Shelly Yiran Shi

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Division of the Humanities and Social Sciences
California Institute of Technology
1200 E California Blvd., Pasadena, CA 91125

Email: syshi@caltech.edu
Office: B115 Dabney Hall
Website: https://www.shellyshi.com

Area of Speciality — History and Philosophy of Science, Philosophy of Physics, Metaphysics

Area of Competence — AI Ethics, Feminist Epistemology, History of Science, Philosophy of Economics

Employment

California Institute of Technology — Pasadena, CA, US
Postdoctoral Fellow in Philosophy of Science — 2026 – present

Education

University of California San Diego — La Jolla, CA, US
PhD in Philosophy — 2020 – 2026
Dissertation: Spacetime, Symmetry, and Scientific Practice: Essays in History and Philosophy of Physics
Committee: Craig Callender (Chair), Nancy Cartwright, Eddy Keming Chen, Kerry McKenzie, Raphael Flauger (Physics) and Dennis Lehmkuhl (Oxford/Bonn)

Oxford University — Oxford, UK
Recognised Student in Philosophy (Sponsor: James Read) — Hilary 2026

Columbia University — New York, NY, US
MA in Philosophical Foundations of Physics (Advisor: David Albert) — 2017 – 2019

London School of Economics and Political Science — London, UK
BSc (Hons) in Philosophy and Economics — 2014 – 2017

Publications

Nothing Matters in *Philosophy of Science* (2025)
Winner of the Mary B. Hesse Award
https://doi.org/10.1017/psa.2025.10144

Are Symmetry Principles Meta-Laws? in *Synthese* 205, 223 (2025)
https://doi.org/10.1007/s11229-025-05064-w

Works in Progress

Why Not a Gravitational Perpetual Motion Machine?
Winner of the Clifton Memorial Award
Under Review

Chien-Shiung Wu: Breaking Parity Against Disparity
Under Review

Mach's Ether and Wheeler's Geons: Who's Afraid of Gravitational Waves
Provisionally accepted. Contribution to a collected volume contracted with *Cambridge University Press*

What's the Matter with Matter?
Provisionally accepted. Joint work with Eugene Chua. Contribution to a collected volume contracted with *Cambridge University Press*

Patchwork Gravity
Joint work with Craig Callender. Contribution to a collected volume

Talks

On Gravitational Waves and the Spacetime-Matter Distinction
Philosophy of Science Association Biennial Meeting, San Diego, US Nov'26

Patchwork Gravity
European Society for the History of Science/History of Science Society (ESHS/HSS) Joint Meeting, Edinburgh, UK Jul'26

Why Not a Gravitational Perpetual Motion Machine?
Sigma Club Seminar, London School of Economics, UK Mar'26
RCNP Colloquium, Radboud Universiteit, NL Mar'26
Philosophy of Physics Graduate Lunch Seminar, Oxford University, UK Feb'26
Philosophy of Logic-Math-Physics Conference, Western University, CAN May'25
Caltech Philosophy of Physics Reading Group, Caltech, US Apr'25

Chien-Shiung Wu: Breaking Parity Against Disparity
UCSD Science Studies Colloquium, UCSD, US Apr'26
Institute for Science in Society Colloquium, Radboud Universiteit, NL Mar'26
Philosophy Speaker Series, NYU Shanghai, CN Sep'25
Science Studies Graduate Symposium, UCSD, US May'25
Feminist Philosophy of Physics Workshop, University of Michigan, US Jun'24

Nothing Matters
Spacetime Matters Conference, Utrecht University, NL Sep'25
Philosophy of Science Association Biennial Meeting, New Orleans, US Nov'24
British Society for the Philosophy of Science Annual Conference, York, UK Jul'24
ILMPS Conference in Philosophy & Foundations of Physics, KCL, UK Jun'24

Are Symmetry Principles Meta-Laws?
Foundations of Physics Conference 2023, University of Bristol, UK Jul'23
Philosophy of Science Association Biennial Meeting, Pittsburgh, US Nov'22
Graduate Philosophy Colloquium, UCSD, US Apr'22

Values and Statistics in Algorithmic Fairness
Science, Values and Policy Workshop, Yosemite, US Jun'23

Algorithmic Fairness: A Statistical Problem in Social Contexts?
Philosophy, AI and Society Workshop, Stanford University, US Jan'23

Awards and Grants

American Institute of Physics (AIP) Grants-in-Aid for History of the Physical Sciences (Project: C.S. Wu and the 20th-century Chinese Scientific Diaspora) 2026

Clifton Memorial Award for best paper at the Philosophy of Logic-Math-Physics (LMP) graduate student conference, Western University, Canada 2025

International Institute Research Award (UCSD) for archival research 2025

Mary B. Hesse Award for the best graduate student essay at the Philosophy of Science Association (PSA) Biennial Meeting, New Orleans, US 2024

National Science Foundation (NSF) Travel Grant for PSA 2022, 2024

Dean of Arts and Humanities Travel Award (UCSD) 2023, 2024

Graduate Student Association Travel Award (UCSD) 2023, 2024

Graduate School of Arts and Science Scholarship (Columbia) 2017 – 2018
Kathryn and Shelby Cullom Davis Fellowship Award (Columbia) 2018

