

David I. Kaiser

Program in Science, Technology, and Society, and Department of Physics
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Academic Positions

- 2019–2022. Associate Dean, Social and Ethical Responsibilities of Computing, Schwarzman College of Computing, MIT
- 2015–. Professor, Department of Physics, MIT.
- 2011–. GERMESHAUSEN Professor of the History of Science, Program in Science, Technology, and Society, MIT.
- 2011–. Affiliated Faculty, Department of the History of Science, Harvard University.
- 2000–2011. Assistant Professor (2000-2004) and Associate Professor (2004-2011), Program in Science, Technology, and Society, MIT.
- 2000–2015. Lecturer (2000-2010) and Senior Lecturer (2010-2015), Department of Physics, MIT.
- Spring 1999. Visiting Lecturer. Department of Physics and Astronomy, Dartmouth College.

Education

2000. Ph.D. in Physics and in History of Science, Harvard University
History of Science Dissertation: “Making Theory: Producing Physics and Physicists in Postwar America.” May 2000.
Physics Dissertation: “Post-Inflation Reheating in an Expanding Universe.” December 1997.
1993. A.B. in Physics, Dartmouth College. *Summa cum Laude*

Academic Honors and Awards

2020. *Choice* Outstanding Academic Title for *Quantum Legacies: Dispatches from an Uncertain World*.
2020. *Physics World* “Best of Physics in Books, TV, and Film in 2020” for *Quantum Legacies: Dispatches from an Uncertain World*.
2016. George Sarton Memorial Lecturer, plenary address sponsored by the History of Science Society, delivered at the American Association for the Advancement of Science annual meeting.
2013. History of Science Society, Davis Prize for best book aimed at a general audience, awarded for *How the Hippies Saved Physics: Science, Counterculture, and the Quantum Revival*.
2012. *Physics World* “Book of the Year” award for *How the Hippies Saved Physics: Science, Counterculture, and the Quantum Revival*.
2012. Massachusetts Institute of Technology, MacVicar Faculty Fellow, MIT’s highest honor for excellence in undergraduate teaching.
2012. Massachusetts Institute of Technology, Frank E. Perkins Award for Excellence in Graduate Advising.
2010. American Physical Society, Fellow, elected for “outstanding publications that combine technical mastery of twentieth-century physics with a deep knowledge of recent developments in the history, philosophy, and sociology of science.”

2007. History of Science Society, Pfizer Award for best book in the field, awarded for *Drawing Theories Apart: The Dispersion of Feynman Diagrams in Postwar Physics*.
2006. Forum for the History of Science in America Book Prize, awarded for *Drawing Theories Apart: The Dispersion of Feynman Diagrams in Postwar Physics*.
2006. Massachusetts Institute of Technology, Harold E. Edgerton Faculty Achievement Award, awarded to one tenure-track faculty member at MIT for “exceptional distinction in teaching and research.”
2005. Forum for the History of Science in America Article Prize, awarded for “The postwar suburbanization of American physics.”
2004. Massachusetts Institute of Technology, Graduate Student Council Teaching Award, awarded to one professor in MIT’s School of Humanities, Arts, and Social Sciences “for excellence in teaching a graduate level course.”
2001. Massachusetts Institute of Technology, Levitan Prize in the Humanities, awarded to one faculty member at MIT for “innovative and creative scholarship in the humanities.”
2000. British Society for the History of Science, Ivan Slade Prize Runner-Up, awarded for the article, “Stick-figure realism: Conventions, Reification, and the Persistence of Feynman Diagrams.”
- 1996–1999. Awarded three Certificates for Distinction in Teaching from the Derek Bok Center for Teaching and Learning at Harvard University.
1993. American Physical Society, LeRoy Apker Award, awarded first place nationally “for outstanding achievement in physics by an undergraduate student.”
1992. Dartmouth College, Phi Beta Kappa Society, junior-year recipient.

Grants and Fellowships

2020. Patrick J. McGovern Foundation, Co-Principal Investigator for “Social and Ethical Responsibilities of Computing” (\$500,000).
2015. National Science Foundation, Principal Investigator for Grant PHY-1541160 (“Testing Bell’s Inequality with Astrophysical Observations,” \$900,360).
2013. MacArthur Foundation, Alfred P. Sloan Foundation, and Noyce Foundation, Principal Investigator for “Evolving Culture of Science Engagement” initiative (\$50,000 each).
2011. National Science Foundation, Principal Investigator for Grant SES-1056580 (“Dark Energy, Fine-Tuning, and the Multiverse: Testing Theories in Modern Cosmology,” \$120,000).
2010. National Science Foundation, Principal Investigator for Grant SBE-0965259 (“Predictive Modeling of the Emergence and Development of Scientific Fields,” \$563,284).
2007. Newhouse Center for the Humanities, Wellesley College, Resident Fellow.
2004. Spencer Foundation, Principal Investigator for Grant 200400119 (“Training Quantum Mechanics: Pedagogical Pressures and Curricular Reform in Modern Physics,” \$34,000).
2002. National Science Foundation, Principal Investigator for Grant SES-0135615 (“The Dispersion of Feynman Diagrams in Postwar Physics,” \$51,264).
2002. National Science Foundation, Principal Investigator for Grant SES-0135622 (“Public Science: Discourse on the Strategic Defense Initiative,” \$84,000).
2001. Spencer Foundation, Principal Investigator for Grant 200200081 (“Pedagogy and Practice in Postwar Theoretical Physics,” \$35,000).
2001. Spencer Foundation, Principal Investigator for Grant 200200064 (“Training Scientists, Crafting Science Conference,” \$50,000).
2001. National Science Foundation, Principal Investigator for Grant SES-0118165 (“Training Scientists, Crafting Science Conference,” \$9,102).
1999. Harvard University, Whiting Fellowship for the Humanities.

1999. Dibner Institute for the History of Science and Technology, Graduate Fellow.
 1997. Spencer Foundation, Dissertation Fellowship for Research Related to Education.
 1997. Harvard University, Frederick Sheldon Traveling Fellowship.
 1993. National Science Foundation, Graduate Research Fellowship.
 1993. Andrew W. Mellon Foundation, Fellow in Humanistic Studies.

Publications

Books

2026. Alan H. Guth and David I. Kaiser, *The Physics of the Early Universe: An Introduction to Modern Cosmology*. Princeton: Princeton University Press, under contract.
 2020. David Kaiser, *Quantum Legacies: Dispatches from an Uncertain World*. Chicago: University of Chicago Press. Hardcover 2020; paperback 2022; Greek translation 2023.
 2011. David Kaiser, *How the Hippies Saved Physics: Science, Counterculture, and the Quantum Revival*. New York: W. W. Norton. Hardcover and audiobook 2011; paperback 2012; Italian translation 2012; Chinese translation 2014.
 2005. David Kaiser, *Drawing Theories Apart: The Dispersion of Feynman Diagrams in Postwar Physics*. Chicago: University of Chicago Press.

Edited Volumes

2022. David Kaiser, ed., “*Well, Doc, You’re In*”: *Freeman Dyson’s Journey through the Universe*. Cambridge: MIT Press.
 2022. Aaron Wright, Diana Coleman, and David Kaiser, eds., *Theoretical Physics In Your Face: Selected Correspondence of Sidney Coleman*. Singapore: World Scientific.
 2016. David Kaiser and Patrick McCray, eds., *Groovy Science: Knowledge, Innovation, and American Counterculture*. Chicago: University of Chicago Press.
 2013. Sally Gregory Kohlstedt and David Kaiser, eds., *Science and the American Century: Readings from Isis*. Chicago: University of Chicago Press.
 2010. David Kaiser, ed., *Becoming MIT: Moments of Decision*. Cambridge: MIT Press.
 2005. David Kaiser, ed., *Pedagogy and the Practice of Science: Historical and Contemporary Perspectives*. Cambridge: MIT Press.
 2002. Alexis de Greiff and David Kaiser, eds., *Twentieth-Century Theoretical Physics in Political Contexts*. Special issue of *Historical Studies in the Physical and Biological Sciences* 33 (Fall 2002): 1-192.
 2001. Peter Galison, Michael Gordin, and David Kaiser, eds., *The History of Modern Physical Science in the Twentieth Century*. Four-volume series. Vol. 1: *Making Special Relativity*; Vol. 2: *Making General Relativity*; Vol. 3: *Physical Science and the Language of War*; and Vol. 4: *Quantum Histories*. New York: Routledge.

Articles in Refereed Journals

2024. Sean M. D. Gregory, Silvia Schiattarella, Vitor S. Barroso, David I. Kaiser, Anastasios Avgoustidis, and Silke Weinfurter, “Tracing the nonlinear formation of an interfacial wave spectral cascade from one to few to many,” arXiv:2410.08842 [gr-qc].
 2024. Dario L. Lorenzoni, David I. Kaiser, and Evan McDonough, “Natural inflation with exponentially small tensor-to-scalar ratio,” *Physical Review D* 110:L061302, arXiv:2405.13881 [astro-ph.CO].

2024. Thomas Steingasser, Morgane König, and David I. Kaiser, “Finite-temperature instantons from first principles,” *Physical Review D* 110:L111902, arXiv:2310.19865 [hep-th].
2024. Tung X. Tran, Sarah R. Geller, Benjamin V. Lehmann, and David I. Kaiser, “Close encounters of a primordial kind: A new observable for primordial black holes as dark matter,” *Physical Review D* 110:063533, arXiv:2312.17217 [astro-ph.CO]. *Editors’ Suggestion*.
2024. Elba Alonso-Monsalve and David I. Kaiser, “Primordial black holes with QCD color charge,” *Physical Review Letters* 132: 231403, arXiv:2310.16877 [hep-ph]. *Editors’ Suggestion*.
2024. Vittorio A. De Lorenci, David I. Kaiser, and Patrick Peter, “Orbital motion of primordial black holes crossing Solar-type stars,” arXiv:2405.08113 [astro-ph.CO].
2024. Thomas Steingasser and David I. Kaiser, “Quantum tunneling from excited states: Recovering imaginary-time instantons from a real-time analysis,” arXiv:2402.00099 [hep-th].
2023. Elba Alonso-Monsalve and David I. Kaiser, “Debye screening of non-Abelian plasmas in curved spacetimes,” *Physical Review D* 108: 125010, arXiv:2309.15385 [hep-ph].
2023. Thomas Steingasser and David I. Kaiser, “Higgs criticality beyond the Standard Model,” *Physical Review D* 108: 095035, arXiv:2307.10361 [hep-ph].
2023. Wenzel Qin, Sarah R. Geller, Shyam Balaji, Evan McDonough, and David I. Kaiser, “Planck constraints and gravitational wave forecasts for primordial black hole dark matter seeded by multifield inflation,” *Physical Review D* 108: 043508, arXiv:2303.02168 [astro-ph.CO].
2023. Feraz Azhar and David I. Kaiser, “Flows into de Sitter space from anisotropic initial conditions: An effective field theory approach,” *Physical Review D* 107: 043506, arXiv:2207.08355 [astro-ph.CO].
2022. Sarah R. Geller, Wenzel Qin, Evan McDonough, and David I. Kaiser, “Primordial black holes from multifield inflation with nonminimal couplings,” *Physical Review D* 106: 063535, arXiv:2205.04471 [hep-th]. (A *topcite* 50+ entry on INSPIRE.)
2021. Borna Salehian, Hong-Yi Zhang, Mustafa A. Amin, David I. Kaiser, and Mohammad Hossein Namjoo, “Beyond Schrödinger-Poisson: Nonrelativistic effective field theory for scalar dark matter,” *Journal of High Energy Physics* 09 (2021): 050, arXiv:2104.10128 [astro-ph.CO].
2021. Rouzbeh Allahverdi et al., “The first three seconds: A review of possible expansion histories of the early universe,” *Open Journal of Astrophysics* 4, arXiv:2006.16182 [astro-ph.CO]. (A *topcite* 100+ entry in on INSPIRE.)
2020. Evan McDonough, Alan H. Guth, and David I. Kaiser, “Nonminimal couplings and the forgotten field of axion inflation,” arXiv:2010.04179 [hep-th].
2020. Borna Salehian, Mohammad Hossein Namjoo, and David I. Kaiser, “Effective theories for a nonrelativistic field in an expanding universe: Induced self-interaction, pressure, sound speed, and viscosity,” *Journal of High Energy Physics* 07 (2020): 059, arXiv:2005.05388 [astro-ph.CO].
2020. Jorinde van de Vis, Rachel Nguyen, Evangelos Sfakianakis, John T. Giblin, Jr., and David I. Kaiser, “Time-scales for nonlinear processes in preheating in multifield inflation with nonminimal couplings,” *Physical Review D* 102: 043528, arXiv:2005.00433 [astro-ph.CO].
2020. Julia Menzel and David Kaiser, “Weimar, Cold War, and Historical Explanation: Re-reading Forman,” *Historical Studies in the Natural Sciences* 50: 31-40.
2019. Maximilian Daschner, David I. Kaiser, and Joseph A. Formaggio, “Exploiting Faraday Rotation to Jam Quantum Key Distribution via Polarized Photons,” *Quantum Information and Computation* 19: 1313-1324, arXiv:1905.01359 [quant-ph].

