

## David I. Kaiser

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

- 2019 – 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. *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

2023. 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. Kaiser, *Quantum Legacies: Dispatches from an Uncertain World*. Chicago: University of Chicago Press. Korean, Greek, and Chinese translations forthcoming.  
 2011. 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. Kaiser, *Drawing Theories Apart: The Dispersion of Feynman Diagrams in Postwar Physics*. Chicago: University of Chicago Press.

### Edited Volumes

2022. Kaiser, ed., “*Well, Doc, You’re In*”: *The Life and Legacy of Freeman Dyson*. Cambridge: MIT Press, forthcoming.  
 2022. Aaron Wright, Diana Coleman, and David Kaiser, eds., *Theoretical Physics In Your Face: Selected Correspondence of Sidney Coleman*. Singapore: World Scientific, forthcoming.  
 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. Kaiser, ed., *Becoming MIT: Moments of Decision*. Cambridge: MIT Press.  
 2005. 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

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].  
 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 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 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*.
2018. Mohammad Hossein Namjoo, Alan H. Guth, and David Kaiser, “Relativistic Corrections to Nonrelativistic Effective Field Theories,” *Physical Review D* 98: 016011, arXiv:1712.00445 [hep-ph].
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 Kaiser, and Jason Gallicchio, “Astronomical Random Numbers for Quantum Foundations Experiments,” *Physical Review A* 97: 042120, arXiv:1706.02276 [quant-ph].
2018. Kaiser, “The Origins of *Physics Today*,” *Physics Today* 71 (May 2018): 32-38.
2018. Matthew DeCross, David 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].
2018. Matthew DeCross, David 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].
2018. Matthew DeCross, David 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* 50+ entry on SLAC-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*.
2016. Joseph Formaggio, David 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].
2015. Mustafa Amin, Mark Hertzberg, David 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 SLAC-INSPIRE.)
2014. Alan Guth, David 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 SLAC-INSPIRE.)
2014. Jason Gallicchio, Andrew Friedman, and David 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 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 SLAC-INSPIRE.)
2014. 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 SLAC-INSPIRE.)
2013. Andrew Friedman, David 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 Kaiser, and Evangelos Sfakianakis, “Multifield Dynamics of Higgs Inflation,” *Physical Review D* 87: 064021, arXiv:1210.8190 [hep-ph]. (A *topcite* 50+ entry on SLAC-INSPIRE.)
2013. 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 SLAC-INSPIRE.)
2012. Kaiser, “Booms, Busts, and the World of Ideas: Enrollment Pressures and the Challenge of Specialization,” *Osiris* 27: 276-302.
2010. Kaiser and Audrey Todhunter, “Primordial Perturbations from Multifield Inflation with Nonminimal Couplings,” *Physical Review D* 81: 124037, arXiv:1004.3805 [astro-ph.CO].
2010. Kaiser, “Conformal Transformations with Multiple Scalar Fields,” *Physical Review D* 81: 084044, arXiv:1003.1159 [gr-qc]. (A *topcite* 100+ entry on SLAC-INSPIRE.)
2009. Luís Bettencourt, David Kaiser, and Jasleen Kaur, “Scientific Discovery and Topological Transitions in Collaboration Networks,” *Journal of Informetrics* 3: 210-221.
2008. Luís Bettencourt, David Kaiser, Jasleen Kaur, Carlos Castillo-Chávez, and David Wojick, “Population Modeling of the Emergence and Development of Scientific Fields,” *Scientometrics* 75: 495-518.
2006. Kaiser, “The Physics of Spin: Sputnik Politics and American Physicists in the 1950s,” *Social Research* 73: 1225-1252.
2006. 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 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. 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 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 SLAC-INSPIRE.)
2004. Kaiser, "The Postwar Suburbanization of American Physics," *American Quarterly* 56: 851-888.
2004. 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. 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. 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.
2000. 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 Kaiser, "Restoring the Sting to Metric Preheating," *Physical Review D* 61: 061302 (Rapid Communication), arXiv:hep-ph/9909482. (A *topcite* 50+ entry on SLAC-INSPIRE.)
1999. Bruce Bassett, Fabrizio Tamburini, David 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 SLAC-INSPIRE.)
1999. Bruce Bassett, David Kaiser, and Roy Maartens, "General Relativistic Effects in Preheating," *Physics Letters B* 455: 84-89, arXiv:hep-ph/9808404. (A *topcite* 100+ entry on SLAC-INSPIRE.)
1999. Kaiser, "Larger Domains from Resonant Decay of Disoriented Chiral Condensates," *Physical Review D* 59: 117901, arXiv:hep-ph/9801307.
1998. Kaiser, "A Mannheim for All Seasons: Bloor, Merton, and the Roots of the Sociology of Scientific Knowledge," *Science in Context* 11: 51-87.
1998. Kaiser, "A  $\psi$  is just a  $\psi$ ? 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 Kaiser, "Where do all the Supercurvature Modes Go?," *Physical Review D* 58: 083515, arXiv:gr-qc/9803073.
1998. Kaiser, "Resonance Structure for Preheating with Massless Fields," *Physical Review D* 57: 702-711, arXiv:hep-ph/9707516. (A *topcite* 50+ entry on SLAC-INSPIRE.)
1997. 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 SLAC-INSPIRE.)
1996. Kaiser, "Post-Inflation Reheating in an Expanding Universe," *Physical Review D* 53: 1776-1783, arXiv:astro-ph/9507108. (A *topcite* 100+ entry on SLAC-INSPIRE.)
1995. Kaiser, "Primordial Spectral Indices from Generalized Einstein Theories," *Physical Review D* 52: 4295-4306, arXiv:astro-ph/9408044. (A *topcite* 250+ entry on SLAC-INSPIRE.)

