

# Robert Ward

Ph.D. Candidate  
School of Public Policy  
Georgia Institute of Technology

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rward48@gatech.edu  
robertnward.github.io

## Education

- └ Ph.D. in Public Policy, *Georgia Institute of Technology*, 2019 –  
Advisor: John P. Walsh  
Committee: Cassidy R. Sugimoto, Marc Santolini, Alex Oetl, Gordon Kingsley
- └ M.S. in Computer Science, *Georgia Institute of Technology*, 2021 –
- └ M.P.A., John Glenn College of Public Affairs, *The Ohio State University*, 2019
- └ B.S. in Molecular Genetics, *The Ohio State University*, 2017

## Positions

- └ *Stanford University*, Department of Bioengineering  
Visiting Student with Megan Palmer and Drew Endy, Oct 2022, Jun-Sep 2023
- └ *Learning Planet Institute*, (Université Paris Cité, Inserm)  
Systems Engineering and Evolution Dynamics Division  
Visiting Student with Marc Santolini, Interaction Data Lab, 2019 – present
- └ *Georgia Institute of Technology*, School of Public Policy  
Research Assistant for Cassidy R. Sugimoto, 2021-  
Research Assistant for John P. Walsh, 2022  
Research Assistant for Jan Youtie and Philip Shapira, STIP Group, 2019-21
- └ *The Ohio State University*, Battelle Center for Science, Engineering, and Public Policy  
Graduate Research Associate, 2018 – 2019
- └ *The Ohio State University*, Department of Molecular Genetics  
Research Assistant for Jay B. Hollick, 2014-16

## Research Interests

⟨ Social and Information Networks ⟩ ⟨ Organizations: *Formal and Informal Structure, Self-Organization, Controllability* ⟩ ⟨ Science, Technology and Innovation ⟩ ⟨ Computation: *Machine Learning, Natural Language Processing, Simulation* ⟩

## Papers

### In print

- └ Quantifying the rise and fall of scientific fields. *PLoS ONE*, 2022.  
Chakresh Singh, Emma Barme **Robert Ward**, Liubova Tupikina and Marc Santolini.
- └ Exploring new approaches to understanding innovation ecosystems.  
*Technology Analysis & Strategic Management*, 2021. Jan Youtie, **Robert Ward**, Philip Shapira,  
R. Sandra Schillo & E. Louise Earl.
- └ Corporate engagement with nanotechnology through research publications. *Journal of Nanoparticle Research*, 2021. Jan Youtie, **Robert Ward**, Philip Shapira, Alan Porter,  
Nils Newman.
- └ Profiling and predicting the problem-solving patterns in China's research systems.  
*Quantitative Science Studies*, 2021. Zhang, Yi, Mengjia Wu, Zhengyin Hu, **Robert Ward**  
Xue Zhang, Alan Porter

### In progress

‡Joint first-authors.

- └ Interdisciplinarity and Reception | Preparing for submission.  
**Robert Ward**.
- └ iGEM: A Model System for Team Science and Innovation | Preparing for submission.  
Marc Santolini, Megan J. Palmer, Leo Blondel, **Robert Ward**, Rathin Jerayam,  
Abhijeet Krishna and Albert-Laszlo Barabasi.
- └ Interventions on Social Network Formation | Analysis.  
**Robert Ward** and Marc Santolini.
- └ Effects of Ego-Networks on Innovation | Analysis.  
**Robert Ward**, Rathin Jeyaram and Marc Santolini.
- └ Collaboration and Integration | Data processing.  
**Robert Ward**<sup>‡</sup>, Christopher Esposito<sup>‡</sup>, Jamshid Sourati, Fengli Xu, James Evans
- └ Endogenous Division of Labor | Data collection.  
**Robert Ward** and Marc Santolini.
- └ Novel Science, Status and the Burden of Evidence | Data collection.  
**Robert Ward**, Seokkyun Woo and Cassidy Sugimoto
- └ Setting Inducements for Network Formation | Design.  
**Robert Ward**
- └ Hiring for Peer Effects | Design.  
**Robert Ward**