2019. Rachel Nguyen, Jorinde van de Vis, Evangelos I. Sfakianakis, John T. Giblin, Jr., and David I. Kaiser, “Nonlinear Dynamics of Preheating after Multifield Inflation with Nonminimal Couplings,” *Physical Review Letters* 123: 171301, arXiv:1905.12562 [hep-ph].
2019. Jolyon K. Bloomfield, Patrick Fitzpatrick, Kiriakos Hilbert, and David I. Kaiser, “Onset of Inflation amid Backreaction from Inhomogeneities,” *Physical Review D* 100: 063512, arXiv:1906.08651 [astro-ph.CO].
2019. Andrew Friedman, Alan Guth, Michael Hall, David I. Kaiser, and Jason Gallicchio, “Relaxed Bell Inequalities with Arbitrary Measurement Dependence for Each Observer,” *Physical Review A* 99: 012121, arXiv:1809.01307 [quant-ph].
2018. Feraz Azhar and David I. Kaiser, “Flows into Inflation: An Effective Field Theory Approach,” *Physical Review D* 98: 063515, arXiv:1807.02088 [astro-ph.CO].
2018. Dominik Rauch et al., “Cosmic Bell Test using Random Measurement Settings from High-Redshift Quasars,” *Physical Review Letters* 121: 080403, arXiv:1808.05966 [quant-ph]. *Editors’ Suggestion*. (A *topcite* 50+ entry on INSPIRE.)
2018. Mohammad Hossein Namjoo, Alan H. Guth, and David I. Kaiser, “Relativistic Corrections to Nonrelativistic Effective Field Theories,” *Physical Review D* 98: 016011, arXiv:1712.00445 [hep-ph]. (A *topcite* 50+ entry on INSPIRE.)
2018. David Kaiser and Dean Rickles, “The Price of Gravity: Private Patronage and the Transformation of Gravitational Physics after World War II,” *Historical Studies in the Natural Sciences* 48: 338-379.
2018. Calvin Leung, Amy Brown, Hien Nguyen, Andrew Friedman, David I. Kaiser, and Jason Gallicchio, “Astronomical Random Numbers for Quantum Foundations Experiments,” *Physical Review A* 97: 042120, arXiv:1706.02276 [quant-ph].
2018. David Kaiser, “The Origins of *Physics Today*,” *Physics Today* 71 (May 2018): 32-38.
2018. Matthew DeCross, David I. Kaiser, Anirudh Prabhu, Chanda Prescod-Weinstein, and Evangelos Sfakianakis, “Preheating after Multifield Inflation with Nonminimal Couplings, III: Dynamical spacetime results,” *Physical Review D* 97: 023528, arXiv:1610.08916 [astro-ph.CO]. (A *topcite* 50+ entry on INSPIRE.)
2018. Matthew DeCross, David I. Kaiser, Anirudh Prabhu, Chanda Prescod-Weinstein, and Evangelos Sfakianakis, “Preheating after Multifield Inflation with Nonminimal Couplings, II: Resonance structure,” *Physical Review D* 97: 023527, arXiv:1610.08868 [astro-ph.CO]. (A *topcite* 50+ entry on INSPIRE.)
2018. Matthew DeCross, David I. Kaiser, Anirudh Prabhu, C. Prescod-Weinstein, and Evangelos Sfakianakis, “Preheating after Multifield Inflation with Nonminimal Couplings, I: Covariant Formalism and Attractor Behavior,” *Physical Review D* 97: 023526, arXiv:1510.08553 [astro-ph.CO]. (A *topcite* 100+ entry on INSPIRE.)
2017. Johannes Handsteiner et al., “Cosmic Bell Test: Measurement Settings from Milky Way Stars,” *Physical Review Letters* 118: 060401, arXiv:1611.06985 [quant-ph]. *Editors’ Suggestion*. (A *topcite* 50+ entry on INSPIRE.)
2016. Joseph Formaggio, David I. Kaiser, Mykola Murskyj, and Talia Weiss, “Violation of the Leggett-Garg Inequality in Neutrino Oscillations,” *Physical Review Letters* 117: 050402, arXiv:1602.00051 [quant-ph]. (A *topcite* 100+ entry on INSPIRE.)
2015. Mustafa Amin, Mark Hertzberg, David I. Kaiser, and Johanna Karouby, “Nonperturbative Dynamics of Reheating after Inflation: A Review,” invited review for *International Journal of Modern Physics D* 24: 1530003, arXiv:1410.3808 [hep-ph]. (A *topcite* 250+ entry on INSPIRE.)
2014. Alan Guth, David I. Kaiser, and Yasunori Nomura, “Inflationary Paradigm after *Planck* 2013,” *Physics Letters B* 733: 112-119, arXiv:1312.7619 [astro-ph.CO]. (A *topcite* 100+ entry on INSPIRE.)

2014. Jason Gallicchio, Andrew Friedman, and David I. Kaiser, “Testing Bell’s Inequality with Cosmic Photons: Closing the Settings-Independence Loophole,” *Physical Review Letters* 112: 110405, arXiv:1310.3288 [quant-ph].
2014. Katelin Schutz, Evangelos Sfakianakis, and David I. Kaiser, “Multifield Inflation after *Planck*: Isocurvature Modes from Nonminimal Couplings,” *Physical Review D* 89: 064044, arXiv:1310.8285 [astro-ph.CO]. (A *topcite* 50+ entry on INSPIRE.)
2014. David I. Kaiser and Evangelos Sfakianakis, “Multifield Inflation after *Planck*: The Case for Nonminimal Couplings,” *Physical Review Letters* 112: 011302, arXiv:1304.0363 [astro-ph.CO]. *Editors’ Suggestion*. (A *topcite* 100+ entry on INSPIRE.)
2013. Andrew Friedman, David I. Kaiser, and Jason Gallicchio, “The Shared Causal Pasts and Futures of Cosmological Events,” *Physical Review D* 88: 044038, arXiv:1305.3943 [astro-ph.CO].
2013. Ross Greenwood, David I. Kaiser, and Evangelos Sfakianakis, “Multifield Dynamics of Higgs Inflation,” *Physical Review D* 87: 064021, arXiv:1210.8190 [hep-ph]. (A *topcite* 50+ entry on INSPIRE.)
2013. David I. Kaiser, Edward Mazenc and Evangelos Sfakianakis, “Primordial Bispectrum from Multifield Inflation with Nonminimal Couplings,” *Physical Review D* 87: 064004, arXiv:1210.7487 [astro-ph.CO]. (A *topcite* 100+ entry on INSPIRE.)
2012. David Kaiser, “Booms, Busts, and the World of Ideas: Enrollment Pressures and the Challenge of Specialization,” *Osiris* 27: 276-302.
2010. David I. Kaiser and Audrey Todhunter, “Primordial Perturbations from Multifield Inflation with Nonminimal Couplings,” *Physical Review D* 81: 124037, arXiv:1004.3805 [astro-ph.CO].
2010. David I. Kaiser, “Conformal Transformations with Multiple Scalar Fields,” *Physical Review D* 81: 084044, arXiv:1003.1159 [gr-qc]. (A *topcite* 100+ entry on INSPIRE.)
2009. Luís Bettencourt, David I. Kaiser, and Jasleen Kaur, “Scientific Discovery and Topological Transitions in Collaboration Networks,” *Journal of Informetrics* 3: 210-221.
2008. Luís Bettencourt, David I. Kaiser, Jasleen Kaur, Carlos Castillo-Chávez, and David Wojick, “Population Modeling of the Emergence and Development of Scientific Fields,” *Scientometrics* 75: 495-518.
2006. David Kaiser, “The Physics of Spin: Sputnik Politics and American Physicists in the 1950s,” *Social Research* 73: 1225-1252.
2006. David Kaiser, “Whose Mass is it Anyway? Particle Cosmology and the Objects of Theory,” *Social Studies of Science* 36: 533-564.
2006. Luís Bettencourt, Ariel Cintrón-Arias, David I. Kaiser, and Carlos Castillo-Chávez, “The Power of a Good Idea: Quantitative Modeling of the Spread of Ideas from Epidemiological Models,” *Physica A* 364: 513-526.
2005. David Kaiser, “The Atomic Secret in Red Hands? American Suspicions of Theoretical Physicists During the Early Cold War,” *Representations* 90: 28-60. Reprinted in *Reappraising Oppenheimer: Centennial Studies and Reflections*, ed. Cathryn Carson and David Hollinger (Berkeley: Office for History of Science and Technology, 2005), 185-216.
2005. Alan Guth and David I. Kaiser, “Inflationary Cosmology: Exploring the Universe from the Smallest to the Largest Scales,” *Science* 307 (11 Feb): 884-890, arXiv:astro-ph/0502328. (A *topcite* 50+ entry on INSPIRE.)
2004. David Kaiser, “The Postwar Suburbanization of American Physics,” *American Quarterly* 56: 851-888.
2004. David Kaiser, Kenji Ito, and Karl Hall, “Spreading the Tools of Theory: Feynman Diagrams in the United States, Japan, and the Soviet Union,” *Social Studies of Science* 34: 879-922.