1994. Kaiser, “Induced-gravity Inflation and the Density Perturbation Spectrum,” *Physics Letters B* 340: 23-28, arXiv:astro-ph/9405029.
1994. 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. Kaiser, “Constraints in the context of Induced-gravity Inflation,” *Physical Review D* 49: 6347-6353, arXiv:astro-ph/9308043.
1993. Kaiser, “Distinguishing a Charged Higgs Signal from a Heavy  $W_R$  Signal,” *Physics Letters B* 306: 125-128.
1992. Kaiser, “More Roots of Complementarity: Kantian Aspects and Influences,” *Studies in History and Philosophy of Science* 23: 213-239.
1990. Kaiser, “Working Apparatus for Determining Metals’ Relative Rates of Oxidation,” *BASE: A Journal of Science and Technology* 8: 53-58.

### Chapters in Books

2022. Kaiser, “The First Apprentice,” in “*Well, Doc, You’re In*”: *The Life and Legacy of Freeman Dyson*, ed. David Kaiser (Cambridge: MIT Press, in press).
2022. Kaiser, “Introduction,” in “*Well, Doc, You’re In*”: *The Life and Legacy of Freeman Dyson*, ed. David Kaiser (Cambridge: MIT Press, in press).
2021. Kaiser, “Tackling Loopholes in Experimental Tests of Bell’s Inequality,” in *Oxford Handbook of the History of Interpretations of Quantum Physics*, ed. Olival Freire, Jr. (New York: Oxford University Press, in press), arXiv:2011.09296 [quant-ph].
2019. 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. 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. Kaiser, “Foreword,” in *Quantum Field Theory: Lectures of Sidney Coleman*, ed. Bryan Gin-ge Chen et al. (Singapore: World Scientific, 2019), xvii-xxvii.
2017. Kaiser, “Foreword to the 2017 edition,” in Charles Misner, Kip Thorne, and John Wheeler, *Gravitation* (Princeton: Princeton University Press, 2017), xxlii-xxxii.
2016. 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. 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 Sloten (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. 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. Kaiser, “Foreword,” in Freeman Dyson, *Advanced Quantum Mechanics*, ed. David Derbes, 2nd ed. (New Jersey: World Scientific, 2011), v-xii.
2010. Kaiser, “Introduction: Moments of Decision,” in *Becoming MIT: Moments of Decision*, ed. David Kaiser (Cambridge: MIT Press, 2010), 1-13.
2010. Kaiser, “Elephant on the Charles: Postwar Growing Pains,” in *Becoming MIT: Moments of Decision*, ed. David Kaiser (Cambridge: MIT Press, 2010), 103-121.
2009. 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. 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. Kaiser, “Einstein’s Teachers,” in *Albert Einstein: Chief Engineer of the Universe*, ed. Jürgen Renn (Berlin: Wiley VCH, 2005), 152-155.
2005. 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. 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. 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. 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

