Pre-Conference Activities

08:00 - 08:30 Coffee and Registration - Caddell Building
08:30 - 11:30 Pre-conference Workshops
11:30 - 12:30 Lunch - Caddell Building Flex Space
12:30 - 13:00 SimAUD 2019 Welcome & Announcements
   by Siobhan Rockcastle and Tarek Rakha
### Experiential Climates

**Session Chair:** Jason Brown

**13:00 - 13:15**
Sun and Wind: Integrated Environmental Performance Analysis for Building and Pedestrian Comfort  
(Francesco De Luca)

**13:15 - 13:30**
A Parametric Workflow to Conceive Facades as Indoor and Outdoor Climate Givers  
(Emanuele Naboni, Eric Danzo, and Luca Ofria)

**13:30 - 13:45**
Streets, Parks & Plazas: Analyzing Daylight in the Public Realm  
(Elizabeth de Regt and Timothy Deak)

**13:45 - 14:05**
Questions and Panel Discussion with the Authors

**14:05 - 14:35**
Coffee Break

### Retrofitting Analysis

**Session Chair:** Ellen Dunham-Jones

**14:35 - 14:50**
Unleashing the Diversity of Conceptual Building Renovation Design  
(Aliakbar Kamari, Carl Peter, Leslie Schultz, and Poul Henning Kirkegaard)

**14:50 - 15:05**
Application of Surrogate Modeling to Multi-Objective Optimization for Residential Retrofit Design  
(Arfa N. Aijazi and Leon R. Glicksman)

**15:05 - 15:15**
Aerial Thermography as a Tool to Inform Building Envelope Simulation Models  
(Norhan Bayomi, Shreshth Nagpal, Tarek Rakha, Christoph Reinhart and John E. Fernandez)

**15:15 - 15:35**
Questions and Panel Discussion with the Authors

**15:35 - 16:05**
Coffee Break

### Data in Mixed Realities

**Session Chair:** Keith Kaseman

**16:05 - 16:20**
Towards Assembly Information Modeling (AIM)  
(Ayoub Lharchi, Mette Ramsgaard Thomsen and Martin Tamke)

**16:20 - 16:35**
Subjective Impressions of a Space Influencing Brightness Satisfaction: an Experimental Study in Virtual Reality  
(Azadeh Omidfar Sawyer and Kynthia Chamilothori)

**16:35 - 16:45**
Immersive Representation of Urban Data  
(Amber Bartosh and Rongzhu Gu)

**16:45 - 17:05**
Questions and Panel Discussion with the Authors

**17:05 - 17:45**
Coffee Break and Transfer to the College of Design Auditorium

### SimAUD Public Keynote I

**17:45 - 18:45**
Cyber-Physical Systems and Open Data Platforms  
(Dennis Shelden)

### Evening Reception

at Hinman Research Building, 18:45 - 20:00
DAY 02

Registration
07:30 - 08:00 Coffee and Registration - Caddell Building

Modeling Urban Energies Session Chair: John E. Taylor
08:00 - 08:15 A Data-Driven Framework for Urban Building Operational Energy Use Modeling (Narjes Abbasabadi)
08:15 - 08:30 An Integrated Urban Planning and Simulation Method to Enforce Spatial Resilience Towards Flooding Hazards (Julius Morschek, Reinhard König, and Sven Schneider)
08:30 - 08:45 A Method for Integrating an UBEM with GIS for Spatiotemporal Visualization and Analysis (Bess Krietemeyer and Rawad El Kontar)
08:45 - 09:00 A Technique for Developing High-Resolution Residential Occupancy Schedules for Urban Energy Models (Diba Malekpour Koupaei, Farzad Hashemi, Vinciane Tabard-Fortecoëf and Ulrike Passe)
09:00 - 09:20 Questions and Panel Discussion with the Authors
09:20 - 09:50 Coffee Break

Welcome Remarks
09:50 - 10:05 Steven P. French - Georgia Tech College of Design Dean
10:05 - 10:20 Scott Marble - Georgia Tech School of Architecture Chair
10:20 - 10:50 Godfried Augenbroe - Georgia Tech High Performance Building
10:50 - 11:15 Coffee Break

