

# Jingyi Wu

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## Education

**Ph.D. Candidate** Philosophy (LPS), *University of California, Irvine*, Spring 2023 [Expected].

Graduate Emphases in Physics; Race and Justice Studies.

Advisors: Cailin O'Connor and James Weatherall

Dissertation: "Those Who Know Better"

**M.A.** Social Science, Institute for Mathematical Behavioral Sciences, *University of California, Irvine*, 2021.

**M.A. Student** Logic and Philosophy of Science, *Munich Center for Mathematical Philosophy* 2017-2018.

**B.A.** Philosophy and Mathematics, *Middlebury College*, 2013-2017.

Honors: *Summa Cum Laude*; *Phi Beta Kappa*; Highest Honors in Philosophy; Kellogg Fellowship in Humanistic Inquiry; John T. Andrews Memorial Prize in Philosophy 2017.

Philosophy honors thesis: "Towards Interactive Objectivity in Social Science."

Mathematics thesis: "Geometry of Spacetime."

## Publications

### Peer Reviewed Articles

- A6 (With 24 Interdisciplinary Co-authors) The Next Generation Event Horizon Telescope Collaboration: History, Philosophy, and Culture. *Galaxies*, Forthcoming
- A5 **Jingyi Wu** and Cailin O'Connor. How Should We Promote Transient Diversity in Science?. *Synthese*, Forthcoming
- A4 **Jingyi Wu**, Cailin O'Connor, and Paul E. Smaldino. The Cultural Evolution of Science. In *The Oxford Handbook of Cultural Evolution*. Jeremy Kendal, Rachel Kendal, and Jamshid Tehrani (Eds.). Oxford University Press, Forthcoming
- A3 **Jingyi Wu**. [Epistemic Advantage on the Margin: A Network Standpoint Epistemology](#). *Philosophy and Phenomenological Research*, 2022 (Early View)
- A2 **Jingyi Wu**. [Explaining Universality: Infinite Limit Systems in the Renormalization Group Method](#). *Synthese*, 199(5):14897–14930, 2021
  - Winner of the Hanneke Janssen Memorial Prize 2021.
  - Winner of the Justine Lambert Prize 2022.
- A1 Stephen Abbott and **Jingyi Wu**. A Bohr Mollerup Theorem for Interpolating the Triangular Numbers. *Journal of Convex Analysis*, 25(1):65–73, 2018

## Works in Progress

- W1 "Withholding Knowledge." [under review, draft available]
- W2 "Better than Best: Epistemic Landscapes and Diversity of Practice in Science." [in preparation]
- W3 "Between a Stone and a Hausdorff Space" (with James Weatherall). [in preparation]
- W4 "Space, Time, and Geometry from Newton to Einstein, feat. Maxwell" (with James Weatherall). [book in preparation]

## Talks

### Invited Talks

- IT8 Title TBD. Workshop on Formal and Experimental Philosophy (FAX) 3, University of Missouri, Columbia, October 2023. [Scheduled]
- IT7 Title TBD. Pittsburgh Formal Epistemology Workshop, Pittsburgh, March 2023 (Online). [Scheduled]
- IT6 “Better than Best: Epistemic Landscapes and Diversity of Practice in Science.” Workshop on Agent-based Modeling of Epistemic Communities, Bochum, February 2023. [Scheduled]
- IT5 “Withholding Knowledge.” Seminar on Formal and Social Epistemology, Sorbonne Université, Paris, November 2022 (Online).
- IT4 “Withholding Knowledge.” University of York, York, November 2022 (Online).
- IT3 “Explaining Universality: Infinite Limit Systems in the Renormalization Group Method.” Southern Californian Philosophy of Physics Group, Irvine, October 2022.
- IT2 “Between a Stone and a Hausdorff Space.” Jagiellonian University, Kraków, June 2022. (based on joint work with James Weatherall)
- IT1 “Explaining Universality: Infinite Limit Systems in the Renormalization Group Method.” New Directions in the Foundations of Physics, Viterbo, May 2022.

