

Samuel C. Fletcher

Curriculum Vitae

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Areas of Specialization and Competence

- AOS Philosophy of Physics, Philosophy of Science, Philosophy of Statistics.
- AOC Logic, Theory of Computation, Philosophy of Mathematics, History of Philosophy of Science.

Academic Employment and Affiliations

- 2015– **Assistant Professor**, *Department of Philosophy, University of Minnesota, Twin Cities.*
- 2016– **Resident Fellow**, *Minnesota Center for Philosophy of Science, University of Minnesota, Twin Cities.*
- 2014–2017 **Marie Curie Fellow**, *Munich Center for Mathematical Philosophy, Ludwig-Maximilians-Universität.*
- May 2017 **Visiting Scholar**, *Department of Philosophy, University of Geneva.*
- Spring 2014 **Visiting Scholar**, *Department of Philosophy, University of Pittsburgh.*
- Summer 2013 **Teaching Associate**, *University of California, Irvine.*

Education

- 2014 **PhD in Philosophy (LPS)**, *University of California, Irvine.*
Philosophy of physics emphasis.
Dissertation Title: "Similarity and Spacetime: Studies in Intertheoretic Reduction and Physical Significance."
Committee: James Weatherall (UCI, chair), Jeffrey A. Barrett (UCI), P. Kyle Stanford (UCI), Christian Wüthrich (UCSD).
- 2012 **MA in Philosophy**, *University of California, Irvine.*
- 2012 **MS in Statistics**, *University of California, Irvine.*
- 2008 **AB in Physics**, *Princeton University.*
Certificate (minor) in Applied and Computational Mathematics.
Senior Thesis Title: "Characterization of the Quantum States Simulable with Two Popescu-Rohrlich Boxes."
Advisor: Hans Halvorson.

Publications

Edited Collections

- 2018 *Infinite Idealization in Science*. Edited with Patricia Palacios, Laura Ruetsche, and Elay Shech, *Synthese* special issue.
- 2018 *Evidence Amalgamation in the Sciences*. Edited with Jürgen Landes and Roland Poellinger, *Synthese* special issue.
- 2018 *Physical Perspectives on Computation, Computational Perspectives on Physics*. Edited with Michael Cuffaro, Cambridge University Press. 13 commissioned chapters.

Journal Articles

- 2017 (with Ben Feintzeig) "On Noncontextual, Non-Kolmogorovian Hidden Variable Theories." *Foundations of Physics* (forthcoming).
- 2016 "Similarity, Topology, and Physical Significance in Relativity Theory." *British Journal for the Philosophy of Science* 67.2: 365–389.
- 2013 "Light Clocks and the Clock Hypothesis." *Foundations of Physics* 43.11: 1369–1383.
- 2012 "What Counts as a Newtonian System? The View from Norton's Dome." *European Journal for Philosophy of Science* 2.3: 275–297.

Book Reviews

- 2017 "Against the Topologists: Essay Review of *New Foundations for Physical Geometry*." *Philosophy of Science* (forthcoming).

Conference Proceedings

- 2009 "Towards a Graph-Theoretic Characterization of Popescu-Rohrlich Box Simulation Strategies," in *Proceedings of Quantum Communication, Measurement and Computing*, ed. A. Lvovsky. Melville, NY: AIP Conference Proceedings 1110.

Principal Awards, Grants, and Honors

- 2016 **Finalist: The Secret Life of Buildings Architectural Design Competition**, *Center for American Architecture and Design, School of Architecture, University of Texas, Austin*.
With Andrew Lucia and Iroha Ito.
- 2016 **Fund for Diversity and Inclusiveness Grant**, *American Philosophical Association*, \$1,000.
For "Third Summer School on Mathematical Philosophy for Female Students."
- 2014–2017 **Marie Curie International Incoming Fellowship**, *European Commission*.
- 2014 **Order of Merit: Outstanding Graduate Student Scholarship**, *School of Social Sciences, University of California, Irvine*.
- 2013–2014 **Doctoral Dissertation Improvement Grant**, *National Science Foundation*, \$11,669.
- 2010–2014 **Graduate Research Fellowship**, *National Science Foundation*.

