

## **CURRICULUM VITAE**

**Deborah G. Mayo**

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### **EDUCATION:**

B.A. Clark University, Worcester, Massachusetts, 1974  
Majors: Philosophy, Mathematics  
Honors Thesis: "Goedel's Incompleteness Theorem"

Ph.D. University of Pennsylvania, Philadelphia, PA, 1979  
Field: Philosophy  
Thesis: "Philosophy of Statistics"  
Advisor: Professor Zoltan Domotor

### **PROFESSIONAL APPOINTMENTS:**

September, 1979 - 1987: Assistant Professor, Department of Philosophy, Virginia Polytechnic Institute and State University

1987-1997: Associate Professor of Philosophy, Virginia Tech

1984-present: Adjunct in the Center for the Study of Science in Society at Virginia Tech

Visiting Fellow, Center for Philosophy of Science, University of Pittsburgh, Fall 1989

Visiting Professor at the Institute of Philosophy at the University of Leuven, Belgium, Spring 1994

1997-2016: Professor of Philosophy, Virginia Tech

2004-2008: Professor, half-appointment in Economics, Virginia Tech

January 2007-April 2016: Visiting Professor at the Centre for the Philosophy of Natural and Social Science (CPNSS) at the London School of Economics and Political Science

February 2016-present: Professor Emerita of Philosophy, Virginia Tech

April 2016 -present: Research Associate at the Centre for the Philosophy of Natural and Social Science (CPNSS) at the London School of Economics and Political Science

### **HONORS, AWARDS AND FELLOWSHIPS**

2025 Elected a Fellow of the American Association for the Advancement of Science (AAAS)

2022 Elected a Fellow of the British Academy

1998 Lakatos Award in Philosophy of Science (for *Error and the Growth of Experimental Knowledge*): given in recognition of an outstanding contribution to philosophy of science in the form of a book published during the previous six years

1997 Sturm Award for Excellence in Faculty Research (awarded by Phi Beta Kappa)

1991 *Philosopher's Annual* "Novel Evidence and Severe Tests" (selected as among the ten best to appear in print in philosophy in 1991)

### **Undergraduate and Graduate:**

Phi Beta Kappa (junior year) (1973)

Highest Honors in Mathematics (1974)

Magna Cum Laude (1974)

University Fellowship, Univ. of Pennsylvania (1974-1975)

Teaching Fellowships, Univ. of Pennsylvania: Philosophy (1975-77); Statistics, Wharton School (1977-78)

### **Fellowships and Grants:**

National Science Foundation Scholar's Award: February 1, 2006-July 31, 2006: SES-0549886: "Learning From Error: A Philosophy of Evidence and Inference"

National Science Foundation Fellowship: Studies in Science, Technology & Society and the Measurement, Methods and Statistics programs, Grant No. SBR-9731505: 1998-2000

Director: National Endowment for the Humanities Summer Seminar: June -July 1999:  
Project Title: Philosophy of Experimental Inference: Induction, Reliability, and Error

Virginia Tech, Summer Research Stipends (1995, 1996)

National Science Foundation Grant: Studies in Science, Technology & Society (SSTS) Scholars Award (1993)

NEH Summer Stipend (1987)

NEH Fellowship for College Teachers (1988-1989)

NEH Fellowship for College Teachers: (July 1982 -July 1983)

### **National Endowment for the Humanities (NEH) Summer Seminars:**

NEH Summer Seminar Fellowship (1980): Univ. of North Carolina, Chapel Hill. Seminar Leader: Michael Resnik. Topic: Philosophy of Mathematics

NEH Summer Seminar Fellowship (1984): University of Rochester. Seminar Leader: Henry Kyburg. Topic: Induction and Scientific Inference

### **Other:**

National Security Association (contract through Lockheed Martin: 2002-3), with Aris Spanos

### **PUBLICATIONS:**

#### **Books**

*Acceptable Evidence: Science and Values in Risk Management*, co-edited with Rachelle Hollander. Oxford University Press, 1991. Includes chapters and four introductions by the editors.

*Error and the Growth of Experimental Knowledge*. The University of Chicago Press (Series in Conceptual Foundations of Science), June 1996, 493 pages.

*Error and Inference: Recent Exchanges on Experimental Reasoning, Reliability and the Objectivity and Rationality of Science*, co-edited with Aris Spanos. Cambridge University Press, 2010, 419 pages. (I am the author of 8, and co-author of 3, of the chapters, listed under papers.)

