

Jamee Elder | Curriculum Vitae

Black Hole Initiative, Harvard University
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Areas of Specialization: Philosophy of Science, Philosophy of Physics & Astrophysics
Areas of Competence: Ethics of Emerging Technologies, Epistemology, Science and Values

Appointments

Fall 2020–: **Post-doctoral Fellow**, Black Hole Initiative, Harvard University
2020-2023: **Collaborator and Recurring Visitor**, DFG Project “The Role of Inference to the Best Explanation in the Discovery of Gravitational Waves”, PI: Dennis Lehmkuhl, University of Bonn
2019-2020: **Heinrich Hertz Fellow**, Lichtenberg Group for History and Philosophy of Physics, University of Bonn

Education

2021: **PhD** History and Philosophy of Science (philosophy track), University of Notre Dame

Dissertation: *The Epistemology of Gravitational Wave Astrophysics* (Defended 7 August 2020)

Advisor: Don Howard

Abstract: This dissertation explores the nature of our empirical access to previously invisible events (binary black hole mergers) through the new field of gravitational wave astrophysics. This comprises three main chapters. The first assesses the epistemic significance of direct (vs. indirect) detections in the context of gravitational-wave experiments. The second argues that the LIGO-Virgo observations of binary black hole mergers are problematically circular due to the model-dependence of these observations. The third chapter considers the implications of multi-messenger (here, electromagnetic and gravitational) observations for overcoming the epistemic challenges of astrophysics.

2018: **MA** History and Philosophy of Science, University of Notre Dame

2014: **MPhil** Philosophy, Wolfson College, University of Cambridge

2012: **BA(Hons)** Philosophy, University of Canterbury

2011: **Visiting Student**, Philosophy, Exeter College, University of Oxford (Trinity Term)

2010: **BSc** Philosophy, University of Canterbury

Publications

2019: “Defending stance voluntarism.” *Philosophical Studies* 176, no. 11: 3019–3039.

Articles in Preparation and Under Review

“Independent Evidence in Multi-messenger Astrophysics” (R&R)

“On the ‘Direct’ Detection’ of Gravitational Waves” (Winning entry: 2021 Du Châtelet Prize in Philosophy of Physics)

“Black Hole Coalescence: Observation and Model Validation” (expected to appear in *What the Equations Don't Say*, ed. Lydia Patton and Erik Curiel, contract pending with Springer Briefs)

“Robustness and large experiments in astrophysics”, with Juliusz Doboszewski (manuscript)

“Drama on the Horizon: Black Hole Complementarity and Perspectivalism” (manuscript)

Selected Talks (* = invited)

- *2021: “Black Hole Coalescence: Observation and Model Validation”, Philosophy of Science Talk Series, Centre for Science and Philosophy, University of Bristol, 19 October, 2021
- *2021: Panel: “Epistemology of Very Large Experiments”, History and Philosophy of Physics Research Seminar, University of Bonn (discussing LIGO-Virgo and the EHT)
- *2021: “Robustness and the Event Horizon Telescope”, BHI Foundations Seminar, Black Hole Initiative, Harvard University, 5 April, 2021
- *2020: “The Epistemology of Multi-messenger Astrophysics”, BHI Conference 2020, Black Hole Initiative, Harvard University
- 2020: “Sherlock Holmes, Smoking Guns, and Consilience: The Epistemology of Multi-messenger Astrophysics” New Zealand Association of Philosophy Conference, University of Canterbury
- *2020: “The Epistemology of the LIGO-Virgo Detections”, Seminar of Philosophy of Science, APC Laboratory, University Paris-Diderot, 22 October, 2020
- *2020: “The Epistemology of Gravitational-wave Astrophysics (Part I and II)”, BHI Foundations Seminar, Black Hole Initiative, Harvard University, 28 September and 25 October, 2020
- *2019: “The Epistemology of LIGO”, Philosophy of Physics Seminar, University of Oxford, 7 November, 2019
- *2019: “Black hole coalescence: models and measurement”, History and Philosophy of Physics Research Seminar, University of Bonn, 5 November, 2019
- 2019: “Black Hole Coalescence: Models and Measurement”, European Philosophy of Science Association Biennial Meeting, University of Geneva, 11-14 September, 2019
- 2018: “LIGO: Models and Measurement”, Rotman Summer Institute in Philosophy of Cosmology, Goderich, Ontario
- 2018: “LIGO and Models as Mediators”, MS8: 8th Models and Simulations Conference, University of South Carolina
- 2017: “Modelling Black Hole Coalescence: Numerical Relativity and LIGO”, Super-PAC Early Career Workshop: Philosophy of Astrophysics and Cosmology, University of Pittsburgh
- 2017: “Drama on the Horizon: Black Hole Complementarity and the Information Loss Paradox”, British Society for Philosophy of Science Annual Meeting, University of Edinburgh, 13-14 July, 2017
- 2015: “Émilie Du Châtelet on Newtonian Attraction”, European Philosophy of Science Association Biennial Meeting, Heinrich Heine University, 24 September, 2015

