

# Robert Ward

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## Education

- Ph.D.     *Georgia Institute of Technology*, School of Public Policy, 2019 –  
Dissertation: Essays on the Organization of Science and Innovation  
Committee: John P. Walsh (chair), Cassidy R. Sugimoto, Marc Santolini,  
Alex Oettl, and Gordon Kingsley
- M.S.     *Georgia Institute of Technology*, Computer Science, 2021 –
- 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 -     Learning Planet Institute (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, Technology 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

‡Equal contributions.

- i. **Robert Ward**. *Interdisciplinarity and Reception*
- ii. **Robert Ward**, Rathin Jeyaram and Marc Santolini. *Unintended Consequences in Network Interventions*
- iii. **Robert Ward** and Marc Santolini. *Endogenous Division of Labor*
- iv. 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*
- v. ‡ **Robert Ward**, Christopher Esposito, Fengli Xu *Collaboration and Integration*
- vi. **Robert Ward**, Seokkyun Woo and Cassidy Sugimoto *Novel Science, Status and the Burden of Evidence*

## Talks

- 2023 Invited Talk, Knowledge Lab Seminar, *University of Chicago*
- 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

- 2023 *Santa Fe Institute*, Graduate Workshop in Computational Social Science, June 18-30.
- 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

- 2023 Outstanding Doctoral Student Award  
*School of Public Policy, Georgia Institute of Technology*
- 2023 Travel (\$2,875)  
*School of Public Policy, Georgia Institute of Technology*
- 2023 The Endogenous Division of Labor (\$2,480)  
*Ivan Allen College SODA Grant, Georgia Institute of Technology*
- 2022 Travel (\$3,956)  
*School of Public Policy, Georgia Institute of Technology*
- 2022 iGEM Team Interaction Study (\$6,000)  
*Google and University of Vermont OCEAN Program*
- 2022-24 Quantitative assessment of open collaborations in science and engineering (€6,000)  
*Subaward from French National Research Agency AAPG2021. PI: Marc Santolini*
- 2021-22 S4 Fellowship (\$2,000)  
*Shared with Alec McGail and Aaron Mendon-Plasek.*
- 2021 Travel (€1,000)  
*To attend Summer School on Data and Algorithms for Science, Technology & Innovation Studies, Google / KU Leuven, Declined due to COVID-19*
- 2019-23 President's Fellowship (\$22,000)  
*Georgia Institute of Technology*

## Teaching

- 2022 Guest Lecture on 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 for International Genetically Engineered Machines Competition Team, *The Ohio State University*

## Service

### Organizer

- 2023 Volunteer Coordinator *Atlanta Conference on Science and Innovation Policy* May 27. Georgia Institute of Technology, Atlanta, Georgia.
- 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](http://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)