Designing Urban Futures Session Chair: Perry Yang
11:15 - 11:30 Environmental Data and Land Use: Integration of Site-Specific Ecology and Urban Design (Claudio Campanile and Shih Hsin Wuu)
11:30 - 11:45 How to Generate a Thousand Master Plans: A Framework for Computational Urban Design (Luc Wilson, Jason Danforth, Carlos Cerezo Davila, and Dee Harvey)
11:45 - 12:00 CityFiction – Scenarios for Densification (Henrik Malm and Petra Jenning)
12:00 - 12:10 Exploring Urban Walkability Models and Pedestrian Movement Trends in a Vancouver Neighbourhood (Nicholas Martino, Cynthia Girling, and Edja Trigueiro)
12:10 - 12:30 Questions and Panel Discussion with the Authors
12:30 - 13:30 Lunch - Caddell Building Flex Space
### Mediums of Indoor Comfort

**Session Chair: Xinyi Song**

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>13:30 - 13:45</td>
<td>A Simulation-Based Design Analysis for the Assessment of Indoor Comfort Under the Effect of Solar Radiation</td>
<td>Andrea Zani, Henry David Richardson, Alberto Tono, Stefano Schiavon, and Edward Arens</td>
</tr>
<tr>
<td>13:55 - 14:10</td>
<td>Assessing the Performance of UFAD System in an Office Building Located In Various Climate Zones</td>
<td>Roshanak Ashrafi, Mona Azarbayjani, Robert Cox, Benjamin Futrell, Joseph Glass, Amir Zarrabi, and Armin Amirazar</td>
</tr>
<tr>
<td>14:10 - 14:20</td>
<td>Evaluating the Influence of Three Simplifications on Natural Ventilation Rate Simulation</td>
<td>Yuchen Shi and Xiaofeng Li</td>
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<tr>
<td>14:20 - 14:40</td>
<td>Questions and Panel Discussion with the Authors</td>
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<tr>
<td>14:40 - 15:15</td>
<td>Coffee Break (Group picture in front of Caddell Building)</td>
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</tbody>
</table>

### Simulating People

**Session Chair: Sonit Bafna**

<table>
<thead>
<tr>
<th>Time</th>
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<th>Authors</th>
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</thead>
<tbody>
<tr>
<td>15:15 - 15:30</td>
<td>Adaptive Occupancy Scheduling: Exploiting Microclimate Variations in Buildings</td>
<td>Max Marschall and Jane Burry</td>
</tr>
<tr>
<td>15:30 - 15:45</td>
<td>Toward a Multi-Level and Multi-Paradigm Platform for Building Occupant Simulation</td>
<td>Davide Schaumann, Seonghyeon Moon, Muhammad Usman, Rhys Goldstein, Simon Breslav, Azam Khan, Petros Faloutsos, and Mubbasir Kapadia</td>
</tr>
<tr>
<td>15:45 - 16:00</td>
<td>Multi-Constrained Authoring of Occupant Behavior Narratives in Architectural Design</td>
<td>Xun Zhang, Davide Schaumann, Brandon Haworth, Petros Faloutsos, and Mubbasir Kapadia</td>
</tr>
<tr>
<td>16:00 - 16:10</td>
<td>Including Occupant Behavior in Building Simulation:</td>
<td>Comparison of a Deterministic vs. a Stochastic Approach (Max Marschall, Farhang Tahmasebi and Jane Burry)</td>
</tr>
<tr>
<td>16:10 - 16:30</td>
<td>Questions and Panel Discussion with the Authors</td>
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<tr>
<td>16:30 - 16:45</td>
<td>Break and Transfer to the College of Design Auditorium</td>
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### SimAUD Public Keynote II

**16:45 - 17:45**

**The Future of Thermal Comfort in a Warming Climate**  
(Stefano Schiavon)

### Panel Discussion with Invited Panelists

**Session Chair: Michael Gamble**

<table>
<thead>
<tr>
<th>Time</th>
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</tr>
</thead>
<tbody>
<tr>
<td>18:10 - 18:50</td>
<td>Modeling Praxis: the Case of the Living Building Challenge at Georgia Tech</td>
<td>Todd Mowinski, Alissa Kingsley, and Joshua Brooks</td>
</tr>
</tbody>
</table>

### Dinner and Awards

Dinner and Awards  
[New Realm Brewery]  
A bus leaves from Georgia Tech at 18:50. Arrival back to Georgia Tech Hotel at 23:00.
### Registration
07:30 - 08:00  Coffee and Registration - Caddell Building