- 2010 **Researcher for Everett Papers Archive and Commentary**, *National Science Foundation*, University of California, Irvine.
For PI Prof. Jeffrey Barrett.
- 2009 **Robert K. Clifton Memorial Book Prize**, *University of Western Ontario*.
For "A Stop on the Hard Road to Determinism: Cases from Classical Physics."
- 2008–2014 **School of Social Sciences Merit Fellowship**, *University of California, Irvine*.
- 2008 **Maria Goeppert-Mayer Studentship**, *American Physical Society*.
For "The Manhattan Project and Its Effects on American Women Scientists."
- 2004–2008 **National Merit Scholarship**, *National Merit Scholarship Corporation*.

Presentations

Invited Presentations

- 7/2017 Symmetries and Asymmetries in Physics (Leibniz University Hannover)
- 5/2017 Space and Time after Quantum Gravity Speaker Series (Department of Philosophy, University of Geneva)
- 7/2016 The Whole Shebang: New Perspectives on the Hole Argument (London School of Economics).
- 6/2016 Munich Center for Mathematical Philosophy, LMU Munich.
- 6/2016 Department of Logic and Philosophy of Science, University of the Basque Country (San Sebastián, Spain).
- 5/2016 Department of Philosophy, Boğaziçi University (Istanbul, Turkey).
- 5/2015 5th Budapest-Krakow Workshop on Probability, Causality and Determinism (Institute of Philosophy, Hungarian Academy of Sciences, Budapest).
- 3/2016 Division of Health Policy and Management, School of Public Health, University of Minnesota, Twin Cities.
- 3/2016 School of Statistics, University of Minnesota, Twin Cities.
- 3/2016 Departments of Philosophy and Physics, Macalaster College (St. Paul, MN).
- 2/2016 5th International Ontological Workshop: Topological Philosophy (International Center for Formal Ontology, Warsaw).
- 2/2016 Department of Epistemology, Institute of Philosophy, Jagiellonian University (Krakow, Poland).
- 1/2016 Reduction in Physics and Biology (Institute of Philosophy and Complexity Sciences, Santiago, Chile).
- 11/2015 Department of Philosophy, George Washington University.
- 11/2015 Weekly Meeting, Department of Philosophy, University of Minnesota, Twin Cities.
- 5/2015 3rd Budapest-Krakow Workshop on Probability, Causality and Determinism (Institute of Philosophy, Hungarian Academy of Sciences, Budapest).
- 4/2015 Work in Progress Seminar, Munich Center for Mathematical Philosophy, LMU Munich.

- 4/2015 42nd Annual Philosophy of Science Conference (Inter-University Centre Dubrovnik).
- 3/2015 Department of Philosophy, University of Belgrade.
- 3/2015 Astronomical Observatory of Belgrade.
- 3/2015 Chance Encounters (University of Groningen).
- 3/2015 Space-time Structuralism (Erasmus University Rotterdam).
- 3/2015 Descartes Centre, Utrecht University.
- 3/2015 Theoretical High Energy Physics Lunch Seminar Series, Radboud University Nijmegen.
- 3/2015 Who's In Town Lecture Series, Amsterdam University College.
- 2/2015 Institute for History and Philosophy of Science and Technology, Paris.
- 2/2015 Department of Philosophy, Communication and Media Studies, University of Rome 3.
- 1/2015 Gravitation and Relativity Group, Institute for Theoretical Physics, University of Cologne.
- 12/2014 Irvine-Munich Workshop on Foundations of Classical and Quantum Field Theories (MCMP, LMU Munich).
- 12/2014 2nd Budapest-Krakow Workshop on Probability, Causality and Determinism (Jagiellonian University, Krakow).
- 12/2014 Department of Philosophy, University of Salzburg.
- 11/2014 Philosophy of Physics Workshop (University of Bucharest).
- 11/2014 Department of Theoretical Philosophy, University of Bucharest.
- 10/2014 Vienna Center for Quantum Science and Technology.
- 10/2014 Munich Center for Mathematical Philosophy, LMU Munich.
- 10/2014 Sigma Club (London School of Economics).
- 9/2014 Theoretical Philosophy Forum, Eötvös University (Budapest).
- 9/2014 Institute of Philosophy, Hungarian Academy of Sciences (Budapest).
- 7/2014 Explanation and Reduction Seminar, Department of Philosophy, University of Cologne.
- 4/2014 HPS Work in Progress Series (University of Pittsburgh).
- 1/2014 Department of Philosophy, University of Minnesota, Twin Cities.
- 1/2014 Department of Philosophy, Ohio University.
- 12/2013 Center for the Humanities Research Group: The Fundamental Nature of Time and Change (University of California, San Diego).
- 11/2013 Oxford Philosophy of Physics Research Seminar (Oxford University).
- 11/2013 CamPoS Group (University of Cambridge).
- 11/2013 Sigma Club (London School of Economics).
- 10/2013 Philosophy of Science Reading Group (University of Washington).
- 4/2013 Southern California Philosophy of Physics Group (University of California, Irvine).
- 9/2010 Southern California Philosophy of Physics Group (University of California, Irvine).