2002. David Kaiser, “Cold War Requisitions, Scientific Manpower, and the Production of American Physicists after World War II,” *Historical Studies in the Physical and Biological Sciences* 33: 131-59.
2002. David Kaiser, “Nuclear Democracy: Political Engagement, Pedagogical Reform, and Particle Physics in Postwar America,” *Isis* 93: 229-268. Reprinted in *Science and the American Century: Readings from Isis*, ed. Sally Gregory Kohlstedt and David Kaiser (Chicago: University of Chicago Press, 2013), 170-209. Also reprinted in *Geoffrey Chew: Architect of the Bootstrap*, ed. Lars Brink, Richard Brower, Carleton DeTar, Chung-I Tan, and K. K. Phua (Singapore: World Scientific, 2021).
2000. David Kaiser, “Stick-Figure Realism: Conventions, Reification, and the Persistence of Feynman Diagrams, 1948-1964,” *Representations* 70: 49-86.
2000. Bruce Bassett, Christopher Gordon, Roy Maartens, and David I. Kaiser, “Restoring the Sting to Metric Preheating,” *Physical Review D* 61: 061302 (Rapid Communication), arXiv:hep-ph/9909482. (A *topcite* 50+ entry on INSPIRE.)
1999. Bruce Bassett, Fabrizio Tamburini, David I. Kaiser, and Roy Maartens, “Metric Preheating and Limitations of Linearized Gravity,” *Nuclear Physics B* 561: 188-240, arXiv:hep-ph/9901319. (A *topcite* 100+ entry on INSPIRE.)
1999. Bruce Bassett, David I. Kaiser, and Roy Maartens, “General Relativistic Effects in Preheating,” *Physics Letters B* 455: 84-89, arXiv:hep-ph/9808404. (A *topcite* 100+ entry on INSPIRE.)
1999. David I. Kaiser, “Larger Domains from Resonant Decay of Disoriented Chiral Condensates,” *Physical Review D* 59: 117901, arXiv:hep-ph/9801307.
1998. David Kaiser, “A Mannheim for All Seasons: Bloor, Merton, and the Roots of the Sociology of Scientific Knowledge,” *Science in Context* 11: 51-87.
1998. David Kaiser, “A ψ is just a ψ ? Pedagogy, Practice, and the Reconstitution of General Relativity, 1942-1975,” *Studies in History and Philosophy of Modern Physics* 29: 321-338. Reprinted in *Making General Relativity*, ed. Peter Galison, Michael Gordin, and David Kaiser (New York: Routledge, 2001), 291-308.
1998. Joanne Cohn and David I. Kaiser, “Where do all the Supercurvature Modes Go?,” *Physical Review D* 58: 083515, arXiv:gr-qc/9803073.
1998. David I. Kaiser, “Resonance Structure for Preheating with Massless Fields,” *Physical Review D* 57: 702-711, arXiv:hep-ph/9707516. (A *topcite* 50+ entry on INSPIRE.)
1997. David I. Kaiser, “Preheating in an Expanding Universe: Analytic Results for the Massless Case,” *Physical Review D* 56: 706-716, arXiv:hep-ph/9702244. (A *topcite* 50+ entry on INSPIRE.)
1996. David I. Kaiser, “Post-Inflation Reheating in an Expanding Universe,” *Physical Review D* 53: 1776-1783, arXiv:astro-ph/9507108. (A *topcite* 100+ entry on INSPIRE.)
1995. David I. Kaiser, “Primordial Spectral Indices from Generalized Einstein Theories,” *Physical Review D* 52: 4295-4306, arXiv:astro-ph/9408044. (A *topcite* 250+ entry on INSPIRE.)
1994. David I. Kaiser, “Induced-gravity Inflation and the Density Perturbation Spectrum,” *Physics Letters B* 340: 23-28, arXiv:astro-ph/9405029.
1994. David Kaiser, “Bringing the Human Actors Back On Stage: The Personal Context of the Einstein-Bohr Debate,” *British Journal for the History of Science* 27: 129-152.
1994. David I. Kaiser, “Constraints in the context of Induced-gravity Inflation,” *Physical Review D* 49: 6347-6353, arXiv:astro-ph/9308043.
1993. David I. Kaiser, “Distinguishing a Charged Higgs Signal from a Heavy W_R Signal,” *Physics Letters B* 306: 125-128.
1992. David Kaiser, “More Roots of Complementarity: Kantian Aspects and Influences,” *Studies in History and Philosophy of Science* 23: 213-239.

1990. David Kaiser, “Working Apparatus for Determining Metals’ Relative Rates of Oxidation,” *BASE: A Journal of Science and Technology* 8: 53-58.

Chapters in Books

2024. Marc Aidinoff and David Kaiser, “We’ve Been Here Before: Historical Precedents for Managing Artificial Intelligence,” in *Realizing the Promise and Minimizing the Perils of AI for Science and the Scientific Community*, ed. Kathleen Hall Jamison, William J. Kearney, and Anne-Marie Mazza (Philadelphia: University of Pennsylvania Press), 35-55.
2024. David Kaiser, “Preface,” in Alain Aspect, *Einstein and the Quantum Revolutions* (Chicago: University of Chicago Press), vii-xiii.
2024. Simona Chiodo, David Kaiser, Julie Shah, and Paolo Volonté, “What Improving Technology Through Ethics Means,” in *Improving Technology Through Ethics*, ed. Simona Chiodo, David Kaiser, Julie Shah, and Paolo Volonté (Cham, Switzerland: Springer 2024), 1-11.
2022. David Kaiser, “The First Apprentice,” in “*Well, Doc, You’re In*”: *Freeman Dyson’s Journey through the Universe*, ed. David Kaiser (Cambridge: MIT Press), 71-102.
2022. David Kaiser, “Introduction,” in “*Well, Doc, You’re In*”: *Freeman Dyson’s Journey through the Universe*, ed. David Kaiser (Cambridge: MIT Press), 1-18.
2022. David I. Kaiser, “Tackling Loopholes in Experimental Tests of Bell’s Inequality,” in *Oxford Handbook of the History of Quantum Interpretations*, ed. Olival Freire, Jr. (New York: Oxford University Press), 331-370, arXiv:2011.09296 [quant-ph].
2019. David Kaiser, “Foreword,” in George Greenstein, *Quantum Strangeness: Wrestling with Bell’s Theorem and the Ultimate Nature of Reality* (Cambridge: MIT Press, 2019), xi-xvi.
2019. David Kaiser, “‘Information’ for Wiener, for Shannon, and for Us,” in *Possible Minds: 25 Ways of Looking at AI*, ed. John Brockman (New York: Penguin, 2019), 151-159.
2019. David Kaiser, “Foreword,” in *Quantum Field Theory: Lectures of Sidney Coleman*, ed. Bryan Gin-ge Chen et al. (Singapore: World Scientific, 2019), xvii-xxvii.
2017. David Kaiser, “Foreword to the 2017 edition,” in Charles Misner, Kip Thorne, and John Wheeler, *Gravitation* (Princeton: Princeton University Press, 2017), xxlii-xxxi.
2016. David I. Kaiser, “Nonminimal Couplings in the Early Universe: Multifield Models of Inflation and the Latest Observations,” invited contribution in *At the Frontiers of Spacetime: Scalar-Tensor Theory, Bell’s Inequality, Mach’s Principle, Exotic Smoothness*, ed. T. Asselmeyer-Maluga (New York: Springer, 2016), 41-57, arXiv:1511.09148 [astro-ph.CO].
2016. David Kaiser, “Thomas Kuhn and the Psychology of Scientific Revolutions,” in *Kuhn’s Structure of Scientific Revolutions at Fifty*, ed. Lorraine Daston and Robert Richards (Chicago: University of Chicago Press, 2016), 71-95.
2016. David Kaiser and W. Patrick McCray, “Introduction,” in *Groovy Science: Knowledge, Innovation, and American Counterculture*, ed. Kaiser and McCray (Chicago: University of Chicago Press, 2016), 1-10.
2014. Benjamin Wilson and David Kaiser, “Calculating Times: Radar, Ballistic Missiles, and Einstein’s Relativity,” in *Science and Technology in the Global Cold War*, ed. Naomi Oreskes and John Krige (Cambridge: MIT Press, 2014), 273-316.
2014. Benjamin Wilson and David Kaiser, “Physics,” in *The Oxford Encyclopedia of American Scientific, Medical, and Technological History*, ed. Hugh Slotten (New York: Oxford University Press, 2014).
2013. Sally Gregory Kohlstedt and David Kaiser, “Introduction,” in *Science and the American Century*, ed. Kohlstedt and Kaiser (Chicago: University of Chicago Press, 2013), 1-6.

2013. David Kaiser, “Epilogue: Textbooks and the Emergence of a Conceptual Trajectory,” in *A History of Quantum Physics through Textbooks*, ed. Massimiliano Badino and Jaume Navarro (Berlin: Max Planck Institute for the History of Science, 2013), 285-289.
2011. David Kaiser, “Foreword,” in Freeman Dyson, *Advanced Quantum Mechanics*, ed. David Derbes, 2nd ed. (New Jersey: World Scientific, 2011), v-xii.
2010. David Kaiser, “Introduction: Moments of Decision,” in *Becoming MIT: Moments of Decision*, ed. David Kaiser (Cambridge: MIT Press, 2010), 1-13.
2010. David Kaiser, “Elephant on the Charles: Postwar Growing Pains,” in *Becoming MIT: Moments of Decision*, ed. David Kaiser (Cambridge: MIT Press, 2010), 103-121.
2009. David Kaiser, “Dem verbotenen Pfad folgend: Konventionen, Gepflogenheiten und die Feynman-Diagramme [Following the Forbidden Path: Conventions, Habits, and Feynman Diagrams],” in *Atombilder: Ikonographien des Atoms in Wissenschaft und Öffentlichkeit des 20. Jahrhunderts*, ed. Jochen Hennig and Charlotte Bigg (Berlin: Wallstein Verlag, 2009), 62-68.
2007. Cyrus Mody and David Kaiser, “Scientific Training and the Creation of Scientific Knowledge,” in *Handbook of Science and Technology Studies*, rev. ed. (Cambridge: MIT Press, 2007), 377-402.
2007. David Kaiser, “The Mutual Embrace: Institutions and Epistemology,” in *Positioning the History of Science*, ed. Kostas Gavroglu and Jürgen Renn (Dordrecht: Springer, 2007), 99-103.
2005. David Kaiser, “Einstein’s Teachers,” in *Albert Einstein: Chief Engineer of the Universe*, ed. Jürgen Renn (Berlin: Wiley VCH, 2005), 152-155.
2005. David Kaiser, “Introduction: Moving Pedagogy from the Periphery to the Center,” in *Pedagogy and the Practice of Science*, ed. David Kaiser (Cambridge: MIT Press, 2005), 1-8.
2005. David Kaiser, “Making Tools Travel: Pedagogy and the Transfer of Skill in Postwar Theoretical Physics,” in *Pedagogy and the Practice of Science*, ed. David Kaiser (Cambridge: MIT Press, 2005), 41-74.
2005. Andrew Warwick and David Kaiser, “Kuhn, Foucault, and the Power of Pedagogy,” in *Pedagogy and the Practice of Science*, ed. David Kaiser (Cambridge: MIT Press, 2005), 393-409.
1999. David Kaiser, “Do Feynman Diagrams Endorse a Particle Ontology? The Roles of Feynman Diagrams in *S*-Matrix Theory,” in *Conceptual Foundations of Quantum Field Theory*, ed. Tian Yu Cao (New York: Cambridge University Press, 1999), 343-356.
1994. David Kaiser, “Niels Bohr’s Conceptual Legacy in Contemporary Particle Physics,” in *Niels Bohr and Contemporary Philosophy*, ed. Jan Faye and Henry Folse (Boston: Kluwer, 1994), 257-268.