### **Refereed Talks**

- RT4 “Better than Best: Epistemic Landscapes and Diversity of Practice in Science.” Philosophy of Science Association Biennial Meeting, Pittsburgh, November 2022.
- RT3 “Epistemic Advantage on the Margin: A Network Standpoint Epistemology.” Philosophy of Science Association Biennial Meeting, Baltimore, November 2021.
- RT2 “Between a Stone and a Hausdorff Space.” Foundations of Physics, Paris, October 2021. (based on joint work with James Weatherall)
- RT1 “Explaining Universality: Infinite Limit Systems in the Renormalization Group Method.” Foundations of Physics, Utrecht, July 2018.

### **Public Talk**

- PT1 “Risk and Decision Modeling” (with James Weatherall), NSF Convergence Accelerator Expo, July 2022.

### **Other Conference Participation**

- Invited Discussant, New Directions in the Foundations of Physics, Viterbo, May 2023. [Scheduled]
- Panelist, Special Panel on “Departmental Climate & Community”, PSA2022, November 2022.
- Invited Poster, “Epistemic Advantage on the Margin,” Trust, Distrust, and Forgiveness, UC Irvine, September 2022.
- Invited Discussant, Institutions and the Scientific Research Agenda, The Center for Philosophy of Science, Pittsburgh, April 2022.
- Panelist, MAP Session on “Countering Bullying, Harrassment, and Microaggressions”, Eastern APA, January 2021 (Online).
  - Panel contribution titled “Microaggressions (or, Racialized Epistemic Violence) in Progressive Spaces.”
- Discussant, Foundations of Cosmology and Quantum Gravity, NYU Abu Dhabi, January 2020.

### **Awards, Grants, and Recognition**

- Social Science Merit Fellowship, School of Social Science, UC Irvine, 2018-2024.
- Summer Inclusive Excellence Fellowship, UC Irvine, \$5,000, 2022.
- Justine Lambert Prize, UC Irvine, \$2,000, 2022.
  - University-wide prize for the best paper by a graduate student on the foundations of science.
- UCHRI Multicampus Graduate Student Working Group Grant: Minorities and Philosophy (MAP) Californian Regional Consortium (PI; with Graduate Student Co-PI Milana Kostic and Faculty PI Cailin O’Connor), \$3,200, 2021-2023.

Hanneke Janssen Memorial Prize, €2,000, 2021.  
*-International prize for the best masters-level work in history and philosophy of physics.*  
Summer Inclusive Excellence Grant, UC Irvine, \$5,000, 2021.  
Provost Ph.D. Fellowship, UC Irvine, \$20,000, 2018-2021.  
*-Selective recruitment fellowship for top 5% of admitted doctoral students.*  
Inclusive Excellence Ambassador Fellowship, UC Irvine, \$5,000, 2020.  
Graduate Dean's Recruitment Fellowship, UC Irvine, \$10,000, 2018.  
Study Scholarship at LMU Munich, Federal State of Bavaria, €6,500, 2018. (partially declined)  
GREAT University of Cambridge Scholarship, Cambridge Trust & British Council, £20,000, 2018.  
(declined)  
Maintenance Award for MPhil in HPS, University of Cambridge, £6,500, 2018. (declined)

## Service

### Professional Positions

**Member**, UPSS (Underrepresented Philosophy of Science Scholars) Committee, Philosophy of Science Association, April 2022- Present.  
**Co-director**, MAP (Minorities and Philosophy) International, 2020-2021.  
**International Organizer**, MAP International, 2018-2020.

