

# Robert Ward

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## Education

- Ph.D.     Public Policy, *Georgia Institute of Technology*, 2019–present  
          Advised by Cassidy R. Sugimoto and John P. Walsh  
          Visitor at *Université Paris Cité*, May-Aug, Oct-Dec 2022  
          Visitor at *Stanford University*, Oct 2022
- M.S.     Computer Science, *Georgia Institute of Technology*, 2021–present
- M.P.A.   John Glenn College of Public Affairs, *The Ohio State University*, 2019
- B.S.     Molecular Genetics, *The Ohio State University*, 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, School of Public Policy
- 2022     *Georgia Institute of Technology*  
          Graduate Research Assistant  
          Cassidy R. 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

## Interests

Organizations, networks, science, technology and innovation, computational methods.

## Publications

### *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
- 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: A methodology of intelligent bibliometrics and empirical insights", *Quantitative Science Studies*. 10.1162/qss\_a\_00100

### *In Progress*

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

## Conferences

### *Presentations*

Presenting author *italicized*, if other.

- 2022 Robert Ward "Disciplinary Integration and Evaluation". 1st International Conference on the Science of Science and Innovation (ICSSI). Washington DC. Jun 6-9.

- 2022 Robert Ward, Jan Youtie, Philip Shapira. "Networks, Knowledge and Search Speed: Evidence from Covid-19 Drug Development". Association for Public Policy and Management (APPAM) Fall Research Conference. Mar 27-29. *Virtual*
- 2022 Chakresh Kumar Singh, Emma Barme, Robert Ward, Liubov Tupikina and Marc Santolini. "Quantifying the exploration vs exploitation of scientific fields using the arXiv field-tags co-occurrence network". NetSci-X 2022. Porto, Portugal. Feb 8-11.
- 2021 Robert Ward, Gaurav Verma, Seokkyun Woo. "The Paradox of Integration: Interdisciplinary Research and Disciplinary Evaluation" 6th Summer School on Data and Algorithms for Science, Technology & Innovation Studies. Aristotle University of Thessaloniki-KU Leuven, Sep 22-24, *Virtual*.
- 2020 Robert Ward, Jan Youtie, Philip Shapira. "The Search for Clinical Solutions." 10th Global TechMining Conference. Nov 11-13 *Virtual*.

### ***Workshops and Sessions Organized***

- 2022 Workshop on the Organization of Science. Oct 25. Learning Planet Institute, 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 *Virtual*. [interactiondatalab.com/netopen21](https://interactiondatalab.com/netopen21)

### **Invited Talks**

- 2022 "Interdisciplinarity and Reception"  
C-EENRG, *University of Cambridge*, Nov 21
- 2022 "Interdisciplinarity and Reception"  
Center for the Science of Science and Innovation, *Northwestern University*, Sep 15
- 2022 "Interdisciplinarity and Reception"  
Knowledge Lab Seminar, *University of Chicago*, Sep 12
- 2022 "Interdisciplinarity and Reception"  
Workshop on Original Policy Research (WOPR), *Georgia Institute of Technology*, Apr 1.
- 2021 "Networks, Knowledge and Search Speed: Evidence from Covid-19 Drug Development"  
Workshop on Original Policy Research (WOPR), *Georgia Institute of Technology*, Apr 9

### **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 *Virtual*.
- 2021 Science of Science Summer School, iSchool, Syracuse University. Jul 26-Aug 8 *Virtual*.

## Grants and Awards

- \$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 from French National Research Agency (ANR): AAPG2021 | PI: Marc Santolini | 2022-24
- \$2,000 S4 Fellowship | Joint with Alec McGail and Aaron Mendon-Plasek | Subaward from from NSF #1933675 for the project "Science in Motion" | 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", Complex Systems Physics Seminar (Kirill Polovnikov), *Skolkovo Institute of Science and Technology*, Nov 10
- 2022 Scientific Computing Bootcamp, School of Public Policy, *Georgia Institute of Technology*
- 2019 Co-Instructor for iGEM (International Genetically Engineered Machines Competition) Team, *The Ohio State University*

## Service

### *Journal Peer Review*

- 2019– Research Policy
- 2019 IEEE TEM

### *General*

- 2020 Contributor to *OpenCovid19*, Just One Giant Lab (JOGL)
- 2019 Member of Judging Committee, International Genetically Engineered Machine Competition (iGEM)

## Consulting

### *Georgia Tech STIP*

- 2021-22 Mass Customizable and On-demand Integrated Circuits Georgia Tech project with PIs: Michael Filler and Eric Vogel
- 2020-21 Technology Forecasting for US Army Research Lab
- 2020 Corporate Entry into Nanotechnology for NSF Subcommittee on Nanoscale Science, Engineering and Technology (NSET)

- 2020-22    Social Network Analysis for Southeastern Nanotechnology Infrastructure Corridor (SENIC) Georgia Tech / NSF
- 2019       Scientific Impacts of the Georgia Sea Grant for UGA Marine Extension and Georgia Sea Grant
- 2019       Social Network Analysis for Georgia Tech Center for Space Technology and Research (CSTEP)

***Battelle Center for Science, Engineering and Public Policy***

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

**Professional Affiliations**

American Association for the Advancement of Science (AAAS)

Society of Young Network Scientists (SYNS)

Current to January 2023