Other Publications

2024. Sasha de Sola and David Kaiser, “The Exchange: The Illusion of Time and Exploring Social Questions through Ballet,” *Scientific Inquirer* (14 October 2024).
2024. David Kaiser, “Black hole flyby,” *London Review of Books* 46, no. 11 (6 June 2024).
2024. Wolfgang Blau et al., “Protecting scientific integrity in an age of generative AI,” *Proceedings of the US National Academy of Sciences* 121: e2407886121 (21 May 2024).
2024. Marc Aidinoff and David Kaiser, “Novel technologies and the choices we make: Historical precedents for managing artificial intelligence,” *Issues in Science and Technology* (21 May 2024).

2022. David Kaiser, “They probed quantum entanglement while everyone shrugged,” *Nautilus* (5 October 2022).
2022. Diana Henderson, Daniel Jackson, David Kaiser, S. P. Kothari, Sanjay Sarma, “Ideas for an Affordable New Educational Institution,” Abdul Latif Jameel World Education Lab, MIT (September 2022).
2020. Anup Malani et al., “Adaptive control of COVID-19 outbreaks in India: Local, gradual, and trigger-based exit paths from lockdown,” *National Bureau of Economic Research* working paper (12 May 2020).
2020. Anup Malani, David Kaiser, Rupam Bhattacharyya, and Bhramar Mukherjee, “Is there really no community transmission of coronavirus in India? Let’s do some math,” *Quartz India* (23 April 2020).
2020. David Kaiser, “Double vision,” *Technology Review* (15 April 2020).
2020. David Kaiser, “Freeman Dyson’s letters offer another glimpse of genius,” *New Yorker* (5 March 2020).
2019. David Kaiser, “Discovery is always political,” *Nature* 573 (26 September 2019): 487-90.
2019. W. Patrick McCray and David Kaiser, “When science was groovy: Counterculture-inspired research flourished in the Age of Aquarius,” *Science* 365 (9 August 2019): 550-51.
2018. David Kaiser, “Free Will, Video Games, and the Most Profound Quantum Mystery,” *New Yorker* (9 May 2018).
2018. David Kaiser, “A Physicist’s Farewell to Stephen Hawking,” *New Yorker* (15 March 2018).
2018. Peter Galison and David Kaiser, “Silvan Samuel Schweber” (obituary), *Physics Today* 71 (January): 63-64.
2017. David Kaiser, “Learning from Gravitational Waves,” *New York Times* (3 October 2017).
2017. David Kaiser, “Operation: Neutrino,” *Aeon* (20 July 2017).
2017. Alan Guth, David Kaiser, Andrei Linde, Stephen Hawking, Steven Weinberg, Ed Witten and others, “A Cosmic Controversy,” *Scientific American* (July 2017): 5-7.
2017. David Kaiser, “Quantum Theory by Starlight,” *New Yorker* (7 February 2017).
2016. David Kaiser, “Share the Joy of Science,” *Nature* (11 November 2016).
2016. David Kaiser, “How Einstein and Schrödinger Conspired to Kill a Cat,” *Nautilus* (13 October 2016).
2016. David Kaiser, “Quantum Theory Made Charming,” *The Guardian* (7 January 2016).
2015. David Kaiser, “Gaga for *Gravitation*,” *Huffington Post* (23 November 2015).
2015. David Kaiser, “How politics shaped general relativity,” *New York Times* (8 November 2015): SR9.
2015. Steve Paulson, Adam Frank, David Kaiser, Tim Maudlin, and Priyamvada Natarajan, “Transcending matter: Physics and ultimate meaning,” *Annals of the New York Academy of Sciences* (11 September 2015).
2015. Luis Bettencourt and David Kaiser, “Formation of Scientific Fields as a Universal Topological Transition,” arXiv:1504:00319 [physics.soc-ph].
2015. David Kaiser, “From blackboards to bombs,” *Nature* 523 (30 July 2015): 523-525.
2015. David Kaiser and Benjamin Wilson, “American scientists as public citizens: 70 years of the *Bulletin of the Atomic Scientists*,” *Bulletin of the Atomic Scientists* 71 (January 2015): 13-25.
2014. David Kaiser, “Is quantum entanglement real?,” *New York Times* (16 November 2014): SR10.
2014. David Kaiser, “Of black holes and glittering stars: *The Theory of Everything* and Hollywood physics,” *Huffington Post* (12 November 2014).
2014. David Kaiser, “Evolving culture of science engagement,” *Huffington Post* (3 October 2014).

2014. David Kaiser, “Is time travel possible? What shape is the universe? What’s the deal with wormholes?,” *HIPPO Reads* (8 September 2014), invited response for inaugural “ask me anything” column.
2014. David Kaiser, “The sacred, spherical cows of physics,” *Nautilus* (1 May 2014).
2014. David Kaiser, “Dance of the elementary particles,” *London Review of Books blog* (24 March 2014).
2014. David Kaiser, “Physicists’ golden jubilee,” *Huffington Post* (10 February 2014).
2014. David Kaiser, “Cosmic inflation,” *London Review of Books* 36 (6 February 2014): 27-28.
2014. David Kaiser, “Shut up and calculate!” (invited ‘comment’), *Nature* 505 (9 January 2014): 153-155.
2013. David Kaiser, “Everything but the Unicorn,” *London Review of Books blog* (19 April 2013).
2013. David Kaiser, “Déjà vu all over again? A response to Philip Mirowski,” *Social Epistemology Review and Reply Collective* 2(2): 1-7.
2012. David Kaiser and Jonathan Moreno, “Dual-use research: Self-censorship is not enough” (invited ‘comment’), *Nature* 492 (20 - 27 December 2012): 345-347.
2012. David Kaiser, “I Didn’t Write That,” *New York Times* (4 November 2012): SR11.
2012. David Kaiser, “Boiling Electrons,” *London Review of Books* 34 (27 September 2012): 17-18. Translated in Vietnamese and published in *Tia Sáng* 5 (5 March 2021): 33-37.
2012. David Kaiser, “David Kaiser’s Top Ten Books about Quantum Theory” (invited column), *The Guardian* (26 September 2012).
2012. David Kaiser and Angela Creager, “The Right Way to Get It Wrong,” *Scientific American* 306 (June 2012): 70-75. Reprinted in Italian translation as “Il modo giusto di sbagliare,” *Le Scienze* (August 2012); in Japanese translation as “Uso kara deta dai hakken,” *Nikkei Saiensu* (October 2012): 76-83; and in German translation as “Fruchtbare Irrtümer,” *Spektrum* (January 2013), s. 76.
2012. David Kaiser, “Higgs at Last,” *London Review of Books blog* (6 July 2012).
2012. David Kaiser, “Elegant Wiggles: Why the Universe is Lumpy,” *Huffington Post* (22 May 2012).
2012. David Kaiser, “In Retrospect: The Structure of Scientific Revolutions” (invited ‘comment’), *Nature* 484 (12 April 2012): 164-166.
2012. David Kaiser, “A Tale of Two Textbooks: Experiments in Genre,” invited contribution for Focus section, *Isis* 103 (March 2012): 126-138.
2012. David Kaiser, “The Higgsey Higgsey Boson,” *Huffington Post* (11 January 2012).
2012. David Kaiser, “The weighty Higgs particle,” *Philadelphia Inquirer* (9 January 2012). Distributed by *Project Syndicate* and also published in Spain, Germany, Dubai, Qatar, Egypt, Singapore, Taiwan, South Korea, and elsewhere.
2011. David Kaiser, “The quantum universe,” *The Guardian* (18 November 2011): 7.
2011. David Kaiser, “Faster than a Speeding Neutrino,” *London Review of Books blog* (23 September 2011).
2011. David Kaiser, “Short Cuts” (on the search for the Higgs boson), *London Review of Books* 33 (25 August 2011): 20.
2011. David Kaiser, “How the Hippies Saved Physics: Curious Contributions to Quantum Theory,” *NPR Cosmos and Culture blog* (30 June 2011).
2011. David Kaiser, “The Search for Clean Cash” (invited ‘comment’), *Nature* 472 (7 April 2011): 30-31.
2011. David Kaiser, “Consciousness on the Charles” [essay review], *Historical Studies in the Natural Sciences* 41: 265-275.
2011. David Kaiser, “Going supernova,” *London Review of Books* 33 (17 Feb 2011): 36-37.
2010. David Kaiser and Marc Kastner, “Francis E. Low, 1921-2007,” *Biographical Memoirs of Fellows of the National Academy of Sciences*, 1-24.