6/2010 Southern California Philosophy of Physics Group (University of California, Irvine), with Jason Hoelscher-Obermaier.

Contributed Presentations

- 10/2016 32nd Annual Boulder Conference on History and Philosophy of Science, "Gravity: Its History and Philosophy," (University of Colorado, Boulder).
- 8/2016 5th Summer School in the History and Philosophy of Science: Probability and Quantum Mechanics (University of Tübingen).
- 7/2016 Foundations of Physics (London School of Economics).
- 7/2016 British Society for the Philosophy of Science Annual Meeting (University of Cardiff).
- 6/2016 6^e Congrès de la Société de Philosophie des Sciences (University of Lausanne).
- 6/2016 First Principles in Science: Their Epistemic Status and Justification (LMU Munich).
- 6/2016 Infinite Idealizations in Science (LMU Munich).
- 6/2016 Fourth International Conference on the Nature and Ontology of Spacetime (Varna, Bulgaria).
- 5/2016 Philosophy of Science in a Forest 2016—Dutch Association for Philosophy of Science (Doorn, the Netherlands).
- 2/2016 Philogica IV: Fourth Colombian Conference on Logic, Epistemology and Philosophy of Science (Bogotá, Colombia).
- 11/2015 Iowa Philosophical Society (Iowa State University, Ames, IA).
- 10/2015 Effective Theories, Mixed Scale Modeling, and Emergence (University of Pittsburgh).
- 8/2015 9th Principia International Symposium: Possible Worlds and their Applications in Philosophy and the Sciences (Florianópolis, Brazil).
- 8/2015 Logic, Relativity, and Beyond: 2nd International Conference (Rényi Institute, Budapest).
- 8/2015 15th Congress of Logic, Methodology and Philosophy of Science (University of Helsinki).
- 7/2015 4th Summer School in the History and Philosophy of Science: Idealizations in Physics (University of Tübingen).
- 7/2015 8th Conference of the Spanish Society for Logic, Methodology and Philosophy of Science (University of Barcelona).
- 7/2015 British Society for the Philosophy of Science Annual Meeting (University of Manchester).
- 6/2015 5th World Congress and School on Universal Logic (University of Istanbul).
- 4/2015 3rd Meeting of the Nordic Network for Philosophy of Science (TINT, University of Helsinki).
- 3/2015 Rethinking Foundations of Physics (Dorfgastein, Austria).
- 3/2015 Formal Methods and Science in Philosophy (Inter-University Centre Dubrovnik).
- 3/2015 79th Annual Meeting of the Deutsche Physikalische Gesellschaft (TU Berlin).
- 1/2015 Quantum Computation, Quantum Information, and the Exact Sciences (LMU Munich).