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. Kaiser, “Double vision,” *Technology Review* (15 April 2020).
2020. Kaiser, “Freeman Dyson’s letters offer another glimpse of genius,” *New Yorker* (5 March 2020).
2019. 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. Kaiser, “Free Will, Video Games, and the Most Profound Quantum Mystery,” *New Yorker* (9 May 2018).
2018. 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. Kaiser, “Learning from Gravitational Waves,” *New York Times* (3 October 2017).
2017. 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. Kaiser, “Quantum Theory by Starlight,” *New Yorker* (7 February 2017).
2016. Kaiser, “Share the Joy of Science,” *Nature* (11 November 2016).
2016. Kaiser, “How Einstein and Schrödinger Conspired to Kill a Cat,” *Nautilus* (13 October 2016).
2016. Kaiser, “Quantum Theory Made Charming,” *The Guardian* (7 January 2016).
2015. Kaiser, “Gaga for *Gravitation*,” *Huffington Post* (23 November 2015).
2015. 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. Kaiser, “From blackboards to bombs,” *Nature* 523 (30 July 2015): 523-525.
2015. 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. Kaiser, “Is quantum entanglement real?,” *New York Times* (16 November 2014): SR10.
2014. Kaiser, “Of black holes and glittering stars: *The Theory of Everything* and Hollywood physics,” *Huffington Post* (12 November 2014).
2014. Kaiser, “Evolving culture of science engagement,” *Huffington Post* (3 October 2014).
2014. 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. Kaiser, “The sacred, spherical cows of physics,” *Nautilus* (1 May 2014).
2014. Kaiser, “Dance of the elementary particles,” *London Review of Books blog* (24 March 2014).
2014. Kaiser, “Physicists’ golden jubilee,” *Huffington Post* (10 February 2014).
2014. Kaiser, “Cosmic inflation,” *London Review of Books* 36 (6 February 2014): 27-28.
2014. Kaiser, “Shut up and calculate!” (invited ‘comment’), *Nature* 505 (9 January 2014): 153-155.
2013. Kaiser, “Everything but the Unicorn,” *London Review of Books blog* (19 April 2013).
2013. Kaiser, “Déjà vu all over again? A response to Philip Mirowski,” *Social Epistemology Review and Reply Collective* 2(2): 1-7.
2012. Kaiser and Jonathan Moreno, “Dual-use research: Self-censorship is not enough” (invited ‘comment’), *Nature* 492 (20 - 27 December 2012): 345-347.
2012. Kaiser, “I Didn’t Write That,” *New York Times* (4 November 2012): SR11.
2012. 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. Kaiser, “David Kaiser’s Top Ten Books about Quantum Theory” (invited column), *The Guardian* (26 September 2012).

