

Modeling and Visualizing Science and Technology Developments

December 4-5, 2017; Irvine, CA

Organized by Katy Börner, William Rouse, H. Eugene Stanley, and Paul Trunfio

Registration will open August 2017

Session I - Rankings and the Efficiency of Institutions

Moderator: H. Eugene Stanley, Boston University

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*

Lada Adamic, Facebook Inc., *How Cascades Grow*

Marta González, Massachusetts Institute of Technology, *Urban Computing: Mobility and Migration*

Kaye Husbands Fealing, Georgia Institute of Technology, *Assessing the Return on Investment from Federal Funding of Food Safety Research: A new Bibliometric Approach*

Brian Uzzi, Northwestern University, *Bloodlines in Science: The Link between an Academic Advisor's Scholar Pursuits and their Students' Pursuits and Performance*

John V. Lombardi, The Center for Measuring University Performance, *America's Research Universities: Is the Enterprise Model Sustainable?*

Session II - Higher Education and the S&T Job Market

Moderator: Katy Börner, Indiana University, *Modelling and Visualizing the Interplay of (Higher) Education, Jobs, and S&T Progress*

Wendy L. Martinez, U.S. Bureau of Labor Statistics, *Modeling Employment Projections at the Bureau of Labor Statistics*

Michael Richey, The Boeing Company, *Learning in Professional Networks: Effect of Social Capital on Knowledge Artefact Creation*

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

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

Rob Rubin, Executive Director, *Internet of Learning Consortium*; Director Learning Sciences, *Microsoft's Learning Experience Team (LeX)*

David Krakauer, Santa Fe Institute, *Modeling the Evolution of Institutional Change*

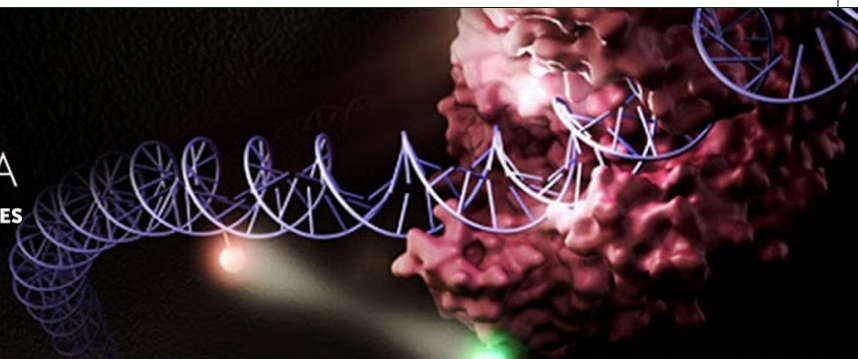
For more information, visit nasonline.org/Sackler-Visualizing-Science.

Videos of presentations are at bit.ly/2HgH7mn.

Special PNAS issue forthcoming.



Arthur M. Sackler
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Session III - Innovation Diffusion and Technology Adoption

Moderator: William Rouse, Stevens Institute of Technology

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

Ben Shneiderman, University of Maryland, *Human-Centered Models of Twin-Win Research Successes*

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

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

Cesar Hidalgo, Massachusetts Institute of Technology, *Collective Learning in Society and the Economy*

Session IV - Modeling Needs, Infrastructures, Standards

Moderator: Paul Trunfio, Boston University

Sallie Keller, Professor of Statistics and Director, *Social and Decision Analytics Laboratory, Biocomplexity Institute of Virginia Tech, New Opportunities to Observe and Measure Innovation*

Andrew L. Russell, The State University of New York Polytechnic Institute, *Visions of the Future & Models from the Past*

Guru Madhavan, National Academy of Sciences, *Systems Architecture to Support Planning and Preparedness in Public Health*

Azer Bestavros, Boston University, *Sharing Knowledge without Sharing Data: On the False Choice Between the Privacy and Utility of Information*

Jason Owen-Smith, Institute for Research on Innovation & Science, *University of Michigan, Measuring & Visualizing the Collaborative Infrastructure of University Science*

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