2010. David Kaiser, “Half the Blink of an Eye,” *London Review of Books blog* (24 November 2010).
2010. David Kaiser, “Diary: Aliens,” *London Review of Books* 32 (8 July 2010): 34-35.
2010. Hunter Heyck and David Kaiser, invited guest editors for *Isis* Focus section on “New Perspectives on Science and the Cold War,” with contributions by David Engerman, Paul Erickson, Rebecca Lemov, Kristie Macrakis, and Zuoyue Wang, *Isis* 101 (June 2010): 362-411.
2010. David Kaiser, “The Coldest Place in the Universe,” *London Review of Books blog* (22 March 2010).
2009. David Kaiser, “Gremlin fireworks,” *London Review of Books* 31 (17 Dec 2009): 19-20.
2009. David Kaiser, “ $A \times B \neq B \times A$,” *London Review of Books* 31 (26 Feb 2009): 21-22.
2009. David Kaiser, “Così la politica perseguitò Einstein e la relatività [How politics persecuted Einstein and relativity],” *l’Unità* (14 Jan 2009): 38-39.
2009. David Kaiser, “Feynman diagrams,” *Compendium of Quantum Physics: Concepts, Experiments, History, and Philosophy*, ed. Friedel Weinert, Klaus Hentschel, and Daniel Greenberger (New York: Springer, 2009), 235-239.
2008. David Kaiser, “Birth Cry of *Image and Logic*,” *Centaurus* 50 (Feb 2008): 166-167.
2007. David Kaiser, “The Other Evolution Wars,” *American Scientist* 95 (Nov-Dec 2007): 518-525. Reprinted in Italian translation as “La guerra dell’altra evoluzione,” *Le Scienze* (June 2008), n. 478.
2007. David Kaiser, “When Fields Collide,” *Scientific American* 296 (June 2007): 62-69. Reprinted in German translation as “Duell der Felder,” *Spektrum der Wissenschaft* (Oct 2007): 26-33; and in Japanese translation as “Soryūshi Uchūron no Tanjō [The Emergence of Particle Cosmology],” *Nikkei Saiensu*, September 2007: 26-34.
2007. David Kaiser, “Turning Physicists into Quantum Mechanics,” *Physics World* 20 (May): 28-33. Reprinted in Polish translation as “Jak kształcił mechników kwantowych,” *Postępy Fizyki* 58 (Sep-Oct 2007): 201-206.
2007. David Kaiser, “Viki Weisskopf: Searching for Simplicity in a Complicated World,” *Physics @ MIT* 20 (Fall 2007): 44-56.
2007. David Kaiser, “Richard Feynman” and “Victor Weisskopf,” in *The New Dictionary of Scientific Biography* (New York: Macmillan, 2007).
2005. David Kaiser, “Training and the Generalist’s Vision in the History of Science,” invited contribution for Focus section, *Isis* 96 (June 2005): 244-251.
2005. David Kaiser, “Physics and Feynman’s Diagrams,” *American Scientist* 93 (Mar-Apr 2005): 156-165. Reprinted in Spanish translation as “La física y los diagramas de Feynman,” *Investigacion y Ciencia* (Sep 2005): 74-83.
2003. David Kaiser with Felice Frankel, “Sightings” (column on Feynman diagrams), *American Scientist* 91 (Sep-Oct 2003): 450-451.
2001. David Kaiser, “Francis E. Low: Coming of Age as a Physicist in Postwar America,” *Physics @ MIT* 14 (Fall 2001): 24-31, 70-77.
2000. David Kaiser, “Richard Feynman” and “Physics: 20th Century,” in *Reader’s Guide to the History of Science*, ed. Arne Hessenbruch (London: Fitzroy Dearborn), 257-8, 566-8.
1996. David Kaiser, “Supercurvature modes from preheating in an open universe,” arXiv:astro-ph/9608025.
1995. David Kaiser, “Frame-independent calculation of spectral indices from inflation,” arXiv:astro-ph/9507048.
- 1994 – 2024. More than thirty book reviews in *Science*, *Nature*, *American Scientist*, *American Historical Review*, *Isis*, *British Journal for the History of Science*, *Journal for the History of Astronomy*, *Journal of Interdisciplinary History*, *Science Education*, *Annals of Science*, and *Historical Studies in the Physical and Biological Sciences*. Complete list available upon request.

Professional Activities

Academic Publishing

Chair, Editorial Board of MIT Press, 2016–; member of the Editorial Board, 2008–.
 Editor, *MIT Case Studies in Social and Ethical Responsibilities of Computing*, 2020–.
 Co-Editor, *Historical Studies in the Natural Sciences*, 2010–2016; Associate Editor, 2007–2010,
 2016–.
 Advisory Board member, *Isis*, 2005–2010.

Institutional Service

Co-Chair, MIT School of Humanities, Arts, and Social Sciences Collaboration Fund committee,
 2024–.
 Faculty Search Committee, MIT Center for Theoretical Physics, 2023–2024.
 Niels Bohr Archive (Copenhagen), Scientific Advisory Board, 2023–.
 MIT Presidential Search Committee, 2022.
 Associate Dean, Social and Ethical Responsibilities of Computing, MIT, 2019–2022.
 American Institute of Physics, Committee on the Center for History of Physics, 2022.
 External Visiting Committee, Institute for History and Philosophy of Science and Technology,
 University of Toronto, 2022.
 MIT Corporation Joint Advisory Committee on Institute-Wide Affairs, 2021–.
 Faculty Affiliate, Black Hole Initiative, Harvard University, 2021–.
 Co-Chair, MIT Legal-Ethical-Equity committee for campus operations during the COVID-19
 pandemic, 2020–2021.
 MIT Museum Advisory Board, 2019–.
 Alumni Advisory Board for the Department of Physics and Astronomy, Dartmouth College,
 2011–.
 Advisory Board, Catalyst Collaborative, MIT and Central Square Theater, 2012–.
 MIT Working Group on Social Implications and Responsibilities of Computing, 2019.
 Member, Search Committee for Director, Max Planck Institute for the History of Science, 2017–
 2022.
 External Visiting Committee, Department of History of Science, Harvard University, 2016–17.
 American Academy of Arts and Sciences, “The Public Face of Science” working group, 2017.
 Department Head, MIT Program in Science, Technology, and Society, 2011–2016.
 MIT MacVicar Faculty Fellow Selection Committee, 2015–2016.
 Director of Graduate Studies, MIT doctoral program in History, Anthropology, and Science,
 Technology, and Society (HASTS), 2009–2011.
 MIT Faculty Policy Committee member, 2008–2010.
 MIT-STS Faculty Search Committee member, 2013–14 (Chair), 2007–2008 (Chair), and 2003–
 2004.
 MIT Knight Science Journalism Program Director Search Committee, 2014 (Chair).
 MIT Sesquicentennial Committee, 2007–2008.
 MIT School of Humanities, Arts, and Social Sciences (HASS) Oversight Committee, 2007–2008.
 Consultant, Office of Scientific and Technical Information, U.S. Department of Energy, 2006–
 2011.
 Leader, Faculty Humanities Seminar, “Physics in the 20th Century,” St. Anselm College,
 Manchester, New Hampshire, June 2005.
 MIT-STS Undergraduate Advisor, 2001–2006.
 Faculty Lecturer, “Manhattan Project Seminar,” MIT Alumni Travel Program and Boston
 Museum of Science, Los Alamos, New Mexico, May 2003.
 MIT Committee on Graduate School Programs, 2001.

Advisory Board, NSF grant “Promoting Argumentation in the Teaching of History and Science (PATHS).” Principal Investigators: Sam Wineburg et al., University of Washington, Seattle, 2000–2003.

Professional Meetings and Societies

Board of Trustees, American Institute of Physics Foundation, 2025–.

Advisor, US National Academy of Sciences study group on managing generative artificial intelligence, 2023–2024.

Co-Organizer, weekly Joint Tufts-MIT Cosmology Seminar series, 2021–.

Scientific Organizing Committee, “When \hbar meets G : Quantum Theory, Gravitation, and Cosmology,” Institut d’Astrophysique de Paris, 2021–2022.

Chair, Committee on Honors and Prizes, History of Science Society, 2018–2020.

Conference Organizer, New England Workshop on Theoretical Cosmology and Gravity, MIT, October 2017.

Program Co-Organizer, “Celebrating Einstein” events to mark the centennial of general relativity, Cambridge Science Festival, April 2015.

Conference Co-Organizer, “The Evolving Culture of Science Engagement,” MIT, Sep 2013.

Committee on Meetings and Programs, History of Science Society, 2012–2014; 2002–2005.

Local Organizing Committee, History of Science Society Annual Meeting, Boston, Fall 2013.

Program Co-Chair, History of Science Society, 2011–2012.

Conference Organizer, “Predictive Modeling of the Emergence and Development of Scientific Fields,” MIT, May 2011.

Conference Co-Organizer, “Groovy Science: The Countercultures and Scientific Life, 1955–1975,” Princeton University, Feb 2011.

Chair, Nominating Committee, History of Science Society, 2008–2009.

Council member, History of Science Society, 2007–2009.

Steering Committee member, Forum for History of Science in America, 2007–2009.

Local Organizer, History of Science Society Annual Meeting, Cambridge, Fall 2003.

Conference Co-Organizer, “Joint Atlantic Seminar on the History of Physical Sciences” (JASHOPS), MIT and Harvard, Sep 2003.

Conference Organizer, “Training Scientists, Crafting Science: Putting Pedagogy on the Map for Science Studies,” MIT, Jan and Sep 2002.

Conference Co-Organizer, “Foundations of Quantum Field Theory: Historical Examination and Philosophical Reflections,” Boston University, Mar 1996.

Media Contributions

Online and Print

Advisory board member, *Undark* magazine (2016–).

Advisory board member, *Nautilus* magazine (2012–).

Featured blogger, *Huffington Post* science section (2012–2015) and *London Review of Books* online (2010–2015).

Television and Video

On-screen contributor, NHK (Japan) documentary film about quantum entanglement, 2024–.

Advisor and on-screen contributor, NOVA documentary film, *Decoding the Universe: Quantum*, 2022–2024. Original broadcast November 2024.

Advisor and on-screen contributor, NOVA documentary film, *Decoding the Universe: Cosmos*, 2022–2024. Original broadcast May 2024.

On-screen contributor, NOVA video, “New Map of the Universe Hints that Dark Energy May be Evolving,” *NOVA YouTube* channel, 1 May 2024.

- On-screen contributor, *Anichnefseis (Explorations)*, Greek television. Original broadcast October 2023.
- Advisor, Boston Museum of Science IMAX film, *The Heart of New England*, 2020–2023.
- On-screen contributor, BBC and NOVA five-part series, *The Universe Revealed*, episodes 4 (black holes) and 5 (the big bang). Original broadcast October 2021.
- Advisor and on-screen contributor, NOVA documentary film, *Particles Unknown*, about neutrinos, 2019–2021. Original broadcast October 2021.
- On-screen contributor, BBC film, *Einstein and Hawking: Unlocking the Universe*. Original broadcast March 2019.
- Advisor and on-screen contributor, NOVA documentary film, *Einstein’s Quantum Riddle*, about quantum entanglement, 2016–2018. Original broadcast January 2019.
- Advisor and on-screen contributor, NOVA Wonders, *What is the Universe Made Of?*, about dark matter and dark energy, 2017–2018. Original broadcast May 2018.
- On-screen contributor, RAI Scuola (Rome), “Caccia ai numeri primi [The Hunt for Prime Numbers],” 28 April 2018.
- On-screen contributor, WCVB-ABC “Nooks and Crannies: Newton’s Nooks,” 13 February 2018.
- On-screen contributor, “Cosmic Quantum Bell Test,” *Physics Girl* YouTube channel, 11 May 2017.
- On-screen contributor, “Einstein and the 100th anniversary of general relativity,” *Daily Planet*, Discovery Channel (Canada), 25 November 2015.
- Advisor and on-screen contributor, NOVA documentary film, *Inside Einstein’s Mind*, on the centennial of general relativity, 2015. Original broadcast November 2015.
- Advisor and on-screen contributor, PBS documentary film, *The Mystery of Matter*, 2009–2015. Three one-hour episodes, original broadcast September 2015.
- Advisory Board member and on-screen contributor, NOVA documentary film, *The Fabric of the Cosmos*, 2006–2011. Four one-hour episodes, original broadcast November 2011.
- On-screen contributor, “Time since Einstein” film broadcast during the World Science Festival, New York City, June 2009.
- Advisor, BBC and NOVA documentary film, *Parallel Worlds, Parallel Lives* about Hugh Everett’s “many-worlds” interpretation of quantum mechanics. Original broadcast October 2008.
- On-screen contributor, PBS “Wired Science” television segment about the X-prize, 2007. Original broadcast November 2007.
- On-screen contributor, NOVA “Science Now” segment about nuclear physics and the “island of stability,” 2006. Original broadcast October 2006.
- Advisory Board member, script consultant, and on-screen contributor, NOVA documentary film, *Einstein’s Big Idea*, 2003–2005. Original broadcast October 2005. Also consulted on *Teacher’s Guide* and *Library Guide* for the film.