- 10/2014 The Metaphysics of Quantum Mechanics (Corpus Christi College, Oxford University, poster presentation).
- 9/2014 DPG Physics School on General Relativity @ 99 (Bad Honnef, Germany, poster presentation).
- 8/2014 3rd International Interdisciplinary Summer School: Arches and Scaffoldings (University of Tübingen).
- 7/2014 2nd International Summer School in Philosophy of Physics: Probabilities in Physics (Saig, Germany).
- 7/2014 British Society for the Philosophy of Science Annual Meeting (Fitzwilliam College, University of Cambridge).
- 6/2014 Society for Exact Philosophy Annual Meeting (CalTech, poster presentation).
- 3/2014 2nd Irvine-Pittsburgh-Princeton Conference on the Mathematical and Conceptual Foundations of Physics (University of California, Irvine).
- 11/2013 Reduction and Emergence in the Sciences (LMU Munich).
- 11/2013 4th Madrid Workshop on New Trends in the Philosophy of Science: Inferentialism in Epistemology and Philosophy of Science (UNED Madrid).
- 9/2013 Seminar on the Philosophical Foundations of Quantum Gravity (University of Illinois, Chicago).
- 6/2013 Reduction and Emergence in Physics (LMU Munich).
- 4/2013 Irvine-Pittsburgh-Princeton Conference on the Mathematical and Conceptual Foundations of Physics (University of Pittsburgh).
- 11/2012 Virginia Tech Graduate Philosophy of Science Conference (Blacksburg, VA).
- 9/2011 Kant and the Exact Sciences Graduate Conference (University of Notre Dame).
- 7/2011 14th Congress of Logic, Methodology, and Philosophy of Science (University of Nancy, France), with Jason Hoelscher-Obermaier.
- 3/2010 University of Pittsburgh/Carnegie Mellon University Joint Graduate Philosophy Conference.
- 4/2009 6th Western Ontario Logic, Mathematics & Physics Graduate Philosophy Conference (London, ON).
- 8/2008 9th International Conference on Quantum Communication, Measurement and Computing (University of Calgary, poster presentation).
- 4/2008 American Physical Society, Annual April Meeting (St. Louis, MO).
- 10/2007 American Physical Society, Division of Nuclear Physics Annual Meeting (Newport News, VA, poster presentation).
- 8/2007 Student Symposium, Los Alamos National Laboratory.

Teaching Experience

University of Minnesota, Twin Cities

- Spring 2017 **Introduction to Logic.**
Lower division. Course website: <https://ay15.moodle.umn.edu/course/view.php?id=9996>.
- Spring 2017 **Symbolic Logic II.**
Graduate-level computability and incompleteness. Course website: <https://ay16.moodle.umn.edu/course/view.php?id=9998>
- Spring 2017 **Directed Study: Conceptual and Mathematical Foundations of Classical Space-Time Theory.**
Differential geometry and physics of special and general relativity (1 undergraduate student, at the level of Woodhouse's *General Relativity* (Springer, 2007)).
- Fall 2016 **Scientific Thought.**
Writing-intensive mid-level philosophy of science survey. Course website: <https://ay16.moodle.umn.edu/course/view.php?id=3839>.
- Fall 2016 **Space and Time.**
Cross-listed undergraduate/graduate seminar. Course website: <https://ay16.moodle.umn.edu/course/view.php?id=3840>.
- Fall 2016 **Directed Study: Space and Time.**
Technical supplement (2 students) to concurrent undergraduate/graduate seminar.
- Spring 2016 **Revolutions in Science: Lavoisier, Darwin, and Einstein.**
Lower division, 1/3 of lectures (5 weeks), with Victor Boantz and Mark Borrello. Course website: <https://ay15.moodle.umn.edu/course/view.php?id=12003>.
- Spring 2016 **Scientific Thought.**
Writing-intensive mid-level philosophy of science survey. Course website: <https://ay15.moodle.umn.edu/course/view.php?id=11035>.
- Spring 2016 **Introduction to Logic.**
Lower division. Course website: <https://ay15.moodle.umn.edu/course/view.php?id=10324>.
- Fall 2016 **Philosophy of Statistics.**
Graduate seminar. Course website: <https://ay15.moodle.umn.edu/course/view.php?id=7242>.

University of California, Irvine

- Summer 2013 **Critical Reasoning.**
Lecturing and grading, lower division informal and formal sentential logic. Course website: <https://eee.uci.edu/13y/66010>.
- Spring 2013 **Introduction to Inductive Logic, Teaching Assistant.**
Lower division.
- Winter 2010 **Introduction to Symbolic Logic, Teaching Assistant.**
Lower division predicate logic.

Fall 2009, **Critical Reasoning**, *Teaching Assistant*.
Winter 2009, Lower division informal and formal sentential logic.
Fall 2008

Center For Talented Youth (Johns Hopkins University)

- Summer 2009 **Mathematical Logic**, *Teaching Assistant*, Loyola Marymount University, Los Angeles, CA.
Equivalent to lower division predicate logic.
- Summer 2008 **Nuclear Science**, *Teaching Assistant*, Roger Williams University, Bristol, RI, 2 sessions of same course.
Equivalent to lower division course for non-majors.