2012. 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. Kaiser, “Higgs at Last,” *London Review of Books blog* (6 July 2012).
2012. Kaiser, “Elegant Wiggles: Why the Universe is Lumpy,” *Huffington Post* (22 May 2012).
2012. Kaiser, “In Retrospect: The Structure of Scientific Revolutions” (invited ‘comment’), *Nature* 484 (12 April 2012): 164-166.
2012. Kaiser, “A Tale of Two Textbooks: Experiments in Genre,” invited contribution for Focus section, *Isis* 103 (March 2012): 126-138.
2012. Kaiser, “The Higgsy Higgsy Boson,” *Huffington Post* (11 January 2012).
2012. 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. Kaiser, “The quantum universe,” *The Guardian* (18 November 2011): 7.
2011. Kaiser, “Faster than a Speeding Neutrino,” *London Review of Books blog* (23 September 2011).
2011. Kaiser, “Short Cuts” (on the search for the Higgs boson), *London Review of Books* 33 (25 August 2011): 20.
2011. Kaiser, “How the Hippies Saved Physics: Curious Contributions to Quantum Theory,” *NPR Cosmos and Culture blog* (30 June 2011).
2011. Kaiser, “The Search for Clean Cash” (invited ‘comment’), *Nature* 472 (7 April 2011): 30-31.
2011. Kaiser, “Consciousness on the Charles” [essay review], *Historical Studies in the Natural Sciences* 41: 265-275.
2011. Kaiser, “Going supernova,” *London Review of Books* 33 (17 Feb 2011): 36-37.
2010. Kaiser and Marc Kastner, “Francis E. Low, 1921-2007,” *Biographical Memoirs of Fellows of the National Academy of Sciences*, 1-24.
2010. Kaiser, “Half the Blink of an Eye,” *London Review of Books blog* (24 November 2010).
2010. 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. Kaiser, “The Coldest Place in the Universe,” *London Review of Books blog* (22 March 2010).
2009. Kaiser, “Gremlin fireworks,” *London Review of Books* 31 (17 Dec 2009): 19-20.
2009. Kaiser, “ $A \times B \neq B \times A$ ,” *London Review of Books* 31 (26 Feb 2009): 21-22.
2009. Kaiser, “Così la politica perseguitò Einstein e la relatività [How politics persecuted Einstein and relativity],” *l’Unità* (14 Jan 2009): 38-39.
2009. 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. Kaiser, “Birth Cry of *Image and Logic*,” *Centaurus* 50 (Feb 2008): 166-167.
2007. 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. 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. Kaiser, “Turning Physicists into Quantum Mechanics,” *Physics World* 20 (May): 28-33. Reprinted in Polish translation as “Jak kształcił mechaników kwantowych,” *Postępy Fizyki* 58 (Sep-Oct 2007): 201-206.
2007. Kaiser, “Viki Weisskopf: Searching for Simplicity in a Complicated World,” *Physics @ MIT* 20 (Fall 2007): 44-56.
2007. Kaiser, “Richard Feynman” and “Victor Weisskopf,” in *The New Dictionary of Scientific Biography* (New York: Macmillan, 2007).
2005. Kaiser, “Training and the Generalist’s Vision in the History of Science,” invited contribution for Focus section, *Isis* 96 (June 2005): 244-251.
2005. 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. Kaiser with Felice Frankel, “Sightings” (column on Feynman diagrams), *American Scientist* 91 (Sep-Oct 2003): 450-451.
2001. Kaiser, “Francis E. Low: Coming of Age as a Physicist in Postwar America,” *Physics @ MIT* 14 (Fall 2001): 24-31, 70-77.
2000. 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. Kaiser, “Supercurvature modes from preheating in an open universe,” arXiv:astro-ph/9608025.
1995. Kaiser, “Frame-independent calculation of spectral indices from inflation,” arXiv:astro-ph/9507048.
- 1994 – 2021. 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, 2008–2016.  
 Series 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*

MIT Corporation Joint Advisory Committee on Institute-Wide Affairs, 2021–.  
 Co-Chair, MIT Legal-Ethical-Equity committee for campus operations, 2020–.  
 Associate Dean, Social and Ethical Responsibilities of Computing, MIT, 2019–.  
 MIT Museum Advisory Board, 2019–; also chair of Student Affairs Committee.  
 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–.  
 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*

Scientific Organizing Committee, “When  $\hbar$  meets  $G$ : Quantum Theory, Gravitation, and Cosmology,” Institut d’Astrophysique de Paris, 2021–2022.  
 Affiliate, Black Hole Initiative, Harvard University, 2021–.  
 Quantum Century planning committee, member of Media/Outreach and History subgroups, 2020–.  
 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

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

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

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

### Television and Video

On-screen contributor, BBC film, *The Universe*, in preparation.

Advisor and on-screen contributor, NOVA documentary film, *Operation: Neutrino*, in preparation.

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 / dark energy, 2017–2018 (30 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 Feb 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. Originally broadcast November 2015.

Advisor and on-screen contributor, PBS documentary film, *The Mystery of Matter*, 2009–2015. Three one-hour episodes, originally broadcast on PBS in September 2015.

Advisory Board member and on-screen contributor, NOVA documentary film, *The Fabric of the Cosmos*, 2006–2011. Four one-hour episodes, originally broadcast on PBS in November 2011.

On-screen contributor, “Time since Einstein” film broadcast during the World Science Festival, New York City, June 2009.

Advisor, NOVA/BBC documentary film, *Parallel Worlds, Parallel Lives* about Hugh Everett’s “many-worlds” interpretation of quantum mechanics. Originally broadcast on PBS in October 2008.

On-screen contributor, PBS “Wired Science” television segment about the X-prize, 2007. Originally broadcast on PBS in November 2007.

On-screen contributor, NOVA “Science Now” television segment about nuclear physics and the “island of stability,” 2006. Originally broadcast on PBS in October 2006; podcast of interview available August 2006.

Advisory Board member, script consultant, and on-screen contributor, NOVA documentary film, *Einstein's Big Idea*, 2003–2005. Originally broadcast on PBS in October 2005. Also consulted on *Teacher's Guide* and *Library Guide* for the film.

### Radio

Invited guest, CBC “Quirks and Quarks” to discuss research on the big bang, 1 November 2019.

