Environmental Feedback and Spatial Conditioning

Foged, Isak Worre; Skouboe, Esben Bala

Published in:
ACADIA 2010 Life In:Formation

Publication date:
2010

Document Version
Early version, also known as pre-print

Link to publication from Aalborg University

Citation for published version (APA):
**LIFE in:formation**

*On Responsive Information and Variations in Architecture*

Proceedings of the 30th Annual Conference of Association for Computer Aided Design in Architecture, ACADIA

**Editors:**

Aaron Sprecher  
Shai Yeshayahu  
Pablo Lorenzo-Eiroa

**Conference Chairs:**

Aaron Sprecher, *McGill University, Montreal*  
Shai Yeshayahu, *Southern Illinois University*  
Pablo Lorenzo-Eiroa, *The Cooper Union, New York*

**Exhibition Chairs:**

Chandler Ahrens, *Founding Partner Open Source Architecture*  
Axel Schmitzberger, *California State Polytechnic University, Pomona*  
Michael Wen-Sen Su, *Pratt Institute*
Table of Contents

Introductions

7  Nancy Yen-wen Cheng
   ACADIA: an Ecosystem for Ideas

8  Aaron Sprecher, Shai Yeshayahu, Pablo Lorenzo-Eiroa
   ACADIA 2010 Conference Chairs
   On Responsive Information and Variations in Architecture

10  Aaron Sprecher
    Informed Architecture

14  Shai Yeshayahu
    Hack-on-Life

16  Pablo Lorenzo-Eiroa
    In:forming a Critical Digital Architecture
    Autonomy into Life

Keynote Essays

24  Antoine Picon
    Digital Culture and Architecture; Evolution or Revolution

26  Georges Teyssot
    The Membrane and the Fold

32  Karl Chu
    The Global Brain

36  George L. Legendre
    Parametric Surface Redux: IJP (Finally) Explained

40  Evan Douglis
    In Search of Synthetic Immortality

Affluence - Work In Progress

45  Antonino Saggio
    Information is the Raw Material of a New Architecture

49  Alexis Meier
    Computation against design? Toward a New
    Logico-centrism in Architecture

53  Ingeborg M. Rocker
    Interface: Between Analog and Digital Systems

61  Christian Derix
    Mediating Spatial Phenomena through
    Computational Heuristics

67  David Gersten
    Time Promise Land: Notes on our Current Geographies

Affluence - Peer Reviewed Essay Sessions

73  Anijo Punnen Mathew
    Just in Place Learning: A Novel Framework
    for Employing Information in “Place”
    for Urban Learning Environments

81  Carlos L. Marcos
    Complexity, Digital Consciousness and Open Form:
    A New Design Paradigm

88  Kyle Steinfeld, Pravin Bhiaupurkar, Anna Dyson,
    Jason Vollen
    Situated Bioclimatic Information Design: a new Approach
    to the Processing and Visualization of Climate Data

97  Ming Tang, Jonathon Anderson
    Mathematically Driven Forms and Digital Tectonic:
    A Formula for Realizing the Digital

103  Simon Flöry, Helmut Pottmann
    Ruled Surfaces for Rationalization and Design
    in Architecture

110  Antonino Di Raimo
    Caregiver Architecture: Human Body -
    Information - Cognition

117  Joanna Crotch, Robert Mantho, Martyn Horner
    Social Spatial Genesis: Activity Centered Space Making

125  Paul Andersen, David Salomon
    The Pattern That Connects

133  Jong Bum Kim, Mark J. Clayton
    Support Form-based Codes with Building Information
    Modeling – The Parametric Urban Model Case Study