### Robots that Make  
Session Chair: Russell Gentry

<table>
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<tr>
<th>Time</th>
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<tbody>
<tr>
<td>08:00 - 08:15</td>
<td>Rotoform - Realization of Hollow Construction Elements Through Roto-Forming with Hyper-Elastic Membrane Formwork (Oliver Tessmann and Samim Mehdizadeh)</td>
</tr>
<tr>
<td>08:15 - 08:30</td>
<td>Environmentally Informed Robotic-Aided Fabrication (Carmen Cristiana Matiz, Heather “Brick” McMenomy, and Elif Erdine)</td>
</tr>
<tr>
<td>08:30 - 08:45</td>
<td>Curved-Crease Folding and Robotic Incremental Sheet Forming in Design and Fabrication (Elif Erdine, Antiopi Koronaki, Alican Sungur, Angel Fernando, Lara Moreira, Alvaro Lopez Rodriguez, George Jeronimidis, and Michael Weinstock)</td>
</tr>
<tr>
<td>08:45 - 09:05</td>
<td>Questions and Panel Discussion with the Authors</td>
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<tr>
<td>09:05 - 09:35</td>
<td>Coffee Break</td>
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### Performative Structures  
Session Chair: Vernelle Noel

<table>
<thead>
<tr>
<th>Time</th>
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<tbody>
<tr>
<td>09:35 - 09:50</td>
<td>Structural Performance of Semi-Regular Topological Interlocking Assemblies (Michael Weizmann, Oded Amir, and Yasha Jacob Grobman)</td>
</tr>
<tr>
<td>09:50 - 10:05</td>
<td>Data-Driven Material System of Graded Concrete Structures (Elisabeth Riederer and Anuradha Suryavanshi)</td>
</tr>
<tr>
<td>10:30 - 10:50</td>
<td>Questions and Panel Discussion with the Authors</td>
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<tr>
<td>10:50 - 11:00</td>
<td>Break - Transfer to the College of Design Auditorium</td>
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### SimAUD Public Keynote III

11:00 - 12:00  Wait, What?  
(Billie Faircloth)

12:00 - 13:15  Lunch - Caddell Building Flex Space
Design Decision Models

Session Chair: Pardis Pishdad-Bozorgi

(Chengde Wu, Saied Zarrinmehr, Mohammad Rahmani Asl, and Mark J. Clayton)

13:30 - 13:45 Digital Energy Performance Signature Extensible Markup Language (DEPSxml) (Justin McCarty and Adam Rysanek)

13:45 - 14:00 From Optimization to Performance-Informed Design
(Thomas Wortmann and Thomas Schroepfer)

14:00 - 14:15 Linear and Classification Learner Models for Building Energy Predictions and Predicting Saving Estimations
(Kevin Eaton, Nabil Nassif, Pyrian Rai, and Alexander Rodrigues)

14:15 - 14:35 Questions and Panel Discussion with the Authors

14:35 - 15:00 Coffee Break

Geometric Explorations

Session Chair: Athanassios Economou

15:00 - 15:15 From Drawing Shapes to Scripting Shapes: Architectural Theory Mediated by Shape Machine
(Heather Ligler and Athanassios Economou)

15:15 - 15:30 Interpreting Non-flat Surfaces for Walkability Analysis
(Mathew Schwartz and Subhajit Das)

15:30 - 15:45 Generating Acoustic Diffuser Arrays with Shape Grammars
(Jonathan Dessi-Olive and Timothy Hsu)

15:45 - 16:00 A Unified Framework for Optimizing the Performance of a Kinetic Façade
(Ok-Kyun Im, Kyoung-Hee Kim, Armin Amirazar, and Churlzu Lim)

16:00 - 16:20 Questions and Panel Discussion with the Authors

16:20 - 16:50 Coffee and Light Snack Break

Panel Discussion with Invited Panelists

16:50 - 17:30 SimAUD Sponsor Engagement and Panel

17:30 - 17:45 Break - Transfer to the College of Design Auditorium

SimAUD Public Keynote IV

17:45 - 18:45 Shape Matters
(Dana Cupkova)

SimAUD Closing Remarks

18:45 - 19:00 Closing Remarks & SimAUD 2020 Announcements