Professional and Academic Service and Training

School and Conference Organization

- 2017 **Fourth Summer School on Mathematical Philosophy for Female Students**, *Organizing Committee*, Munich Center for Mathematical Philosophy, LMU Munich.
Week-long school, organizing duties shared with Marianna Antonutti, Lavinia Picollo and Gil Sagi.
- 2017 **British Society for the Philosophy of Science Annual Meeting**, *Program Committee*, University of Edinburgh.
Reviewed 8–10 extended abstracts.
- 2016 **Third Summer School on Mathematical Philosophy for Female Students**, *Organizing Committee*, Munich Center for Mathematical Philosophy, LMU Munich.
Week-long school, organizing duties shared with Milena Ivanova and Karolina Krzyżanowska.
- 2016 **Infinite Idealizations in Science**, *Organizing Committee*, Munich Center for Mathematical Philosophy, LMU Munich.
Two-day workshop, organizing duties shared with Patricia Palacios.
- 2016 **MuST 9: Evidence, Inference, and Risk**, *Program Committee*, Munich Center for Mathematical Philosophy, LMU Munich.
Reviewed two submitted extended abstracts.
- 2015 **1st Munich Graduate Workshop in Mathematical Philosophy: Philosophy of Physics**, *Organizing Committee & Lecturer*, Munich Center for Mathematical Philosophy, LMU Munich.
Three-day workshop and school, organizing duties shared with Brian Padden, Patricia Palacios, and Karim Thébault. Delivered one seminar lecture.
- 2015 **Quantum Computation, Quantum Information, and the Exact Sciences**, *Organizing Committee*, Munich Center for Mathematical Philosophy, LMU Munich.
Two-day conference, organizing duties shared with Michael Cuffaro and Johannes Kofler.
- 2014 **Irvine-Munich Workshop on Foundations of Classical and Quantum Field Theories**, *Organizing Committee*, Munich Center for Mathematical Philosophy, LMU Munich.
One-day workshop, organizing duties shared with Karim Thébault.

- 2014 **2nd Irvine-Pittsburgh-Princeton Conference on the Mathematical and Conceptual Foundations of Physics**, *Program Committee*, University of California, Irvine.
Reviewed one submitted paper.
- 2013 **1st Irvine-Pittsburgh-Princeton Conference on the Mathematical and Conceptual Foundations of Physics**, *Program Committee*, University of Pittsburgh.
Reviewed one submitted paper.
- Conference Session Chairing
- 7/2016 **Foundations of Physics**, London School of Economics.
- 6/2016 **The Semantics of Theories**, LMU Munich.
- 6/2016 **First Principles in Science: Their Epistemic Status and Justification**, LMU Munich.
- 6/2016 **Infinite Idealizations in Science**, LMU Munich.
- 5/2016 **Philosophy of Science in a Forest 2016—Dutch Association for Philosophy of Science**, Doorn, the Netherlands.
- 2/2016 **Topological Philosophy**, Warsaw, Poland.
- 8/2015 **Logic, Relativity, and Beyond: 2nd International Conference**, Budapest, Hungary.
- 8/2015 **15th Congress of Logic, Methodology and Philosophy of Science**, Helsinki, Finland.
- 4/2015 **1st Munich Graduate Workshop in Mathematical Philosophy: Philosophy of Physics**, LMU Munich.
- 1/2015 **Quantum Computation, Quantum Information, and the Exact Sciences**, LMU Munich.
- 11/2014 **24th Biennial Meeting of the Philosophy of Science Association**, Chicago, IL.
- 4/2014 **88th Annual Meeting of the American Philosophical Association, Pacific Division**, San Diego, CA.
- 11/2012 **23rd Biennial Meeting of the Philosophy of Science Association**, San Diego, CA.
- Conference Commentaries
- 7/2015 **The Problem of Time in Perspective**, "*Changing Observables in Canonical General Relativity from Hamiltonian-Lagrangian Equivalence*," by J. Brian Pitts, Munich, Germany.
- 4/2015 **Nordic Network for Philosophy of Science**, "*On the limits of classical computational systems*," by Michael Cuffaro, Helsinki, Finland.
- Refereeing
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| 2014–15 | Birkhäuser Press | 2013–16 | <i>British Journal for the Philosophy of Science</i> |
| 2014 | <i>Canadian Journal of Physics</i> | 2014 | <i>Ergo</i> |
| 2016 | De Gruyter Press | 2014–15 | <i>Erkenntnis</i> |

