

# Robert Ward

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## Education

- Ph.D.     **Georgia Institute of Technology**, Public Policy, 2019 – present  
*Dissertation:* Essays on the Organization of Science and Innovation  
*Committee:* John P. Walsh (chair), Cassidy R. Sugimoto, Marc Santolini,  
Alex Oettl, Gordon Kingsley
- M.S.     **Georgia Institute of Technology**, Computer Science, 2021 – present
- M.P.A.    **The Ohio State University**, John Glenn College of Public Affairs, 2019
- B.S.     **The Ohio State University**, Molecular Genetics, 2017

## Positions

- 2022     **Stanford University**  
Visiting Student Researcher  
Megan Palmer and Drew Endy, Department of Bioengineering
- 2022 -    **Georgia Institute of Technology**  
Graduate Research Assistant  
John P. Walsh and Cassidy Sugimoto, School of Public Policy
- 2019 -    **LPI (INSERM-Université Paris Cité)**  
Visiting Student Researcher  
Marc Santolini, Interaction Data Lab
- 2019 - 22 **Georgia Institute of Technology**  
Graduate Research Assistant  
Jan Youtie and Philip Shapira, School of Public Policy
- 2018 - 19 **The Ohio State University**  
Graduate Research Associate  
Battelle Center for Science, Engineering, and Public Policy
- 2014 - 16 **The Ohio State University**  
Undergraduate Research Assistant  
Jay B. Hollick, Department of Molecular Genetics

## Research Interests

Organizations (*Self-Organization, Controllability, Innovation, Learning*), Social and Information Networks, Science and Innovation, Computation (*Machine Learning, Natural Language Processing, Simulation*).

## Papers

### In Print

- 2022 Chakresh Singh, Emma Barme, **Robert Ward**, Liubova Tupikina and Marc Santolini. *Quantifying the rise and fall of scientific fields*. PLoS ONE. 10.1371/journal.pone.0270131  
**Press coverage** in *Le Monde*
- 2021 Jan Youtie, **Robert Ward**, Philip Shapira, R. Sandra Schillo & E. Louise Earl. *Exploring new approaches to understanding innovation ecosystems*. Technology Analysis & Strategic Management. 10.1080/09537325.2021.1972965
- 2021 Jan Youtie, **Robert Ward**, Philip Shapira, Alan Porter, Nils Newman. *Corporate engagement with nanotechnology through research publications*. Journal of Nanoparticle Research. 10.1007/s11051-021-05195-4
- 2021 Zhang, Yi, Mengjia Wu, Zhengyin Hu, **Robert Ward**, Xue Zhang, Alan Porter *Profiling and predicting the problem-solving patterns in China's research systems*. Quantitative Science Studies. 10.1162/qss\_a\_00100

### In Production

‡Authors in alphabetical order.

- **Robert Ward**. *Interdisciplinarity and Reception*
- **Robert Ward**, Rathin Jeyaram and Marc Santolini. *Unintended Consequences in Network Interventions*
- **Robert Ward** and Marc Santolini. *Endogeneous Division of Labor*
- Marc Santolini, Megan J. Palmer, Leo Blondel, **Robert Ward**, Rathin Jerayam, Abhijeet Krishna and Albert-Laszlo Barabasi. *iGEM: A Model System for Team Science and Innovation*
- ‡ Christopher Esposito, **Robert Ward**, Fengli Xu *Integration in Dispersed Teams*
- **Robert Ward**, Seokkyun Woo and Cassidy Sugimoto *Novel Science, Status and the Burden of Evidence*

## Talks

- 2022 Invited Talk, C-EENRG, *University of Cambridge*
- 2022 Invited Talk, Center for the Science of Science and Innovation, *Northwestern University*
- 2022 Invited Talk, Knowledge Lab Seminar, *University of Chicago*
- 2022 *1st International Conference on the Science of Science and Innovation (ICSSI)*. Jun 6-9, National Academies of Sciences, Washington DC
- 2022 Invited Talk, Workshop on Original Policy Research (WOPR), *Georgia Institute of Technology*

- 2022     *Association for Public Policy and Management (APPAM) Fall Research Conference.*  
Mar 27-29 (Online).
- 2021     Invited Talk, Workshop on Original Policy Research (WOPR), *Georgia Institute of Technology*
- 2021     *6th Summer School on Data and Algorithms for Science, Technology & Innovation Studies.* Aristotle University of Thessaloniki-KU Leuven, Sep 22-24 (Online)
- 2020     *10th Global TechMining Conference.* Nov 11–13, Atlanta, Georgia.