139  Nathan Miller
    [make]SHIFT: Information Exchange and Collaborative
    Design Workflows

145  Danielle Briscoe
    Information Controlled Erosion

151  Achim Menges
    Material Information: Integrating Material Characteristics
    and Behavior in Computational Design
    for Performative Wood Construction
<table>
<thead>
<tr>
<th>Page</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>159</td>
<td>Influence: Notes on Abductive Experimentation</td>
<td>Mohamed Sharif</td>
</tr>
<tr>
<td>164</td>
<td>Application of Life Information in Architecture: Biodigital Architecture and Genetics</td>
<td>Nader Tehrani</td>
</tr>
<tr>
<td>168</td>
<td>Interview: On the Abstraction of Information and the Physical Tectonics of Materials</td>
<td>Mark Linder</td>
</tr>
<tr>
<td>174</td>
<td>Digital Ceramics: Crafts-based Media for Novel Material Expression &amp; Information Mediation at the Architectural Scale</td>
<td>Scott Marble</td>
</tr>
<tr>
<td>183</td>
<td>Influence: Notes for an Archeology of Responsive Environments: The Case of Montreal 1965-1975</td>
<td>Rhett Russo</td>
</tr>
<tr>
<td>190</td>
<td>Minimal Surfaces as Self-organizing Systems</td>
<td>Jennifer G. Wall, Erik D. Hegre</td>
</tr>
<tr>
<td>196</td>
<td>Stigmergic Planning</td>
<td>Vlad Tenu</td>
</tr>
<tr>
<td>203</td>
<td>(In)forming Interactive Architectural Systems, Case of the xMAIA Meta-model</td>
<td>Tomasz Jasikiewicz</td>
</tr>
<tr>
<td>211</td>
<td>A Breathing Building Skin</td>
<td>Scott Crawford</td>
</tr>
<tr>
<td>218</td>
<td>Structure at the Velocity of Architecture</td>
<td>Kermin Chok, Mark Donofrio</td>
</tr>
<tr>
<td>227</td>
<td>Stigmergic Planning</td>
<td>Flora Dilys Salim, Hugo Mulder, Przemyslaw Jaworski</td>
</tr>
<tr>
<td>234</td>
<td>Demonstrating an Open Platform for Tangible and Social Interactions with Responsive Models</td>
<td>Nicholas de Monchaux, Shivang Patwa, Benjamin Golder, Sara Jensen, David Lung</td>
</tr>
<tr>
<td>243</td>
<td>Performative Responsive Architecture Powered by Climate</td>
<td>Anke Pasold, Isak Worre Foged</td>
</tr>
<tr>
<td>250</td>
<td>Environmental Feedback and Spatial Conditioning</td>
<td>Isak Worre Foged, Esben Skouboe Poulsen</td>
</tr>
<tr>
<td>258</td>
<td>Embedded Intelligence: Material Responsiveness in Façade Systems</td>
<td>Christina Doumpioti, Evan L. Greenberg, Konstantinos Karatzis</td>
</tr>
<tr>
<td>263</td>
<td>Responsive Shading</td>
<td>Intelligent Façade Systems</td>
</tr>
<tr>
<td>271</td>
<td>Notes on Abductive Experimentation</td>
<td>Mohamed Sharif</td>
</tr>
<tr>
<td>276</td>
<td>Interview: On the Abstraction of Information and the Physical Tectonics of Materials</td>
<td>Nader Tehrani</td>
</tr>
<tr>
<td>282</td>
<td>Literal Digital</td>
<td>Mark Linder</td>
</tr>
<tr>
<td>286</td>
<td>Designing Design, Designing Assembly, Designing Industry</td>
<td>Scott Marble</td>
</tr>
<tr>
<td>293</td>
<td>The Limits of Digital Architecture: Interpretation versus Data</td>
<td>David Theodore</td>
</tr>
<tr>
<td>299</td>
<td>Information as Material: Data Processing and Digital Fabrication Technologies</td>
<td>Rhett Russo</td>
</tr>
<tr>
<td>305</td>
<td>Anticipatory Architecture</td>
<td>Extrapolative Design</td>
</tr>
<tr>
<td>313</td>
<td>Parametric Propagation of Acoustical Absorbers</td>
<td>Pablo Banda</td>
</tr>
<tr>
<td>320</td>
<td>(In)forming Interactive Architectural Systems, Case of the xMAIA Meta-model</td>
<td>Vinu Subashini Rajus, Robert Woodbury, Halil I. Erhan, Bernhard E. Riecke, Volker Mueller</td>
</tr>
<tr>
<td>327</td>
<td>Interactive Teaching through Simulation Environments</td>
<td>Shahin Vassigh, Silvana Herrera</td>
</tr>
<tr>
<td>333</td>
<td>Digital Tracery: Fabricating Traits</td>
<td>Lawrence Blough</td>
</tr>
<tr>
<td>340</td>
<td>A New Parametric Design Tool for Robot Milling</td>
<td>Mark Tamke, Jacob Riiber, Hauke Jungjohann</td>
</tr>
<tr>
<td>348</td>
<td>Interactive Geometric Design of Architectural Freeform Hulls with Embedded Fabrication Information</td>
<td>Anke Pasold, Isak Worre Foged</td>
</tr>
<tr>
<td>357</td>
<td>Embedded Intelligence: Material Responsiveness in Façade Systems</td>
<td>Sigrid Brell-Cokcan, Johannes Braumann</td>
</tr>
<tr>
<td>364</td>
<td>Parametric Sensibility: Cultivating the Material Imagination in Digital Culture</td>
<td>Mark Cabrinha</td>
</tr>
<tr>
<td>372</td>
<td>Material Computation in Architectural Aggregate Systems</td>
<td>Karola Dierichs, Achim Menges</td>
</tr>
<tr>
<td>379</td>
<td>Hyperculture: Earth as Interface</td>
<td>Jordan Geiger, Virginia San Fratello</td>
</tr>
<tr>
<td>386</td>
<td>Authors Biographies</td>
<td></td>
</tr>
<tr>
<td>410</td>
<td>Credits</td>
<td></td>
</tr>
<tr>
<td>410</td>
<td>ACADIA 2010 Sponsors</td>
<td></td>
</tr>
</tbody>
</table>