(STEM) Career Experiences and Outcomes

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Data and Modeling Workshop on Graduate Education Investments and
STEM Career Experiences and Outcomes

National Science Foundation
4201 Wilson Boulevard • Arlington, VA

October 27, 2016
Visualizing Career Trajectories
Randall Munroe’s *Movie Narrative Charts*, xkcd.com
Career trajectory for Dr. Girish Agarwal, 1988-2010 – Using WoS dataset of 10,000 physicists with the most affiliations.

Web of Science as a Research Dataset

Date:
November 14-15, 2016

Meeting Place:
Social Science Research Commons (SSRC),
Woodburn Hall, Room 200
1100 East Seventh Street
Bloomington, IN 47405

Web Indiana University Campus Map »

Organizers:

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James Pringle
Head of Industry Development & Innovation at Thomson Reuters IP & Science

Workshop Goals
This practical workshop brings together data scientists and data stewards from research centers that are using the Web of Science™ at scale. We will explore WoS from the perspective of a research dataset and work together on practical ways to better support our research in the future. While the main focus will be on the Web of Science, the results should be extensible to all similar metadata aggregations. This unique focus—bringing data stewards and data scientists from these centers together to work on shared needs in tandem with the Web of Science team—will enable us to redefine and fully repurpose WoS to fit our research goals. We intend to launch an ongoing community in which we will learn techniques and develop tools to improve the data that underlies our research.

Advance Preparations
• Data stewards will provide a short profile of how WoS as a dataset is being implemented in the context of their research center/university and the technical, content, and other challenges they are facing.
• Researcher data scientists will prepare a short profile of current research projects leveraging the WoS dataset, focusing on key challenges such as linking, disambiguating, mining, etc. that, if solved, would offer greater research opportunities.

Interactive web site: http://demo.cns.iu.edu/client/stem/
Modelling and Visualizing Science and Technology Developments
Government, academic, and industry leaders discussed challenges and opportunities associated with using big data, visual analytics, and computational models in STI decision-making.

Conference slides, recordings, and report are available via http://modsti.cns.iu.edu/report
Special Issue of *Scientometrics*: Simulating the Processes of Science, Technology, and Innovation
Bruce Edmonds, Andrea Scharnhorst, Katy Börner & Staša Milojević (Editors)

- **Rogier De Langhe**: Towards the Discovery of Scientific Revolutions in Scientometric Data
- **Sabine Brunswicker, Sorin Matei, Michael Zentner, Lynn Zentner and Gerhard Klimeck**: Creating Impact in the Digital Space: Digital Practice Dependency in Scientific Developer Communities
- **Johan Bollen et al.**: An Efficient System to Fund Science: From Proposal Review to Peer-to-Peer Distributions
- **Petra Ahrweiler**: Agent-based Simulation for Science, Technology and Innovation Policy
- **David Chavalarias**: What's Wrong With Science? Modeling Collective Discovery Processes With the Nobel Game
- **Jeff Alstott, Giorgio Triulzi, Bowen Yan and Jianxi Luo**: Mapping Technology Space by Normalizing Patent Technology Networks
Atlas Trilogy


Upcoming Sackler Colloquium on **"Modelling and Visualizing Science and Technology Developments"** will take place in October 2017 at the Beckman Center, Irvine, CA.
All papers, maps, tools, talks, press are linked from http://cns.iu.edu
These slides are at http://cns.iu.edu/docs/presentations
CNS Facebook: http://www.facebook.com/cnscenter
Mapping Science Exhibit Facebook: http://www.facebook.com/mappingscience