## Workshops and Summer Schools

- 2022     Atlanta Academy on Science and Innovation Policy, School of Public Policy, Georgia Institute of Technology. March 21-25, 2022, Atlanta, GA.
- 2021     Society of Young Network Scientists (SYNS) Networks 2021 Pre-Conference Workshop. Jun 26 (Online).
- 2021     Science of Science Summer School, iSchool, Syracuse University.  
Jul 26-Aug 8 (Online)

## Funding and Awards

- \$2,480     *The Endogeneous Division of Labor*, SODA Grant, Georgia Institute of Technology, Ivan Allen College of Liberal Arts, 2023
- \$3,000     *Residency*, Chateau du Feÿ, 2023
- \$3,956     *Travel*, School of Public Policy, Georgia Institute of Technology, 2022
- \$6,000     *iGEM Team Interaction Study*, Google and University of Vermont: Open Source Complex Ecosystems and Networks (OCEAN) Program, 2022
- €6,000     *Quantitative assessment of open collaborations in science and engineering*, Subaward for Travel from French National Research Agency (ANR): AAPG2021. PI: Marc Santolini, 2022-24
- \$2,000     *S4 Fellowship* with Alec McGail and Aaron Mendon-Plase, Subaward from NSF #1933675, 2021-22
- €1,000     *Travel Grant* to attend Summer School on Data and Algorithms for Science, Technology & Innovation Studies, Google / KU Leuven, 2021 — *Declined due to COVID-19*
- \$22,000     *President's Fellowship*, Georgia Institute of Technology, 2019-23

## Teaching

- 2022     Guest Lecture, Causal Inference and Interventions in Networks, Network Science / Complex Systems Physics Seminar, *Skolkovo Institute of Science and Technology*, Nov 10 (Online).

- 2022      Instructor for Computing Bootcamp, School of Public Policy, *Georgia Institute of Technology*
- 2019      Co-Instructor, iGEM (International Genetically Engineered Machines Competition) Team, *The Ohio State University*

## **Service**

### **Organizer**

- 2022      *Workshop on the Organization of Science*. Oct 25. LPI, Paris, France.
- 2021      *NetOpen21: Modeling open innovation communities with network science*. Satellite at Networks 2021: A Joint Sunbelt and NetSci Conference. Co-organizer with Marc Santolini, Liubov Tupikina and Juniper Lovato. Jun 30 (Online).  
interactiondatalab.com/netopen21

### **Reviewer**

- 2019 -      Research Policy
- 2019      IEEE Transactions in Engineering Management

## **Consulting and Other Projects**

### **Georgia Institute of Technology STIP**

- 2021 - 22    *Mass Customizable and On-demand Integrated Circuits*. PIs: Michael Filler and Eric Vogel
- 2020 - 21    *Technology Forecasting*. United States Army Research Lab
- 2020      *Corporate Entry into Nanotechnology*. NSF Subcommittee on Nanoscale Science, Engineering and Technology (NSET)
- 2020 - 22    *Social Network Analysis*. Southeastern Nanotechnology Infrastructure Corridor (SENIC) Georgia Tech / NSF
- 2019      *Scientific Impacts of the Georgia Sea Grant*. University of Georgia Marine Extension and Georgia Sea Grant
- 2019      *Social Network Analysis*. Georgia Institute of Technology Center for Space Technology and Research (CSTEP).

### **The Ohio State University, Battelle Center for Science Technology and Public Policy**

- 2019      *Improving the Cybersecurity and Cost Effectiveness of USAF Industrial Control Systems*. United States Air Force Installation Contracting Agency (AFICA/KA).

## **Professional Affiliations**

American Association for the Advancement of Science (AAAS)

Society of Young Network Scientists (SYNS)