80 mins) + 1 Project (5mins) + Discussion (20mins) = 115 mins / 1:55

*** Session 8 Duration: 1 WIP (10 mins) + 3 Full papers(60 mins) + 2 Project (5mins) + Discussion (20mins) = 100 mins / 1:40

*** Session 9 Duration: 1 WIP (10 mins) + 4 Full papers(80 mins) + 2 Project (10mins) + Discussion (20mins) = 120 mins / 2:00

*** Session 10 Duration: 1 WIP (10 mins) + 3 Full papers(60 mins) + 1 Project (5mins) + Discussion (20mins) = 95 mins / 1:35

SUN OCT 21

*** Session 11 Duration: 1 WIP (10 mins) + 4 Full papers(80 mins) + 1 Project (5mins) + Discussion (20mins) = 105 mins / 1:45

*** Session 12 Duration: 1 WIP (10 mins) + 3 Full papers(60 mins) + 1 Project (5mins) + Discussion (20mins) = 95 mins / 1:35