Modelling and Visualizing Science and Technology Developments
December 4-5, 2017; Irvine, CA

Sunday, December 3
6:00 PM Speaker Welcome Dinner at Hyatt Newport Beach Hotel

Monday, December 4
7:30 AM Bus departs Hyatt Newport Beach Hotel for Beckman Center
7:30 AM Registration and Buffet Breakfast, Beckman Center Dining Room

Session I. Rankings and the Efficiency of Institutions
8:30 AM Welcome Remarks / Overview – H. Eugene Stanley, Boston University
9:00 AM Albert-László Barabási, Center of Complex Networks Research, Northeastern University and Division of Network Medicine, Harvard University, Science of Science: From Credit Sharing to Careers in Science
9:30 AM Lada Adamic Facebook Inc., How Cascades Grow
10:00 AM Break
10:30 AM Marta González, Massachusetts Institute of Technology, Urban Computing: Mobility and Migration
10:50 AM Kaye Husbands Fealing, Georgia Institute of Technology, Assessing the Return on Investment from Federal Funding of Food Safety Research: A New Bibliometric Approach
11:10 AM Brian Uzzi, Northwestern University, Bloodlines in Science: The Link between an Academic Advisor's Scholar Pursuits and their Students' Pursuits and Performance
11:30 AM John V. Lombardi, The Center for Measuring University Performance, America's Research Universities: Is the Enterprise Model Sustainable?
11:50 AM Q&A
12:00 PM Buffet Lunch, Beckman Center Dining Room

Session II. Higher Education and the S&T Job Market
1:00 PM Overview – Katy Börner, Indiana University, Modelling and Visualizing the Interplay of (Higher) Education, Jobs, and S&T Progress

2:00 PM Michael Richey, The Boeing Company and George Siemens, University of Texas at Arlington, *Learning in Professional Networks: Effect of social capital, pathways, and artifact creation*

2:30 PM William Rouse, Stevens Institute of Technology, *Computational Modeling of Research Universities: Explorations of Alternative Futures, Possible Bubbles & Strategic Scenarios*

3:00 PM Break

3:30 PM Stasa Milojevic, Indiana University, *Dynamics of Academic Workforce: Production and Attrition of Researchers and Outcomes for Science as a Whole*

4:00 PM Rob Rubin, Executive Director, Internet of Learning Consortium; Director Learning Sciences, Microsoft’s Learning Experience Team (LeX)

4:30 PM David Krakauer, Santa Fe Institute, *Modeling the Evolution of Institutional Change*

5:00 PM Panel Discussion

5:30 PM Dinner in the Beckman Center Atrium

7:00 PM Poster Displays and Flash Talks & Networking

8:30 PM Bus departs Beckman Center for Hyatt Newport Beach Hotel

**Tuesday, December 5**

7:00 AM Bus departs Hyatt Newport Beach Hotel for Beckman Center

7:00 AM Buffet Breakfast, Beckman Center Dining Room

**Session III. Innovation Diffusion and Technology Adoption**

8:00 AM Overview – William Rouse, Stevens Institute of Technology

8:30 AM Donna Cox, University of Illinois, *Visualization of Big Data Computational Models: Connecting People to Science*

9:00 AM Jeff Alstott, Massachusetts Institute of Technology, *Modeling New Technological Capabilities with Large-Scale Data*

9:30 AM Break

10:00 AM Ben Shneiderman, University of Maryland, *Human-Centered Models of Twin-Win Research Successes*

10:30 AM Rahul C. Basole, Georgia Institute of Technology, *From What-Is to What-If: Visualizing the Complex Structures of Converging Business Ecosystems*

11:00 AM Scott Stern, Massachusetts Institute of Technology, *Innovation-Driven Entrepreneurial Ecosystems: A New Agenda for Measurement, Policy and Action*

11:30 AM Cesar Hidalgo, Massachusetts Institute of Technology, *Collective Learning in Society and the Economy*
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<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>12:00 AM</td>
<td>Buffet Lunch, Beckman Center Dining Room</td>
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<tr>
<td>1:00 PM</td>
<td>Overview – Paul Trunfio, Boston University</td>
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<td>1:20 PM</td>
<td>Sallie Keller, Professor of Statistics and Director, Social and Decision Analytics Laboratory, Biocomplexity Institute of Virginia Tech, <em>New Opportunities to Observe and Measure Innovation</em></td>
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<td>1:40 PM</td>
<td>Andrew L. Russell, The State University of New York Polytechnic Institute, <em>Visions of the Future &amp; Models from the Past</em></td>
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<td>2:00 PM</td>
<td>Break</td>
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<td>2:30 PM</td>
<td>Guru Madhavan, National Academy of Sciences, <em>Systems Architecture to Support Planning and Preparedness in Public Health</em></td>
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<td>3:00 PM</td>
<td>Azer Bestavros, Boston University, <em>Sharing Knowledge without Sharing Data: Platforms for Resolving the False Dichotomy Between Privacy and Utility of Information</em></td>
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<td>3:30 PM</td>
<td>Jason Owen-Smith, Institute for Research on Innovation &amp; Science, University of Michigan, <em>Measuring &amp; Visualizing the Collaborative Infrastructure of University Science</em></td>
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<td>4:00 PM</td>
<td>Q&amp;A and Concluding Remarks by Organizer</td>
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<td>4:45 PM</td>
<td>Bus departs Beckman Center for Orange County Airport and Hyatt Newport Beach Hotel</td>
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<tr>
<td>7:00 PM</td>
<td>Distinctive Voices Public Lecture</td>
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<td></td>
<td><em>Learning in professional networks: effect of social capital on knowledge artefact creation</em></td>
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