*Statistical Inference as Severe Testing: How to Get Beyond the Statistics Wars*. Cambridge: Cambridge University Press, September 2018, 444 pages.

#### **Papers:**

"The Philosophical Relevance of Statistics." In *PSA 1980*, Volume One. Edited by P. Asquith and R. Giere. East Lansing: PSA, (1980), 97-109.

"Testing Statistical Testing." In *Philosophy in Economics*. Edited by J. C. Pitt. Dordrecht: Reidel, (1980), 175-203.

"In Defense of the Neyman-Pearson Theory of Confidence Intervals." *Philosophy of Science* 48 (1981), 269-280.

"The Foundations of Statistics as a Tool for Technology Studies." *Nature and System* 3 (1981), 109-114.

- "On After-Trial Criticisms of Neyman-Pearson Theory of Statistics." In *PSA1982*, Volume One. Edited by P. Asquith and T. Nickles. East Lansing: PSA, (1982), 145-158.
- "Against a Scientific Justification of Animal Experiments." In *Ethics and Animals*. Edited by H .B. Miller and W. H. Williams. Clifton, New Jersey: Humana Press, (1983), 339-359.
- "An Objective Theory of Statistical Testing." *Synthese* 57 (part II), (1983), 297-340.
- "Behavioristic, Evidentialist, and Learning Models of Statistical Testing." *Philosophy of Science* 52 (1985), 493-516.
- "Increasing Public Participation in Controversies Involving Hazards: The Values of Metastatistical Rules." In *Science, Technology, and Human Values*, 10(4), (Fall 1985), 55-68.
- "Cartwright, Causality, and Coincidence." In *PSA 1986*, Volume One. Edited by A. Fine and P. Machamer. East Lansing: PSA, (1986), 42-58.
- "Understanding Frequency-Dependent Causation." *Philosophical Studies* 49 (1986), 109-124.
- "How Everyone Can Have a Rare Property: Response to Sober on Frequency- Dependent Causation." *Philosophy of Science* 54 (1987), 266-276.
- "Models of Group Selection." *Philosophy of Science* 54 (1987), 515-538. Co-authored with Norman L. Gilinsky.
- "Brownian Motion and the Appraisal of Theories." In *Scrutinizing Science*. Edited by L. Laudan, R. Laudan, and A. Donovan. Dordrecht: Reidel, (1988), 219-243.  
Reprinted by Johns Hopkins University Press, (1992), 219-243.
- "Toward a More Objective Understanding of the Evidence of Carcinogenic Risk." *PSA 1988*, Volume Two. Edited by A. Fine and J. Leplin. East Lansing: PSA, (1989), 489-503.
- "Sociological vs. Metascientific Views of Risk Assessment." In *Acceptable Evidence: Science and Values in Risk Management*. Edited by D. Mayo and R. Hollander. Oxford University Press, (1991), 249-279.  
Reprinted (with modifications) as "Sociological versus Metascientific Views of Technological Risk Assessment" in *Technology, and Values*. Edited by K. Shrader-Frechette and L. Westra. Rowman & Littlefield, (1997).
- "Novel Evidence and Severe Tests." *Philosophy of Science* 58 (1991), 523-552.  
Reprinted in *The Philosopher's Annual* Volume XIV, (1991), 203-232.
- "Did Pearson Reject the Neyman-Pearson Philosophy of Statistics?" *Synthese* 90 (February 1992), 233-262.
- "The Test of Experiment: C.S. Peirce and E.S. Pearson," in *Charles S. Peirce and the Philosophy of Science: Papers from the 1989 Harvard Conference*. Edited by C. Moore. University of Alabama Press, (1993), 161-174.