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| 2014–16 | <i>European Journal for Philosophy of Science</i> | 2014–16 | <i>Foundations of Physics</i> |
| 2016 | <i>Journal for General Philosophy of Science</i> | 2016 | <i>Mind and Matter</i> |
| 2014 | <i>Minds and Machines</i> | 2015 | Polish National Science Centre |
| 2016 | National Science Foundation | 2016 | Oxford University Press |
| 2010–17 | <i>Philosophy of Science</i> | 2010–12 | <i>Physics Letters A</i> |
| 2010 | <i>Praxis</i> | 2016–17 | <i>Review of Symbolic Logic</i> |
| 2015 | Springer-Verlag | 2014–16 | <i>Studies in History and Philosophy of Modern Physics</i> |
| 2015–16 | <i>Synthese</i> | 2016 | <i>Universe</i> |

Institutional and Departmental Service

- 2016–2017 **Admissions and Aid Committee**, *Department of Philosophy, University of Minnesota, Twin Cities.*
- 2015–2016 **Awards Committee**, *Department of Philosophy, University of Minnesota, Twin Cities.*
- 2015 **Search Committee**, *Munich Center for Mathematical Philosophy, LMU Munich.*
For Assistant Professor in philosophy of physics.
- 2013–2014 **Dean’s Fellowship Advisory Committee**, *School of Social Sciences, University of California, Irvine.*
Elected to review extramural fellowship applications.

Other Service and Training

- 9/16–12/16 **Senior Project Advisor**, *Biology, Society, and Environment Program, University of Minnesota, Twin Cities.*
Advised student on capstone research paper.
- 5/2016 **Senior Final Studio Jury**, *School of Architecture, University of Minnesota, Twin Cities.*
One of four faculty evaluating senior undergraduate student project proposals.
- 4/16–5/16 **Senior Honors Thesis Committee**, *School of Physics and Astronomy, University of Minnesota, Twin Cities.*
Provided comments on thesis presentation, read and judged written thesis for *summa cum laude* recommendation.
- 4/2016 **Research Overview Speaker**, *School of Physics and Astronomy, University of Minnesota, Twin Cities.*
15-minute discussion of research group in history and philosophy of physics for prospective physics graduate students.
- 2/2016 **Graduate Seminar Guest Speaker**, *School of Kinesiology, University of Minnesota, Twin Cities.*
105-minute seminar on philosophical aspects of modeling.

- 1/16–5/16 **Senior Project Advisor**, *Biology, Society, and Environment Program, University of Minnesota, Twin Cities.*
Advised student on capstone research paper.
- 1/16–5/16 **Academic Advisor**, *College of Liberal Arts Dean's Freshman Research and Creative Scholars Program, University of Minnesota, Twin Cities.*
Advised two students on project "Varieties of Bayesianism".
- 11/2015 **First-year Midterm Studio Jury**, *School of Architecture, University of Minnesota, Twin Cities.*
One of four faculty evaluating graduate student project proposals.
- 10/14–1/15 **Reading Group Organizer**, *Philosophy of Physics, Munich Center for Mathematical Philosophy, LMU Munich.*
Winter term, focus on foundations of classical mechanics.
- 2013 **Safe Zone Training**, *LGBT Resource Center, University of California, Irvine.*
Training for informed and supportive affirmation of the LGBTQA community at UC Irvine.
- 9/11–12/11 **Graduate Seminar Organizer**, *Philosophy of Probability, University of California, Irvine.*
Sponsored by Brian Skyrms, attended by eight other graduate students and three faculty.

Professional Affiliations

- American Association for the Advancement of Science
- American Philosophical Association
- American Physical Society
- British Society for the Philosophy of Science
- History of Science Society
- Marie Curie Alumni Association
- Philosophy of Science Association
- Society of Sigma Xi