Radio and Podcasts

- Invited guest, *Physics Frontiers* podcast to talk about primordial black holes, 3 September 2024.
- Invited guest, NOVA YouTube livestream on “The ‘hippie days’ of physics,” 28 August 2024.
- Invited guest, *Sing for Science* with musician Jack Antonoff on the nature of time, 26 June 2024.
- Invited guest, Phil Halper cosmology podcast series on primordial black holes, 13 June 2024.
- Invited guest, MIT OpenCourseWare *Chalk Radio* podcast about teaching the history of modern physics, 8 May 2024.
- Invited guest, *The HPS Podcast* on scientists’ training and the history of science, 11 October 2023.
- Invited guest, *LifeCycle* podcast on “quantum stories,” 1 June 2023.
- Invited guest, *Physics World* podcast about Freeman Dyson, 4 May 2023.

- Invited guest, *American Museum of Science and Energy* podcast about quantum theory, 2 May 2023.
- Invited guest, KUAF public radio (Arkansas) to discuss relativity and GPS, 22 March 2023.
- Invited guest, *Physics World* podcast on entanglement and the Nobel Prize, 6 October 2022.
- Invited guest, *NOVA Now* podcast on the big bang, 2 December 2021.
- Invited guest, *Nature Careers* podcast on science communication, 16 July 2020.
- Invited guest, *New Books Network* podcast on quantum theory, 13 July 2020.
- Invited guest, *Into the Impossible* podcast on quantum theory, 20 May 2020.
- Invited guest, *Mindscape* podcast on science, money, and power, 30 March 2020.
- Invited guest, *Line Edit* podcast on writing about quantum entanglement, 21 February 2020.
- Invited guest, CBC “Quirks and Quarks” to discuss research on the big bang, 1 November 2019.
- Invited guest, WBUR “Radio Boston” on trends in research funding, 21 August 2019.
- Invited guest, NPR “Science Friday,” on the history of science, 31 May 2019.
- Invited guest, *Quanta* magazine podcast about quantum theory, 25 July 2018.
- Recurring guest, “Sojourner Truth” on KPFK radio on physics and cosmology, 2014 —.
- Invited contributor, “Love, quantum physics, and entanglement,” PRI The World, 25 July 2017.
- Invited guest, WBUR “Radio Boston” on testing quantum theory with neutrinos, 19 July 2016.
- Invited guest, Deutschlandradio Kultur on funding for scientific research, 14 July 2016.
- Invited guest, NPR “Here and Now” on the history of science, 17 June 2016.
- Invited guest, Radio 3 Scienza (Rome, Italy) on quantum theory, 19 May 2016.
- Invited guest, WGBH “Curiosity Desk” on the discovery of new elements, 8 January 2016.
- Invited guest, NPR “Science Friday” to discuss general relativity, 6 March 2015.
- Invited guest, “Frontiers” BBC4 radio interview about cosmic inflation, 9 July 2014.
- Invited guest, “Aufbau des Kosmos” Bayern 2 public radio (Germany) on cosmology, 2 June 2014.
- Invited guest, *Nature* Pastcast episode about testing Einstein’s relativity, 20 March 2014.
- Invited guest, *Feature Story News* syndicated radio interview about cosmic inflation, 18 March 2014.
- Invited guest, *Nature* Pastcast episode about quantum theory, 19 December 2013.
- Invited guest, *Nature* Pastcast episode about exoplanets and astrobiology, 16 October 2013.
- Invited guest, *Physics World* podcast about mavericks, outsiders, and cranks, 15 October 2012.
- Invited guest, *National Geographic Weekend* radio on quantum theory, 5 August 2012.
- Invited guest, BBC Radio “Today Programme” on quantum theory, 5 March 2012.
- Invited guest, Illinois Public Radio “Focus” on quantum theory, 9 January 2012.
- Invited guest, Wisconsin Public Radio “Veronica Rueckert Show” on quantum theory, 16 December 2011.
- Invited guest, NPR “On Point” on quantum theory, 1 November 2011.
- Invited guest, Wisconsin Public Radio “To the Best of Our Knowledge” on quantum theory, 2 October 2011.
- Invited guest, WNYC / Public Radio International “The Takeaway” interview about neutrinos and relativity, 23 September 2011.
- Invited guest, CBC “The Current” interview about quantum theory, 9 August 2011.
- Invited guest, WICN public radio interview about quantum theory, 13 July 2011.
- Invited guest, *Nature* podcast about the history of MIT, 7 April 2011.
- Invited guest, Radio 3 Scienza, Radiotelevisione Italiana (RAI, Italy) on Einstein and politics, 15 January 2009.
- Invited guest, KXTR radio (Kansas City) on Einstein and relativity, 17 November 2005.
- Invited guest, “Daybreak” USA Radio Network show about Einstein and relativity, 10 October 2005.
- Invited guest, NPR “Science Friday” on Einstein and relativity, 24 June 2005.

Postdoctoral Fellows Supervised

2024–.	Josu Aurrekoetxea (Physics)
2022-2025.	Thomas Steingasser (Physics)
2022-2025.	Morgane König (Physics)
2022-2025.	Kati Kish (STS)
2022-2025.	Jaco de Swart (STS)
2021-2023.	Marion Boulicault (Social and Ethical Responsibilities of Computing)
2020-2021.	Evan McDonough (Physics)
2019-2021.	Milo Phillips-Brown (Social and Ethical Responsibilities of Computing)
2019-2020.	Masaki Yamada (Physics)
2016-2018.	Mohammad Hossein Namjoo (Physics)
2014-2016.	Massimiliano Badino (STS)
2013-2016.	Chanda Prescod-Weinstein (Physics)
2012-2017.	Andrew Friedman (Physics)
2012-2015.	Johanna Karouby (Physics)
2011-2013.	Roberto Lalli (STS)
2009-2011.	Yoshiyuki Kikuchi (STS)
2008-2009.	Mina Park (STS)
2002-2004.	Rebecca Slayton (STS)

Graduate Theses Supervised

2024. Christopher J. Shallue, “Quantum Black Holes and the Primordial Universe” (Ph.D., Astronomy and Astrophysics, Harvard), Committee member.
2024. Gautier Depambour, “Émergence de l’optique quantique des années 1950 à 1980” (Ph.D., History of Science, Université Paris Cité), Committee member.
2024. Wenzer Qin, “Illuminating the Cosmos: Dark Matter, Primordial Black Holes, and Cosmic Dawn” (Ph.D., MIT Physics), Committee member.
2023. Amaury Micheli, “Entanglement and Decoherence in Cosmology and Analogue Gravity Experiments” (Ph.D., Physics, Université Paris-Saclay), Committee member.
2023. Sarah Geller, “Cosmic Echoes of the Early Universe: From Primordial Black Holes to Gravitational Waves” (Ph.D., MIT Physics), Co-Advisor.
2023. Calvin Leung, “Localizing Fast Radio Bursts for Cosmology” (Ph.D., MIT Physics), Committee member.
2023. Itamar Allali, “Axion Dark Matter: Novel Dynamics and Consequences for Cosmological Observations” (Ph.D., Physics, Tufts University), Committee member.
2022. John Tylko, “Simulating Apollo: Flight Simulation Technology, 1945–1975” (Ph.D., MIT HASTS), Committee member.
2022. Tiffany Nichols, “Constructing Stillness: Theorization, Discovery, Interrogation, and Maintenance of the Expanded Laboratory of the Laser Interferometric Gravitational-Wave Observatory” (Ph.D., History of Science, Harvard), Committee member.
2022. Jaco de Swart, “How Dark Matter came to Matter” (Ph.D., Institute of Physics, University of Amsterdam), Committee member.
2021. Marc Aidinoff, “A More Updated Union: A History of New Liberals and their New Computers in the New New South” (Ph.D., MIT HASTS), Principal Advisor.
2021. Brad Bolman, “The Voyage of the Scientific Beagle: Dogs in the Physical and Biomedical Sciences” (Ph.D., History of Science, Harvard), Committee member.
2021. Patrick Fitzpatrick, “Initial Conditions for Cosmic Inflation, the History of the Dark Sector, and Dark-onium” (Ph.D., MIT Physics), Co-Advisor.

2021. Adam Bene Watts, “Identifying Perfect Nonlocal Games” (Ph.D., MIT Physics), Committee member.
2020. Claire Webb, “Technologies of Perception: Searches for Life and Intelligence beyond Earth” (Ph.D., MIT HASTS), Principal Advisor.
2019. Clare Kim, “The Subjects of Modernism: Mathematics and the Politics of Value in Twentieth-Century United States” (Ph.D., MIT HASTS), Principal Advisor.
2019. Michelle Stephens, “Applications of Information Theory to Field Theory and Cosmology” (Ph.D., Physics and Astronomy, Dartmouth College), Committee member.
2019. John Lisle, “Science and Espionage: How the State Department and the CIA Deployed American Scientists during the Cold War” (Ph.D., History, University of Texas at Austin), Committee member.
2019. Lucas Müller, “Toxic Relationships: Health and the Politics of Science and Trade in the Postcolonial World” (Ph.D., MIT HASTS), Committee member.
2018. Daniel Volmar, “The Computer in the Garbage Can: Air-Defense Systems in the Organization of US Nuclear Command and Control, 1940-1960” (Ph.D., History of Science, Harvard), Committee member.
2018. Ryan Shapiro, “Bodies at War: National Security in American Controversies over Animal and Human Experimentation from World War I to the War on Terror” (Ph.D., MIT HASTS), Committee member.
2018. Dhruvo Jyoti, “Topics in Theoretical Cosmology” (Ph.D., Physics and Astronomy, Dartmouth College), Committee member.
2017. Feraz Azhar, “Probabilistic Reasoning in the Inflationary Universe” (Ph.D., Philosophy of Science, University of Cambridge), Committee member.
2017. Ion Mihailescu, “Graphical: The History of a Category” (Ph.D., History of Science, Harvard), Committee member.
2017. Marie Burks, “Meditations in an Emergency: Social Scientists and the Problem of Conflict in Cold War America” (Ph.D., MIT HASTS), Committee member.
2017. Connemara Doran, “Seeking the Shape of Space: Confronting the Hyperbolic World, from Henri Poincaré to the Cosmic Microwave Background” (Ph.D., History of Science, Harvard), Committee member.
2016. Damian Sowinski, “Complexity and Stability in Nature: The Epistemic Foundations and Phenomenology of Configurational Entropy” (Ph.D., Physics, Dartmouth College), Committee member.
2016. Thomas Ozden-Schilling, “Salvage Cartographies: Mapping, Futures, and Landscapes in Northwest British Columbia” (Ph.D., MIT HASTS), Committee member.
2016. Jonathan Lehrich, “A Matter of Science: The Massachusetts Institute of Technology and the Transformation of American Management Education, 1950-1964” (Ph.D., History of Education, Boston University), Committee member.
2015. Mykola Murskyj, “Testing the Leggett-Garg Inequality with Solar Neutrinos” (M.Sc., MIT Physics), Principal Advisor.
2015. Cedric Yen-Yu Lin, “Alternative Models for Quantum Computation” (Ph.D., MIT Physics), Committee member.
2014. Benjamin Wilson, “Insiders and Outsiders: Nuclear Arms Control Experts in Cold War America” (Ph.D., MIT HASTS), Principal Advisor.
2014. David Singerman, “An Empire of Purity: The Atlantic Sugar Economy, 1860-1930” (Ph.D., MIT HASTS), Principal Advisor.
2014. Evangelos Sfakianakis, “Hybrid and Multifield Inflation” (Ph.D., MIT Physics), Co-Advisor.
2014. Rebecca Perry, “Rigging the World: 3D Modeling and the Seduction of the Real” (Ph.D., MIT HASTS), Committee member.