## Talks

- └ Invited Talk, *Google*, 2023
- └ Invited Talk, Clauset Lab Seminar, *University of Colorado, Boulder*, 2023
- └ Invited Talk, Knowledge Lab Seminar, *University of Chicago*, 2023
- └ Invited Talk, C-EENRG, *University of Cambridge*, 2023
- └ Invited Talk, *International Genetically Engineered Machines Competition (iGEM)* Paris, France, 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, 2022. National Academy of Sciences, Washington DC
- └ Invited Talk, Workshop on Original Policy Research, *Georgia Institute of Technology*, 2022
- └ *Association for Public Policy and Management (APPAM) Fall Research Conference*. Mar 27-29, 2022 (Online).
- └ *6th Summer School on Data and Algorithms for Science, Technology & Innovation Studies*. Aristotle University of Thessaloniki-KU Leuven, Sep 22-24 (Online)
- └ *10th Global TechMining Conference*. Nov 11–13, 2020, Atlanta, Georgia
- └ Invited Talk, *Just One Giant Lab*, 2020

## Workshops and Summer Schools

- └ *Santa Fe Institute*, Graduate Workshop on Computational Social Science, June 18-30, 2023
- └ Atlanta Academy on Science and Innovation Policy, *Georgia Institute of Technology* March 21-25, 2022
- └ Society of Young Network Scientists (SYNS) Networks Pre-Conference Workshop. Jun 26, 2021 (Online)
- └ Science of Science Summer School, iSchool, *Syracuse University*. Jul 26-Aug 8, 2021 (Online)

## Funding and Awards

- └ Outstanding Doctoral Student Award  
*School of Public Policy, Georgia Institute of Technology*, 2023
- └ Travel Support (\$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*, 2023

- └ Travel Support (\$3,956)  
*School of Public Policy, Georgia Institute of Technology, 2022*
- └ iGEM Team Interaction Study (\$6,000)  
*Google and University of Vermont OCEAN Grant, 2022*
- └ Quantitative assessment of open collaborations in science and engineering (€278,064)  
Supporting author with PI: Marc Santolini  
*French National Research Agency AAPG2021, 2022-24.*
- └ S4 Fellowship. (\$2,000)  
*Subaward from NSF #1933675 shared with Alec McGail and Aaron Mendon-Plasek, 2021.*
- └ President's Fellowship. (\$22,000)  
*Georgia Institute of Technology, 2019-2023*

## Teaching

- └ Guest Lecture on Causal Inference and Interventions in Networks  
Complex Systems Physics Seminar, *Skolkovo Institute of Science and Technology*  
Nov 10, 2022 (Online).
- └ Instructor for Computing Bootcamp, 2022  
*Georgia Institute of Technology*
- └ Coinstructor for International Genetically Engineered Machines Competition Team, 2019  
*The Ohio State University*

## Service

### Organizer

- └ Volunteer Coordinator *Atlanta Conference on Science and Innovation Policy* May 27, 2023.  
Georgia Institute of Technology, Atlanta, Georgia.
- └ *Workshop on the Organization of Science.* Oct 25, 2022. LPI, Paris, France.
- └ *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, 2021 (Online). [interactiondatalab.com/netopen21](https://interactiondatalab.com/netopen21)

### Reviewer

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

## Consulting and Other Projects

- └ *Mass Customizable and On-demand Integrated Circuits*, 2021-22.  
PIs: Michael Filler and Eric Vogel
- └ *Technology Forecasting*, 2021-22. United States Army Research Lab
- └ *Corporate Entry into Nanotechnology*, 2020.  
NSF Subcommittee on Nanoscale Science Engineering and Technology (NSET)
- └ *Social Network Analysis*, 2020-22.  
Southeastern Nanotechnology Infrastructure Corridor (SENIC) Georgia Tech / NSF
- └ *Scientific Impacts of the Georgia Sea Grant*, 2019.  
University of Georgia Marine Extension and Georgia Sea Grant
- └ *Social Network Analysis*, 2019.  
Georgia Institute of Technology Center for Space Technology and Research (CSTEP).
- └ *Improving the Cybersecurity and Cost Effectiveness of USAF Industrial Control Systems*, 2019.  
United States Air Force Installation Contracting Agency (AFICA/KA).