Prizes and Scholarships

- 2021: Du Châtelet Prize in Philosophy of Physics
- 2019: Sloan Prize, HPS Program, University of Notre Dame
- 2014-2015: Fulbright Science and Innovation Graduate Award
- 2013-2014: Cambridge Trusts Scholarship, University of Cambridge
- 2013-2014: Wolfson Cambridge Scholarship, University of Cambridge
- 2013-2014: Timothy Joyce Masters Studentship, University of Cambridge
- 2008: UC Emerging Leaders Scholarship, University of Canterbury
- 2008: Macmillian Brown Essay Prize, University of Canterbury

Professional Development

- 2020: Group Leader, (Virtual) Midwest Summer School in Philosophy of Physics, July 2020
 2019: Visitor, Black Hole Initiative, Harvard University, 13-22 May, 2019.
 2018: “First Biennial Midwest Summer School in Philosophy of Physics”, Chicago, IL, 22-27 July 2018.
 2018: “2018 Rotman Summer Institute in Philosophy of Cosmology”, Goderich, Ontario, 11-20 June 2018
 2018: Visitor, Black Hole Initiative, Harvard University, 1-11 May 2018.
 2017: “5th International Summer School in Philosophy of Physics” 17-22 July 2017, Saig, Black Forest, Germany.
 2017: “The 21st Seven Pines Symposium: Black Holes in the Spotlight” (Junior Discussant)
 2016-2017: Leadership Fellow, Ethical Leaders in STEM Program, University of Notre Dame, USA
 2017: Participant, Philosophy of Cosmology Workshop. Organizer: Elise Crull, CUNY Graduate Center, New York City, NY, USA
 2016: “International Summer Institute in Philosophy of Physics on the Philosophy of Quantum Gravity”, hosted by the University of Geneva and the University of Illinois at Chicago Space and Time After Quantum Gravity project.

Teaching

- Summer 2018: Instructor of Record, *Robot Ethics*, Department of Philosophy, University of Notre Dame. Online course through the Office of Digital Learning (co-taught with Jude Galbraith).
 April 2018: “Outstanding Graduate Student Teacher Award”, awarded by the Graduate School and the Kaneb Center for Teaching and Learning, University of Notre Dame
 Fall 2017: Instructor of Record, *Digital Technology, Society, and Ethics*, Department of Philosophy, University of Notre Dame
 Spring 2017: Teaching Assistant, *Introduction to Philosophy* (teaching duties). Instructor: Jeff Speaks. Department of Philosophy, University of Notre Dame
 Summer 2016: Teaching Assistant, *Science, Ethics, and Responsibility*, Notre Dame Pre-College Leadership Seminar, Instructors: Don Howard and Jessica Baron

Service

- 2021–: Co-organizer (with Martin Lesourd), Black Hole Initiative Foundations Seminar
 2018–2019: Climate Committee Member, Department of Philosophy, University of Notre Dame
 2018–2019: Coordinator, HPS Writing Accountability Group
 2017–2018: Coordinator, HPS Dissertation Writing Group
 2016–present: Mentor, Graduate Student Mentorship Program, Department of Philosophy, University of Notre Dame
 2016–2018: MAP Mentor. Minorities and Philosophy, University of Notre Dame Chapter
 Fall 2016: Graduate Student Assistant at History of Science Society, Executive Office, University of Notre Dame
 2015-2016: HPS Research Assistant, University of Notre Dame

Graduate Courses (* = audit)

- **Evolutionary Game Theory*, Spring 2019. Instructor: Hannah Rubin
 **Topics in Contemporary Philosophy of Physics*, Spring 2017. Instructor: Nicholas Teh
 **Models and Representation*, Spring 2017. Instructor: James Nguyen
Social Studies of Pharmaceuticals, Fall 2016. Instructor: Phillip Mirowski
Celestial Influence, Fall 2016. Instructor: Scott Trigg

Space, Time, and Matter, Spring 2016. Instructors: Katherine Brading and Nicholas Teh

Ethics and Policy in Technology Management, Spring 2016. Instructor: Don Howard

HOPOS from the Scientific Revolution to 1900, Spring 2016. Instructor: Don Howard

Philosophical Issues Regarding Time, Fall 2015. Instructor: Norman Sieroka

Intermediate Logic, Fall 2015. Instructor: Patricia Blanchette

Ancients, Medievals, and Moderns, Fall 2015. Instructors: Lynn Joy and Robert Goulding

Mechanisms, Spring 2015. Instructor: Lane DesAutels

Science and Metaphysics, Spring 2015. Instructor: Anjan Chakravartty

History of Science, Technology, and Medicine 1750-present, Spring 2015. Instructor: Christopher Hamlin

Philosophy of Science, Fall 2014. Instructor: Lane DesAutels

**Philosophy of Biology*, Fall 2014. Instructor: Grant Ramsey

Philosophy Pro-Seminar, Fall 2014. Instructor: Christopher Shields

Du Châtelet's Foundations of Physics, Fall 2014. Instructor: Katherine Brading