### Conference and Workshop Organizing

**Co-founder, Co-organizer and Presenter** (2019), **Advisor and Presenter** (2020), **Panelist** (2021), **Co-organizer and Facilitator** (2022), Wonder Philosophy (Workshop on Discovering Entrance Requirements in Philosophy), UC Irvine.  
**Organizing Committee Co-chair**, Workshop on "Feminist Philosophy of Physics," Center for Philosophy and History of Science, Boston University, 2024.  
**Organizer**, Symposium on "The Science of Diversity and Diversity in Science," PSA2022, Pittsburgh, November 2022.  
**Co-organizer**, Conference on "Values, Fairness, and Machine Learning," UC Irvine, June 2022.  
**Co-organizer and Co-facilitator**, Workshop on "Using Public Philosophy to Increase Diversity and Inclusion," Public Philosophy Network Conference, October 2021 (Online).  
**Organizer and Chair**, MAP Special Session on "Race and Racial Justice," PSA2021, Baltimore, November 2021.  
**Co-organizer**, MAP Session on "Public Philosophy and Activism," Central APA, February 2021 (Online).  
**Co-organizer**, MAP Session on "Countering Bullying, Harrassment, and Microaggressions," Eastern APA, January 2021 (Online).  
**Co-organizer**, Workshop on "Achieving Racial Equity in Postsecondary Education: Implications for the Social Sciences," School of Social Sciences, UC Irvine, December 2020 (Online).  
**Co-organizer**, Conference on "Women and Academia," UC Irvine, May 2019.  
**Co-organizer and Chair**, MAP Session on "Creating Inclusive Spaces," Pacific APA, April 2019.  
**Co-organizer and Chair**, MAP Session on "Skill Building & Improving the Profession," Eastern APA, January 2019.

### University Service

**Chair**, LPS Climate Committee, Logic and Philosophy of Science, UC Irvine, 2021-2022.  
**Panelist**, Graduate Student Panel, LPS Summer Diversity Program, UC Irvine, August 2022.  
**Member**, Graduate Student Awards Committee, Logic and Philosophy of Science, UC Irvine, 2021, 2022.  
**Member**, LPS Climate Committee, Logic and Philosophy of Science, UC Irvine, 2020-2021.  
**Designer and Convener**, LPS Climate Committee, Logic and Philosophy of Science, UC Irvine, 2020.

**Student Representative**, DECADE (Diverse Educational Community and Doctoral Experience), UC Irvine, 2019-2021.

**Co-founder and Organizer**, MAP MCMP, 2018.

**Referee** for *Philosophy of Science*, *British Journal for Philosophy of Science*, *Synthese*, *Studies in History and Philosophy of Science*, *European Journal for Philosophy of Science*

## Teaching Employment

### UC Irvine

**Instructor of Record**

Asian American Philosophy, Summer Session I, 2022.

**Guest Lecturer**

Philosophy of Sex, Winter 2019.

**Teaching Assistant**

Critical Reasoning (Elliott Chen), Spring 2021;

The Good Life (Cailin O'Connor and James Weatherall), Spring 2019;

Philosophy of Sex (Cailin O'Connor), Winter 2019.

### Elsewhere

**Instructor of Record**, AcadeMe China.

Philosophy of Space and Time, Summer 2021.

## Research Employment and Collaborations

**Member**, Collaboration Focus Group & Responsible Siting Focus Group, Next Generation Event Horizon Telescope (ngEHT) Project, June 2022-Present.

**Graduate Student Researcher**, National Science Foundation Convergence Accelerator Award #2137567, "An Algorithmic Observatory to Address Financial Misinformation and Disinformation in Minoritized Communities" (PI Maurer, Co-PIs Crooks, Harding, Lockwood, Nelms, and Weatherall), Fall 2021, Winter, 2022, Spring 2022, Summer 2022.

-Served on the six-person leadership team for this multidisciplinary project;

-Served on the five-person pitch team in June 2022.

**Graduate Student Researcher**, John Templeton Foundation Grant #61048, "New Directions in Philosophy of Cosmology" (Co-PIs Smeenk and Weatherall). Fall 2019, Winter 2020, Spring 2020, Winter 2021.

