

Marian J. R. Gilton

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Appointments

2019 – present Assistant Professor, Department of History and Philosophy of Science, University of Pittsburgh.

Areas of Specialization

Philosophy of Physics. History and Philosophy of Physical Science. Philosophy of Science.

Areas of Competency

Metaphysics. Philosophical Logic. Ethics.

Education

2019 Ph.D. Philosophy, *University of California, Irvine*. Philosophy of physics emphasis.
2016 M.A. Philosophy, *University of California, Irvine*.
2013 B.S. Physics and Theology, Philosophy minor, *cum laude*, *Fordham University*.

Publications

2022 “Viewing quantum charge from the classical vantage point.” *Philosophy of Science*.
2021. “Could Charge and Mass be Universals?” *Philosophy and Phenomenological Research*.
2016. “Whence the eigenstate-eigenvalue link?” *Studies in History and Philosophy of Modern Physics* 55, 92-100.

Working Papers

“How Haag-Tied Is QFT, Really?” With David Freeborn and Chris Mitsch. (Revise and Resubmit decision from *Philosophy of Physics*.)
“Newton and Aristotle on Substance: a Surprising Kinship.” (In submission)
“Haag as a How-To Theorem.” With David Freeborn and Chris Mitsch.

“Noether's Ledger: Charge Conservation in non-Abelian Gauge Theories.”

“Color Charge is not Like Electric Charge.”

Presentations

“Where counting counts: supporting a particle interpretation of particle physics.”

University of California, Irvine. Irvine, CA. November 2023.

“Newton's Axiomatics.” The 21st European Conference on Foundations of Physics.

University of Bristol. Bristol, UK.

“Clarifying the Analogy Between Color Charge and Electric Charge.” Baylor University.

Waco, TX. February 2022.

“The reception of Aristotelianism in Newton's metaphysics of space.” History of Philosophy of Science Society Biennial Conference. Irvine, CA. June 2022. [Talk canceled due to Covid-19.]

“Rethinking Charge Properties.” Early Career Conference in Philosophy of High Energy and Particle Physics. Keynote speaker. Center for Philosophy of Science, University of Pittsburgh. Pittsburgh, PA. March 2022.

“Viewing quantum charge from the classical vantage point.” Philosophy of Science Association 2020/2021 Biennial Meeting. Baltimore, MD. November 2021.

“On the (dis)analogy between electric charge and color charge.” Society for the Metaphysics of Science annual meeting. September 2021. Virtual presentation.

“On the Analogy Between Electric Charge and Color Charge.” Center for Philosophy of Science. University of Pittsburgh. Lunch Time Talk series. November 2019.

“Charge in Classical Field Theories.” Dissertation Defense. University of California, Irvine. June 2019.

“Conserving Color Charge.” Boston Colloquium in Philosophy of Science: 100 Years of Emmy Noether's Theorems. Center for Philosophy and History of Science. Boston University. Boston, MA. November 2018.

“Modeling Chisholm's Logic of Obligation, Requirement, and Defeat.” Workshop: Normative Notions Formalized. Munich Center for Mathematical Philosophy, Ludwig-Maximilians-Universität München. Munich, Germany. August 2018.

“Could Charge and Mass be Universal Properties?” Southern California Philosophy of Physics Reading Group. University of California, Irvine. CA November 2017.

“Modeling Chisholm's Logic of Obligation, Requirement, and Defeat.” Formal Ethics 2017. International Conference, York University. York, UK. June 2017.

“Whence the Eigenstate-Eigenvalue Link?” Fourth Irvine-Princeton-Pittsburgh Conference on the Mathematical and Conceptual Foundations of Physics. University of Pittsburgh. Pittsburgh, PA. April 2016.

“Are Two Higgs Better Than One?” Colloquium Series. Fordham University. New York, NY. October 2012.

Other Presentations

Panelist. Foundations of Modern Physics Rackham Interdisciplinary Workshop: Naturalness, Renormalization, and Fundamentality. University of Michigan. May 2023 [scheduled].

Invited respondent at the annual Russell Family Fellowship program’s fellow’s research conference. Center for Theology and the Natural Sciences at the Graduate Theological Union in Berkeley, CA. September 25, 2021.

“Charge in Classical Field Theories.” Philosophy of Science Association 2018 Biennial Meeting. Seattle, WA. Poster Presentation. November 2018.

Invited Discussant. Rutgers-Columbia Workshop on the Metaphysics of Science: Quantum Field Theories, May 2018.

Honors and Awards

University of California, Irvine

Order of Merit Outstanding Scholarship Award, 2019. Recognition of outstanding research among graduate students throughout the School of Social Sciences.

[Lilly Graduate Fellow](#), 2013 – 2016. Competitive fellowship with monetary reward for graduate students in the arts and humanities.

Certificate of Mentorship Excellence, May 2017. Earned for completion of six weeks of mentorship training.

DECADE Student Travel Award, March 2018. Competitive award for graduate students involved in diversity initiatives.

School of Social Sciences Merit Fellowship, 2013 – 2018.

Graduate Dean's Recruitment Incentive Award, 2014.

Teaching Experience

University of Pittsburgh

Graduate

History of Science Core Seminar, Spring 2023
Philosophy of Gauge Theory, Fall 2021.
History of Science I Core seminar, Spring 2021.
History of the Old Quantum Theory, Fall 2020.
Newton, Spring 2020.

Undergraduate

The Newtonian Revolution (lower division), Spring 2022.
Capstone seminar for Junior and Senior HPS Majors (upper division), Spring 2021, 2023.
Principles of Scientific Reasoning (lower division), Spring 2020, Fall 2020, Fall 2021,
Spring 2022.

University of California, Irvine

Undergraduate

Critical Reasoning (lower division), Summer 2016, Fall 2016, Winter 2019.
Introduction to Inductive Logic (lower division), Summer 2018.

University Service

University of Pittsburgh

Search Committee member, department of History and Philosophy of Science, 2023-2024.
Annual Lecture Series Coordinator. 2023—present.
Undergraduate Curriculum Review Committee, department of History and Philosophy of
Science. 2021-2022.
Diversity Committee, department of History and Philosophy of Science. 2020—present.
Alumni Lecture Coordinator. 2019—present.

University of California, Irvine

[DECADE PLUS](#) leadership coach and academic mentor for first-generation undergraduate
students, 2017 – present.
[Competitive Edge](#) mentor to incoming graduate student, Summer 2017.
Organizer of philosophy of physics graduate student reading group, 2014 – 2015.

Fordham University

Educational Quality Committee, Board of Trustees. Student representative, 2011 – 2013.

Professional Service

Organizing co-chair, PSA2022 Symposium: What good is a no-go theorem? Pittsburgh, PA.
November 2022.

Organizing co-chair, PHEP2022: Early Career Conference in Philosophy of Particle and
High Energy Physics. Center for Philosophy of Science, University of Pittsburgh.

Wonder Workshop Panelist. Workshop aimed at increasing access to information on the
graduate school application process and professional philosophical career
trajectories for prospective students from underrepresented and disadvantaged
groups.

Reviewer, *Philosophy of Science, Mind, Synthese*.

Reviewer, Irvine-Munich-PoliMi-Salzburg Conference in Philosophy and Foundations of
Physics, September 2018.

Session chair, Philosophy of Science Association Biennial Meeting, November 2016.

Reviewer, Irvine-Princeton-Pittsburgh Conference on the Mathematical and Conceptual
Foundations of Physics, 2016.

Research Languages

Latin