Invited guest, WBUR “Radio Boston,” to discuss trends in research funding, 21 August 2019.

Invited guest, NPR “Science Friday,” to discuss the history of science, 31 May 2019.

Recurring guest, “Sojourner Truth” on KPFK radio, to discuss 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,” to discuss the discovery of new chemical 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, interview about quantum theory and the cosmos, 2 June 2014.  
 Invited guest, *Feature Story News* syndicated radio interview about cosmic inflation, 18 March 2014.  
 Invited guest, *National Geographic Weekend* radio interview about quantum theory, 5 August 2012.  
 Invited guest, BBC Radio “Today Programme” interview about quantum theory, 5 March 2012.  
 Invited guest, Illinois Public Radio “Focus” interview about quantum theory, 9 January 2012.  
 Invited guest, Wisconsin Public Radio “Veronica Rueckert Show” interview about quantum theory, 16 December 2011.  
 Invited guest, WBUR / National Public Radio “On Point” interview about quantum theory, 1 Nov 2011.  
 Invited guest, Wisconsin Public Radio “To the Best of Our Knowledge” interview about quantum theory, 2 Oct 2011.  
 Invited guest, WNYC / Public Radio International “The Takeaway” interview about neutrinos and relativity, 23 Sep 2011.  
 Invited guest, Canadian Broadcasting Company “The Current” interview about quantum theory, 9 Aug 2011.  
 Invited guest, WICN public radio interview about quantum theory, 13 July 2011.  
 Invited guest, Radio 3 Scienza, Radiotelevisione Italiana (RAI, Italy) interview about Einstein and politics, 15 Jan 2009.  
 Invited guest, KXTR radio (Kansas City) interview about Einstein and relativity, 17 Nov 2005.  
 Invited guest, “Daybreak” USA Radio Network show about Einstein and relativity, 10 Oct 2005.  
 Invited guest, “Science Friday” National Public Radio show about Einstein and relativity, 24 June 2005.

### **Postdoctoral Fellows Supervised**

2020-2021.	Evan McDonough (Physics).
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

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. Dhrubo 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 Lehigh, “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.
- John Tylko (MIT-HASTS), Committee member.
- Tiffany Nichols (History of Science, Harvard University), Committee member.
- Jaco de Swart (History of Science, University of Amsterdam), 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

- 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.
- April 2019. “Testing Quantum Theory with the Cosmos,” John Marshall Memorial Lecture, Amateur Astronomers Association of New York, American Museum of Natural History.
- April 2019. “Einstein’s Legacy: Studying Gravity in War and Peace,” Invited Public Lecture, University of Illinois at Urbana-Champaign.
- April 2019. “Cosmic Bell Experiments: Testing Quantum Theory with the Cosmos,” Invited Colloquium, Department of Physics, University of Illinois at Urbana-Champaign.
- March 2019. “Quantum Entanglement: Recent Tests, New Applications,” Invited Colloquium, Jet Propulsion Laboratory, Pasadena.
- March 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*, American Physical Society meeting, Boston.
- February 2019. “Testing Quantum Theory with the Cosmos,” Invited Colloquium, Department of Physics, Florida State University.
- February 2019. “Quantum Jitters in the Sky: The Big Bang, Cosmic Inflation, and the Latest Observations,” TSS Horizons Public Lecture, Tallahassee, Florida.
- February 2019. “Quasars to the Rescue! A Cosmic Test for Quantum Entanglement,” Invited public presentation, Boston Museum of Science.
- September 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.
- September 2018. “Einstein’s Legacy: Studying Gravity in War and Peace,” Invited Colloquium, Institut d’Astrophysique de Paris.
- September 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.
- March 2017. “Ideology, Access, and Infrastructure: Writing a Political History of Cold War Physics,” invited colloquium, Max Planck Institute for the History of Science, Berlin.
- March 2017. “Testing Quantum Theory with the Cosmos,” Featured Speaker, *New Scientist* Instant Expert event, Boston.
- March 2017. “Testing Bell’s Inequality with Astrophysical Observations,” Invited colloquium, Department of Physics and Astronomy, Dartmouth College.
- October 2016. “Einstein’s Legacy,” Featured Speaker, *New Scientist* Instant Expert event, Boston.

- October 2016. “Using Neutrino Oscillations to Test the Foundations of Quantum Mechanics,” Neutrino Division Seminar Series, Fermilab.
- September 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.