Robert Ward

Ph.D. Candidate   October 2023
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Georgia Institute of Technology   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 Oettl, 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.
  Press coverage in *Le Monde*

⌐ 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.

⌐ Who Contributes What in Science? | Analysis.
Robert Ward‡, Christopher Esposito‡, Fengli Xu, Eamon Duede, James Evans

⌐ Collaboration and Integration | Data preparation.
Robert Ward‡, Christopher Esposito‡, 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

‡Presented by coauthor.

- Invited Talk, *ESMT Berlin*, 2023
- Invited Talk, *Google*, 2023
- Invited Talk, Clauset Lab Seminar, *University of Colorado, Boulder*, 2023
- ‡ New Geography of Work PDW, *Academy of Management Annual Meeting*, 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).
- ‡ NetSciX, Porto, Portugal, Feb 8-11, 2022
- *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

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).