Teaching Employment

Instructor of Record Division of the Humanities and Social Sciences, Caltech
Hum/PI 17: Science and Pseudoscience Fall'26
HPS/Pl 124: Philosophy of Space and Time Spring'27
Instructor of Record Department of Philosophy, UCSD
PHIL 24: Science and Pseudoscience Summer'25
Teaching assistant Department of Philosophy, UCSD
PHIL 24: Science and Pseudoscience (Craig Callender) Winter'25
PHIL 55: Living in a Digital World (David Danks) Fall'24
PHIL 27: Ethics and Society (Reuven Brandt) Spring'24
PHIL 12: Scientific Reasoning (Karen Kovaka) Fall'23
Teaching assistant Department of Data Science, UCSD
DSC 215: Statistical Thinking and Experimental Design (Yoav Freund) Winter'24
Teaching assistant Culture, Art, and Technology program, UCSD
CAT 3: AI Narratives (Romain Delaville) Spring'23
CAT 2: Asian Diasporas in Film and Media (Nguyen Tan Hoang) Winter'23
CAT 1: Un/Natural Environments (Phoebe Bronstein) Fall'22
CAT 3: Our Future Climate (Adam Burgasser) Spring'22
CAT 2: The Process of Music (Joe Bigham) Winter'22
CAT 1: Origins (Guillermo Algaze) Fall'21
Instructor of record Veritas China
Philosophy of Physics: Spacetime Summer'19/20/21
Teaching associate Department of Physics, Columbia University
PHYS1111: Origins and Meaning (Brian Greene) Fall'19

Service and Public Engagement

Reviewer *Philosophy of Science* (×3)
Reviewer *British Journal for the Philosophy of Science* (×2)
Reviewer *European Journal for Philosophy of Scienc*
Reviewer *Journal for General Philosophy of Science*
Reviewer Proceedings of the Association for Computing Machinery Conference on Fairness, Accountability, and Transparency (ACM FAcct) (×3)
Reviewer European Workshop on Algorithmic Fairness (×2)
Program Committee Foundations of Physics Conference 2027, NTU Singapore
Panelist Stargazing Public Lecture, Department of Astronomy, Caltech Aug'2026
Session Chair Foundations of Physics Conference 2026, UC Irvine Jun'2026
Organizer Caltech Philosophy of Science & Physics Reading Group 2026 – 2027
Organizer UCSD Philosophy of Physics Reading Group 2024 – 2026
Judge California State Summer School for Mathematics and Science Student Ethics Competition (×3) 2024, 2025, 2026
Instructor Corrupt the Youth, University City High School, San Diego (×3) 2025
Participant Athena in Action, University of Notre Dame 2024
Co-organizer First Feminist Philosophy of Physics Workshop, UMich 2024

Commentator Society for the Metaphysics of Science Annual Conference 2023
Participant Minorities and Philosophy COMPASS Workshop, UMich 2019
Volunteer A Night of Philosophy and Ideas, Brooklyn Public Library 2019

Graduate Coursework

(* denotes audited courses)

Philosophy of Science and Philosophy of Physics

Advanced Philosophy of Physics* (Sam Fletcher & Adam Caulton, Oxford) 2026
Philosophy of Cosmology* (Jim Weatherall & Chris Smeenk, UCI & Western) 2024
Philosophy of the Biology of Sex* (Karen Kovaka) 2024
Philosophy of Space and Time* (Craig Callender) 2023
Philosophy of Science (Nancy Cartwright) 2022
Philosophy of Climate Change* (Karen Kovaka) 2022
Philosophy of Science: Rethinking Laws (Eddy Chen) 2021
Philosophy of Quantum Mechanics (David Albert, Columbia) 2018
The Direction of Time (David Albert, Columbia) 2017

Science Studies

Environmental Communication (Christo Sims, Communication) 2023
Science Studies III (Nydia Pineda De Avila, History) 2023
Science Studies II: Sensory Studies (David Serlin, Communication) 2022
Science Studies I (Cathy Gere, History) 2021

Metaphysics and Epistemology

Metaphysics: Grounding (Eric Watkins) 2021
Epistemology: Truth, Value, and Knowledge (Gila Sher) 2021
Formal Epistemology (Jennifer Carr) 2021
Topics in Metaphysics: Time (Jenann Ismael, Columbia) 2019

Ethics

Bioethics (Reuven Brandt) 2022
Data Ethics (David Danks) 2021

History of Philosophy

Pre-Socratic Philosophy (Monte Johnson) 2022
Leibniz (Donald Rutherford) 2020

Philosophy of Mind

Philosophy of Pain (Matthew Fulkerson) 2021

Physics

Relativistic Quantum Field Theory I* (Clifford Cheung, Caltech) 2026
Cosmology (George Fuller) 2025
Compact Objects* (Raphael Flauger) 2025
General Relativity III (Raphael Flauger) 2024
General Relativity II (Raphael Flauger) 2023
General Relativity I (Raphael Flauger) 2023

References

Craig Callender
Tata Chancellor Distinguished Professor of Philosophy
Department of Philosophy
University of California, San Diego

ccallender@ucsd.edu
Nancy Cartwright
Distinguished Professor of Philosophy
Department of Philosophy
Durham University and University of California, San Diego
nancy.cartwright@durham.ac.uk
Eddy Keming Chen
Associate Professor of Philosophy
Department of Philosophy and the Halıcıoğlu Data Science Institute
University of California, San Diego
eddykemingchen@ucsd.edu
Dennis Lehmkuhl
Lichtenberg Professor of History and Philosophy of Physics
Lichtenberg Group for History and Philosophy of Physics
University of Bonn
dennis.lehmkuhl@uni-bonn.de
Kerry McKenzie
Associate Professor of Philosophy
Department of Philosophy
University of California, San Diego
kmckenzie@ucsd.edu
Karen Kovaka (for a teaching letter)
Associate Professor of Philosophy
Department of Philosophy
University of California, San Diego
kkovaka@ucsd.edu