2014. Teasel Muir-Harmony, “Project Apollo, Cold War Diplomacy, and the American Framing of Global Interdependence” (Ph.D., MIT HASTS), Committee member.
2014. Aaron Wright, “More than Nothing: Histories of the Vacuum in Theoretical Physics, 1927-1981” (Ph.D., History and Philosophy of Science, University of Toronto), Committee member.
2013. Alma Steingart, “Conditional Inequalities: American Pure and Applied Mathematics, 1940-1975” (Ph.D., MIT HASTS), Principal Advisor.
2013. Lisa Crystal, “Quantum Times: Time, Physics, and Philosophy in the Postwar United States” (Ph.D., History of Science, Harvard University), Committee member.
2013. Ari Gross, “Form and Function: Seeing, Knowing, and Reasoning with Diagrams in the Practice of Science” (Ph.D., History and Philosophy of Science, University of Toronto), Committee member.
2011. Lambert Williams, “Modeling, Building, Writing: A History of Nonlinear Dynamics and Complex Systems” (Ph.D., History of Science, Harvard University), Committee member.
2011. Lisa Messeri, “Placing Outer Space: An Earthly Ethnography of Other Worlds” (Ph.D., MIT HASTS), Committee Member.
2010. Chihyung Jeon, “Technologies of the Observer: Human Factors in Aviation and the Cultures of Pilot Selection and Training, 1930-1960” (Ph.D., MIT HASTS), Committee member.
2010. Alex Wellerstein, “Knowledge and the Bomb: Nuclear Secrecy in the United States” (Ph.D., History of Science, Harvard University), Committee member.
2010. Audrey Todhunter, “Inflation with a Nonminimally Coupled Standard Model Higgs Field: A Review in the Jordan Frame” (M.S., Physics, Ecole Polytechnique Federale de Lausanne), Advisor.
2009. Kieran Downes, “From Enthusiasm to Practice: Users, Systems, and Technology in High-End Audio” (Ph.D., MIT HASTS), Principal advisor.
2009. Alexander Brown, “Accidents, Engineering, and History at NASA: 1967-2003” (Ph.D., MIT HASTS), Committee member.
2008. Shawn Mullet, “Little Man: Four Junior Physicists and the Red Scare Experience” (Ph.D., History of Science, Harvard University), Committee member.
2007. Peter Shulman, “Empire of Energy: Environment, Geopolitics, and American Technology before the Age of Oil” (Ph.D., MIT HASTS), Principal advisor.
2007. Natasha Myers, “Modeling Proteins, Making Scientists: An Ethnography of Pedagogy and Visual Cultures in Contemporary Structural Biology” (Ph.D., MIT HASTS), Committee member.

Currently Enrolled Graduate Students

- Julia Menzel (MIT HASTS), Principal advisor.
- Kelcey Gibbons (MIT HASTS), Principal advisor.
- Tathagat Bhatia (MIT HASTS), Principal advisor.
- Alexandra Klipfel (MIT Physics), Co-Advisor.
- Lucas Barreto Alves (MIT Physics), Co-Advisor.
- Elba Alonso-Monsalve (MIT Physics), Committee member.
- Geoffrey Mo (MIT Physics), Committee member.
- Aaron Gluck-Thaler (History of Science, Harvard University), Committee member.

Undergraduate Theses Supervised

2020. Megan Kralj, “Supersymmetry, Supergravity, and String Theory Based Inflationary Cosmology” (S.B., MIT-Physics). Recipient of the Philip Morse Memorial Award, MIT.

2016. Anirudh Prabhu, “Preheating in Multifield Inflation” (S.B., MIT-Physics). Recipient of Barrett Prize for Best Thesis in Astrophysics at MIT.
2015. Juana Becerra, “Herman Feshbach: What it Meant to be a Physicist in the Twentieth Century” (S.B., MIT-STs).
2015. Karla Guardado, “Preheating in New Higgs Inflation” (S.B., MIT-Physics).
2014. Katelin Schutz, “A Tale of Two Particles” (S.B., MIT-Physics). Recipient of Barrett Prize for Best Thesis in Astrophysics at MIT. Finalist: LeRoy Apker Award from American Physical Society.
2013. Edward Mazenc, “Multifield Inflation and Differential Geometry” (S.B., MIT-Physics). Recipient of Barrett Prize for Best Thesis in Astrophysics at MIT.
2012. Ross Greenwood, “Refining the Multifield Effects of Higgs Inflation” (S.B., MIT-Physics).
2004. Shefali Oza, “Forging the Inner Space - Outer Space Connection” (S.B., MIT-Physics).
2002. Christopher Beland, “Digital Technology and Copyright Law” (S.B., MIT-STs).

Selected Recent Seminars and Colloquia

- Feb 2025. “Secret Clocks: Einstein’s Relativity, the US Military, and the Global Positioning System,” inaugural Michael Ruby public lecture, University of Oklahoma.
- Feb 2025. “Primordial Black Holes as Dark Matter: Production Mechanisms, Medium Effects, and Detection Strategies,” invited seminar, Department of Physics and Astronomy, University of Oklahoma.
- Jan 2025. “Quantum Legacies: Grappling with Quantum Theory over a Turbulent Century,” invited keynote, Deutsche Physikalische Gesellschaft public event to launch Quantum Century celebrations, Berlin, Germany.
- Jan 2025. “A Political History of Gravity,” invited seminar, Albert Einstein Institute, Potsdam, Germany.
- Jan 2025. “Secret Clocks: Einstein’s Relativity, the US Military, and the Global Positioning System,” invited seminar, Technische Universität, Berlin, Germany.
- Jan 2025. “Science and Democracy,” invited panelist with Danielle Allen, Boston Museum of Science.
- Oct 2024. “Primordial Black Holes as Dark Matter: Production Mechanisms, Medium Effects, and Detection Strategies,” invited seminar, University of Massachusetts, Amherst.
- Sep 2024. “Secret Clocks: Einstein’s Relativity, the US Military, and the Global Positioning System,” invited seminar, Black Hole Initiative, Harvard University.
- Sep 2024. “Primordial Black Holes as Dark Matter: Production Mechanisms, Medium Effects, and Detection Strategies,” invited seminar, University of Nottingham, UK.
- Aug 2024. “Generative AI and the Natural Sciences: Governance Strategies and Historical Perspectives,” invited talk, Institute for AI and Fundamental Interactions (IAIFI) summer workshop, MIT.
- July 2024. “Primordial Black Holes and the Dark Matter Puzzle,” invited seminar, MIT Science and Engineering Teachers Program.
- June 2024. “Close Encounters: Looking for Primordial Black Holes in our Solar System,” invited seminar, École Normale Supérieure, Paris.
- June 2024. “The Nature of Time,” live event with Grammy-winning musician Jack Antonoff, Boston Museum of Science.
- May 2024. “Secret Clocks: Einstein’s Relativity, the US Military, and the Global Positioning System,” invited colloquium, Department of Physics and Astronomy, University of New Mexico, Albuquerque.
- May 2024. “Primordial Black Holes as Dark Matter: Production Mechanisms, Medium Effects, and Detection Strategies,” invited seminar, Department of Physics and Astronomy, University of New Mexico, Albuquerque.

- Apr 2024. “Nonperturbative Dynamics of Post-Inflation Reheating,” invited seminar, Department of Physics, University of Nottingham, UK.
- Mar 2024. “Secret Clocks: Einstein’s Relativity, the US Military, and the Global Positioning System,” invited public lecture, Institute for Advanced Study, Princeton.
- Mar 2024. “Looking for PBHs in All the Right Places: Production Mechanisms, Medium Effects, and Detection Strategies,” invited plenary talk, Black Holes and Cosmology workshop, University of the Bahamas.
- Feb 2024. “Secret Clocks: Einstein’s Relativity, the US Military, and the Global Positioning System,” invited seminar, Economics and Science series, Harvard University.
- Feb 2024. “Star-Crossed Quanta: Testing the Special Bonds of Quantum Entanglement,” invited colloquium, Department of Physics, University of Georgia.
- Dec 2023. “Inference from within the Monad: Reasoning about the Early Universe in Contemporary Cosmology,” invited speaker, *Understanding the Nature of Inference: Correlation and Causation* workshop, Yale University.
- Nov 2023. “Managing Transformative Technologies: Historical Perspectives,” with Marc Aidinoff, invited speakers, *A Framework for Addressing Artificial Intelligence in Society*, US National Academy of Sciences retreat (virtual workshop).
- Nov 2023. “Primordial Black Holes with QCD Color Charge,” invited seminar, Department of Physics, University of California at Santa Barbara.
- Nov 2023. “Secret Clocks: The US Military, Einstein’s Relativity, and the Global Positioning System,” invited public lecture, University of California at Santa Barbara.
- Nov 2023. “Beyond Reach: On Understanding in Physics,” invited panelist with Kaća Bradonjić and Tracy Slatyer, Catalyst Conversations, MIT List Visual Arts Center.
- Oct 2023. “Secret Clocks: The US Military, Einstein’s Relativity, and the Global Positioning System,” invited colloquium, Department of Physics and Astronomy, Vanderbilt University.
- Oct 2023. “The Price of Gravity: Private Patronage and the Transformation of Gravitational Physics after the Second World War,” invited seminar, VandyGRAF Initiative, Vanderbilt University.
- Sept 2023. “Secret Clocks: The US Military, Einstein’s Relativity, and the Global Positioning System,” invited colloquium, Institut d’Astrophysique de Paris.
- Sep 2023. “Primordial Black Holes with QCD Color Charge,” invited seminar, École Normale Supérieure, Paris.
- Aug 2023. “Secret Clocks: The US Military, Einstein’s Relativity, and the Global Positioning System,” invited speaker, Niels Bohr Centennial Conference, “Crossing the Disciplinary Boundaries of Physics,” Copenhagen.
- June 2023. “The Webb Telescope: A New Era in Astronomy,” invited speaker, MIT Museum.
- May 2023. “Misner, Thorne, Wheeler, *Gravitation*: A 50-Year Anniversary Celebration,” invited speaker, International Society on General Relativity and Gravitation (virtual) symposium.
- Apr 2023. “Secret Clocks: The US Military, Einstein’s Relativity, and the Global Positioning System,” invited seminar, LIGO Group, MIT Kavli Institute for Astrophysics and Space Research.
- Apr 2023. “Primordial Black Holes as Dark Matter: Production Mechanisms, Observational Constraints, and Gravitational-Wave Forecasts,” invited seminar, Ecole Normale Supérieure, Paris.
- Apr 2023. “Tackling Loopholes in Experimental Tests of Bell’s Inequality,” invited speaker, History and Epistemology of the Foundations of Quantum Mechanics conference, Université de Paris Cité.
- Mar 2023. “Primordial Black Holes as Dark Matter Candidates,” invited seminar, NeXuS seminar series of the National Society of Black Physicists.