**Graduate Student Researcher**, National Science Foundation Grant #1922424, "Consensus, Democracy, and the Public Understanding of Science," (Co-PIs O'Connor and Weatherall). Fall 2020, Summer 2021.

## Selected Public Philosophy

Title TBD, Invited Contribution to "New Work in Philosophy" Substack. 2023 [Expected]

**Jingyi Wu**, "Modeling Injustice in Epistemic Networks," Invited Symposium to The Brains Blog. Comments by Kevin Zollman. February 2023. [Scheduled]

**Jingyi Wu**, "[How Does Risk Impact Personal Financial Decisions?;](#)" Community Credit, June 2022. Elise Woodard, Carolina Flores, Milana Kostic, Angela Sun, and **Jingyi Wu**, "[Setting Boundaries: Personal & Professional;](#)" Philosophers' Cocoon, May 2020.

Helen Meskhidze and **Jingyi Wu**, "[Does Inflation Need Justification?;](#)" New Directions in the Philosophy of Cosmology Blog, March 2020.

**Jingyi Wu** and Helen Meskhidze, "[Spacetime Emerged?;](#)" New Directions in the Philosophy of Cosmology Blog, February 2020.

Carolina Flores, Elise Woodard, **Jingyi Wu**, and Keyvan Shafiei, “[Report on Service Work Distribution and Compensation Among Graduate Students](#),” *Minorities and Philosophy*, October 2019.

Carolina Flores, Keyvan Shafiei, Elise Woodard, and **Jingyi Wu**, “[MAP Eastern APA Session: Skill-Building & Improving the Profession](#),” *Blog of the APA*, April 2019.

## **Additional Educational and Professional Training**

### **Training**

Bystander Intervention Training for People Experiencing Anti-Asian or Asian American Harassment, Right to Be (formerly Hollaback!), April 2021.

Facilitating Restorative Dialogues, The California Conference for Equality and Justice, March 2021.  
Certificate in Public Speaking, UC Irvine, Fall 2020 (Quarter-long Program).

### **Summer Schools and Visiting Positions**

Masterclass with Sally Haslanger, LMU Munich, Germany July 2018.

XXI Summer School in Philosophy of Physics (topic: quantum field theory), Urbino, Italy June 2018.

Visiting Student, Logic and Philosophy of Science Department, UC Irvine, March-April 2017.

Summer School for Female Students (stream: spacetime structures with James Weatherall), Munich Center for Mathematical Philosophy, Munich, Germany July 2016.

Visiting Student, Columbia College, Columbia University, January-May 2016.

## **Graduate coursework(\*=audit)**

### **UC Irvine**

Classical Field Theories II (with James Weatherall)

Classical Field Theories I (with James Weatherall)

Race and Justice Writing Seminar\* (with Davin Phoenix)

Gender, Empire, and the Archives (with Dorothy Fujita-Rony)

Race and Justice Studies Proseminar (with Ana Muñoz)

Philosophy of Cosmology\* (with Chris Smeenk and James Weatherall)

Social Dynamics (with Louis Narens and Brian Skyrms)

Network Epistemology (with Cailin O'Connor)

Philosophy of Quantum Mechanics (with Jeff Barrett)

Kant's Philosophy of Science (with Jeremy Heis)

Speech Ethics (with Aaron James)

Spacetime Singularities (with JB Manchak and James Weatherall)

General Relativity (independent study with JB Manchak)

Du Chatelet (independent study with James Weatherall)

Set Theory (with Toby Meadows)

Geometry and Spacetime (topic: global spacetime structures with JB Manchak)

Differential Geometry (with Richard Schoen)

### **MCMP**

Reduction and Emergence (with Patricia Palacios)

Symmetries in Physics\* (with Neil Dewar)

Foundations of Thermodynamics and Statistical Mechanics (with Erik Curiel)

Bayesian Philosophy of Science (with Stephan Hartmann)