- Mar 2023. “Observational Constraints and Gravitational-Wave Forecasts for Primordial Black Hole Dark Matter Seeded by Multifield Inflation,” invited seminar, Department of Physics, University of Pennsylvania.
- Mar 2023. “Secret Clocks: The US Military, Einstein’s Relativity, and the Global Positioning System,” inaugural Holz Endowed Lecture on the History of Science, University of Arkansas.
- Jan 2023. “Primordial Black Holes as Dark Matter Candidates,” invited colloquium, Department of Physics and Astronomy, Dartmouth College.
- Dec 2022. “Primordial Black Holes as Dark Matter Candidates,” invited colloquium, Black Hole Initiative, Harvard University.
- Nov 2022. “Changing Notions of Openness and Secrecy in the History of Science,” invited plenary speaker, Open World Conference, University of Copenhagen.
- Nov 2022. “Primordial Black Holes as Dark Matter Candidates,” invited seminar, History and Philosophy of Physics Research Seminar, University of Bonn (Germany).
- Oct 2022. “Quantum Entanglement: A Long and Winding Road to the Nobel Prize,” invited (virtual) colloquium, Department of Physics, University of Winnipeg.
- June 2022. “Fixity No More: Superposition, Entanglement, and Other Quantum Matters,” invited (virtual) speaker, “Scientific Questions Then and Now” symposium, Max Planck Institute for the History of Science, Berlin.
- June 2022. “Social and Ethical Responsibilities of Computing: Moving Beyond Research Settings,” invited keynote, Ethical Issues in AI and Computing, Harvard.
- Apr 2022. “Cosmic Bell Experiments: Using Quasars to Test Quantum Theory,” invited plenary, Joint Conference of the European Frequency and Time Forum and the IEEE International Frequency Control Symposium, Paris.
- Apr 2022. “Social and Ethical Responsibilities of Computing (SERC): Educational Initiatives,” invited keynote, Symposium on AI and Social Responsibility, University of Illinois at Urbana Champaign.
- Mar 2022. “The Cosmic Bell Collaboration: History, Astrophysics, Quantum Optics,” invited talk, Next Generation Event Horizon Telescope workshop, Harvard.
- Nov 2021. “Social and Ethical Responsibilities of Computing (SERC): New Activities at MIT,” invited keynote, MIT Research and Development Conference, Industrial Liaison Program, Cambridge.
- Oct 2021. “Cosmic Bell Tests: Using Quasars to Test Quantum Theory,” invited (virtual) colloquium, Department of Physics and Astronomy, University of Southern California.
- Oct 2021. “Cosmic Bell Tests: Using Quasars to Test Quantum Theory,” invited (virtual) colloquium, Department of Physics, University of Winnipeg.
- Sept 2021. “A Political History of Gravity: Researching Relativity in War and Peace,” invited colloquium, Department of Physics and Astronomy, Tufts University.
- Apr 2021. “Social and Ethical Responsibilities of Computing (SERC): New Efforts at MIT,” invited (virtual) seminar, Institute for Artificial Intelligence and Fundamental Interactions.
- Apr 2021. “Cosmic Bell Tests: Using Quasars to Test Quantum Theory,” invited (virtual) colloquium, Department of Physics and Astronomy, University of British Columbia.
- Apr 2021. “Local Tools with Universalizing Baggage: Rethinking the ‘Field’ Concept in Science Studies,” invited talk, “What is a Field?” (virtual) workshop, University of Pennsylvania.
- Mar 2021. “The Wonderful Weirdness of Quantum Theory: Testing Some Bizarre Features of our Most Precise Scientific Theory,” invited 2-session (virtual) Master Class for The Academy of Teachers.
- Jan 2021. “Tackling Loopholes in Experimental Tests of Bell’s Inequality,” invited (virtual) speaker, “The Bridge Between Quantum Theory and Reality” workshop at Radcliffe Institute, Harvard.

- Oct 2020. “Nonlinear Physics at the Start and End of Cosmic Inflation,” invited (virtual) seminar, Quantum Aspects of Space-Time and Matter series, Max Planck Institute for Gravitational Physics, Potsdam, Germany.
- Sept 2020. “Testing Quantum Theory with the Cosmos,” invited keynote address, Undergraduate Research Summer Institute, Vassar College.
- Sept 2020. “Cosmic Bell Experiments: Using Quasars to Test Quantum Theory,” invited (virtual) seminar, international Copernicus Webinar Series collaboration.
- April 2020. “Cosmic Bell Experiments: Using Quasars to Test Quantum Theory,” MIT Physics Department Colloquium.
- Nov 2019. “Quantum Jitters in the Sky: The Big Bang, Cosmic Inflation, and the Latest Observations,” Carl Sagan Day public lecture, MIT.
- Nov 2019. “A Bumpy Start to a Smooth Ride: Onset of Inflation amid Backreaction from Inhomogeneities,” MIT-Tufts Cosmology Colloquium.
- Oct 2019. “The Price of Gravity: Private Patronage and the Transformation of Gravitational Physics after World War II,” invited seminar, Black Hole Initiative, Harvard.
- Sept 2019. “History (of, and, for) Physics,” invited keynote, *History for Physics* workshop, Institute of Quantum Optics and Quantum Information and Max Planck Institute for the History of Science, Vienna.
- Apr 2019. “Testing Quantum Theory with the Cosmos,” John Marshall Memorial Lecture, Amateur Astronomers Association of New York, American Museum of Natural History.
- Apr 2019. “Einstein’s Legacy: Studying Gravity in War and Peace,” Invited Public Lecture, University of Illinois at Urbana-Champaign.
- Apr 2019. “Cosmic Bell Experiments: Testing Quantum Theory with the Cosmos,” Invited Colloquium, Department of Physics, University of Illinois at Urbana-Champaign.
- Mar 2019. “Quantum Entanglement: Recent Tests, New Applications,” Invited Colloquium, Jet Propulsion Laboratory, Pasadena.
- Mar 2019. “How the Hippies Saved Physics: Adventures with Bell’s Theorem, Then and Now,” Invited talk in “Author in Dialogue” session on *How the Hippies Saved Physics*, with Alain Aspect, Bill Wootters, and Patrick McCray, American Physical Society meeting, Boston.
- Feb 2019. “Testing Quantum Theory with the Cosmos,” Invited Colloquium, Department of Physics, Florida State University.
- Feb 2019. “Quantum Jitters in the Sky: The Big Bang, Cosmic Inflation, and the Latest Observations,” TSS Horizons Public Lecture, Tallahassee, Florida.
- Feb 2019. “Quasars to the Rescue! A Cosmic Test for Quantum Entanglement,” Invited public presentation, Boston Museum of Science.
- Sept 2018. “Cosmic Bell Experiments: Testing Bell’s Inequality with Measurement Settings from Distant Astronomical Objects,” Invited participant, “Universe as Quantum Lab” workshop, Laboratoire Astroparticules et Cosmologie, Paris.
- Sept 2018. “Einstein’s Legacy: Studying Gravity in War and Peace,” Invited Colloquium, Institut d’Astrophysique de Paris.
- Sept 2018. “Post-Inflation Reheating: Review and Open Questions,” Invited Seminar, Institut d’Astrophysique de Paris.
- May 2018. “Following his Own Path: The Life and Science of Physicist Richard Feynman,” Invited seminar, Richard Feynman Centenary symposium, Consejo Superior de Investigaciones Científicas (CSIC), Madrid.
- May 2018. “Testing Quantum Theory with the Cosmos,” Invited Public Lecture, CosmoCaixa Science Museum, Barcelona.
- Feb 2018. “Testing Bell’s Inequality with Astrophysical Observations,” Invited colloquium, Department of Physics, Boston University.

- Dec 2017. “Failure: A Typology of Scientific Errors,” *The Success of Failure: Perspectives from the Arts, Sciences, Humanities, Education, and Law* conference, Columbia University.
- Oct 2017. “Cold War Curvature: Measuring the Modeling Gravitational Systems in Postwar American Physics,” Invited colloquium, Program in History of Science, Technology, and Medicine, University of Minnesota.
- Oct 2017. “Testing Bell’s Inequality with Astrophysical Observations,” Invited colloquium, Department of Physics, University of Minnesota.
- May 2017. “Coordinated Blasts: From H-Bomb Simulations to Numerical Relativity,” Invited talk, *Black Hole Initiative* conference, Harvard University.
- Mar 2017. “Ideology, Access, and Infrastructure: Writing a Political History of Cold War Physics,” invited colloquium, Max Planck Institute for the History of Science, Berlin.
- Mar 2017. “Testing Quantum Theory with the Cosmos,” Featured Speaker, *New Scientist* Instant Expert event, Boston.
- Mar 2017. “Testing Bell’s Inequality with Astrophysical Observations,” Invited colloquium, Department of Physics and Astronomy, Dartmouth College.
- Oct 2016. “Einstein’s Legacy,” Featured Speaker, *New Scientist* Instant Expert event, Boston.
- Oct 2016. “Using Neutrino Oscillations to Test the Foundations of Quantum Mechanics,” Neutrino Division Seminar Series, Fermilab.
- Sept 2016. “Quantum Jitters in the Sky: The Big Bang, Cosmic Inflation, and the Latest Observations,” Public Lecture, New York Amateur Astronomers Association, American Museum of Natural History
- May 2016. “Testing Quantum Theory with the Cosmos,” Featured Speaker, Rome Science Festival.
- Apr 2016. “Einstein’s Legacy: Studying Gravity in War and Peace,” NSF Distinguished Lecture, NSF Headquarters, Washington, D.C.
- Feb 2016. “Einstein’s Legacy: Studying Gravity in War and Peace,” George Sarton Memorial Lecture in the History and Philosophy of Science (invited plenary), American Association for the Advancement of Science, Washington, D.C.
- Nov 2015. “Nonperturbative Dynamics of Reheating after Inflation,” Invited Plenary, New England Section of the American Physical Society annual meeting, Dartmouth College.
- Oct 2015. “Einstein’s Legacy: Studying Gravity in War and Peace,” Lyne Starling Trimble Science Heritage Public Lecture, American Institute of Physics, Cambridge, Massachusetts.
- Feb 2015. “Transcending Matter: Physics and Ultimate Meaning,” Invited panelist with Adam Frank, Tim Maudlin, and Priya Natarajan, New York Academy of Sciences.
- Nov 2014. Host and panelist, screening of *The Theory of Everything* about Stephen and Jane Hawking, with actor Eddie Redmayne and screenwriter Anthony McCarten, American Physical Society / Smithsonian.
- Oct 2013. “How the Hippies Saved Physics,” Museum of Fine Arts, Boston, to accompany *Hippie Chic* exhibit.
- Mar 2013. “Gravity: A Political History,” Max von Laue Lecture (invited plenary), German Physical Society annual meeting, Dresden.
- Dec 2012. Panelist with hip-hop artist GZA of Wu-Tang Clan to launch “Science Genius” initiative, Teachers College, Columbia University.