Formal Methods I (topic: metalogic with Norbert Gatzl)

Intro to Philosophy of Physics\* (with Neil Dewar)

Gödel's Incompleteness Theorems (with Lavinia Picollo)

Computability\* (with Ivano Ciardelli)

From Kant to Quine: the History of Logical Empiricism (with Neil Dewar)

Quantum Mechanics and Quantum Information Theory\* (with Stephan Hartmann)

**Columbia**

Direction of Time (with David Albert)

## References

\*Please contact Logan Lanis (llanis@uci.edu), Department Analyst for the Logic and Philosophy of Science Department at UC Irvine, for all reference letter requests.

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**Jeremy Heis (Teaching)**

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## Dissertation Abstract: Those Who Know Better

How do social identities and social injustice impact knowledge production in a group? Does diversity improve group learning? In what ways? How do we promote such diversity? These are the kinds of questions I tackle in my dissertation, which is situated at the intersection of social epistemology, network modeling, and the philosophy of race and gender.

A theme running through my findings is that having a diversity of approaches within a group can facilitate the production of better knowledge. I propose three novel mechanisms that lead to epistemically-beneficial diversity and use agent-based models to investigate their often surprising downstream consequences. I show that (1) marginalized social groups sometimes develop better beliefs because their testimony is devalued by dominant groups; (2) industrial scientists can gain epistemic benefits by failing to share their research; and (3) a group can ultimately learn better when its members explore many, possibly sub-optimal, solutions to a problem instead of always choosing the best available solution.

In my first chapter, “[Epistemic Advantage on the Margin](#)” [*Philosophy and Phenomenological Research* 2022], I consider situations where a dominant group ignores or devalues evidence from a marginalized group. I find that the marginalized group develops better beliefs more often and faster than the dominant group, and in some cases even outperforms a community without epistemic injustice. When the dominant group ignores data, they take longer to explore the options. The marginalized group, however, learns from their own experience and the exploration of the dominant group, and ultimately benefits from this epistemic diversity. These results support a contested standpoint epistemology thesis that marginalized groups can know better, by connecting it to a more widely accepted phenomenon that marginalized groups’ testimony is often devalued. These models also have implications for a well-known network epistemology result, the Zollman effect, which states that a less connected community can have better beliefs.

In my second chapter, “Withholding Knowledge” [draft available], I argue that there are epistemic incentives for subgroups of scientists to unilaterally withhold evidence from the larger community. In so doing, they develop better beliefs more frequently and faster than the rest of the community. The withholding scientists gain epistemic advantage for similar reasons as the marginalized agents in chapter one. I build two new models from different modeling paradigms to provide robustness testings for these findings. I further analyze the scientific sharing dynamics from a game theoretic perspective and show that groups face an epistemic prisoner’s dilemma: they learn worst when others withhold evidence, best when they unilaterally withhold, and in between when everyone shares. This chapter introduces an epistemic dimension to the literature on scientific sharing (or communism in science), which has primarily focused on instrumental incentives. I further apply these results to the relationship between academic and industrial scientists.

In my third chapter, “Better than Best” [in preparation], I use an under-explored modeling framework (the NK landscape model) to show that a group can learn better when its members do not always employ the best available solution to a problem. If group members randomly select a better solution than their own, they preserve a diversity of approaches that ultimately makes them more successful. This result reveals a tension between individual and group decision making: groups learn better when their members do not always choose the best for themselves. Moreover, when different social groups tend to adopt different approaches to solving problems, there can be benefits to preserving diverse perspectives, even though it may not be the best short-term option.

If we do better, we can know better. My findings generate a range of potential behavioral and policy interventions for empirical testing. For instance, dominant groups may epistemically benefit from listening to previously marginalized voices; the public may epistemically benefit from policies requiring industry to share research; and institutions may epistemically benefit from policies that preserve non-optimal but promising diverse perspectives.