- “The New Experimentalism, Topical Hypotheses, and Learning From Error.” In *PSA 1994*, Volume One. Edited by D. Hull, M. Forbes and R. Burian. The Philosophy of Science Association, East Lansing: Michigan, (1994), 270-279.
- “Ducks, Rabbits, and Normal Science: Recasting the Kuhn's-Eye View of Popper's Demarcation of Science.” *The British Journal for the Philosophy of Science* 47 (1996), 271-290.
- “Severe Tests, Arguing From Error, and Methodological Underdetermination.” *Philosophical Studies* 86 (1997), 243-266.
- “Duhem's Problem, The Bayesian Way, and Error Statistics, or ‘What's Belief Got To Do With It’?” and “Response to Howson and Laudan.” *Philosophy of Science* (June 1997), 222-224 and 323-333.
- “Error Statistics and Learning From Error: Making a Virtue of Necessity.” In *Philosophy of Science* 64, Supplemental Issue PSA 1996: Symposia Papers. Edited by L. Darden. (1996), S195-S212.
- Commentary: “Some Problem's With Chow's problems With Power.” *Behavioral and Brain Sciences* 21 (April 1998), 212-213. (Discussion of Siu Chow's *Statistical Significance*.)
- “Making Progress with Laudan's Problems: 1977-1997.” In *Progress and Its Problems After 20 Years*. The National Autonomous University of Mexico, (1999), in Spanish.
- “Experimental Practice and an Error Statistical Account of Evidence.” *Philosophy of Science* 67, (Symposia Proceedings). Edited by D. Howard, (2000), S193-S207.
- “Models of Error and the Limits of Experimental Testing.” In *Science at Century's End: Philosophical Questions on the Progress and Limits of Science*. Edited by M. Carrier, G. Massey, and L. Reutsche. University of Pittsburgh/University of Konstanz Press, (2000), 317-344.
- “Science, Error Statistics, and Arguing From Error.” In *Logic, Probability, and Science*, Poznan Studies in the Philosophy of the Sciences and the Humanities, Volume 71. Edited by N. Shanks and R. Gardner. Amsterdam: Rudopi, (2000), 95-111.
- “What is This Thing Called Philosophy of Science?” Review symposium of A. Chalmers' *What Is This Thing Called Science?* *Metascience* 9, (July 2000), 179-188.
- “A Post-data Interpretation of Neyman-Pearson Methods Based on a Conception of Severe Testing.” *Measurements in Physics and Economics Discussion Paper Series*, History and Methodology of Economics Group, The London School of Economics and Political Science. London: Tymes Court, (August 2000). Co-authored with Aris Spanos.
- “Principles of Inference and Their Consequences,” in *Foundations of Bayesianism*. Edited by D. Cornfield and J. Williamson. Dordrecht: Kluwer, (2001), 381-403. Co-authored with Michael Kruse.
- “Theory Testing, Statistical Methodology, and the Growth of Experimental Knowledge.” In *The Scope of Logic, Methodology and Philosophy of Science* (Volume One of the 11<sup>th</sup> International Congress of Logic, Methodology, and Philosophy of Science, Cracow,

- August 1999. Edited by P. Gardenfors, J. Wolenski, and K. Kijania-Placek. Dordrecht: Kluwer, (2002), 171-190.
- "Novel Work on Problems of Novelty? Comments on Hudson." *Studies in History and Philosophy of Modern Physics* 34, (2003), 131-134.
- "Severe Testing as a Guide for Inductive Learning." In *Probability Is the Very Guide in Life*. Edited by H. Kyburg. Chicago: Open Court, (2003), 89-117.
- "Could Fisher, Jeffreys and Neyman Have Agreed? Commentary on J. Berger's Fisher Address." *Statistical Science* 18, (2003), 19-24.
- "An Error-Statistical Philosophy of Evidence." In *The Nature of Scientific Evidence: Statistical, Philosophical, and Empirical Considerations*." Edited by M. Taper and S. Lele. Chicago: University of Chicago Press, (2004), 79-118.
- "When Can Risk-Factor Epidemiology Provide Reliable Tests?" Commentary: *Epidemiology* 15, (2004), 523-524. Co-authored with Aris Spanos.
- "Methodology in Practice: Statistical Misspecification Testing." *Philosophy of Science: Symposia 2002*, 71, (2004), 1007-1025. Co-authored with Aris Spanos.
- "Peircean Induction and the Error-Correcting Thesis." In *Peirce-spectives on Metaphysics and the Sciences*. Edited by R. Mayorga. Transactions of the Charles S. Peirce Society, (2005), 299-319.
- "Evidence as Passing Severe Tests: Highly Probed vs. Highly Proved." In *Scientific Evidence*. Edited by P. Achinstein. Baltimore: Johns Hopkins University Press, (2005), 95-127.
- "Philosophy of Statistics." In *Philosophy of Science: An Encyclopedia*. Edited by S. Sarkar and J. Pfeifer. London: Routledge, (2006), 802-815.
- "Critical Rationalism and Its Failure to Withstand Critical Scrutiny." In *Rationality and Reality: Conversations with Alan Musgrave*. Edited by C. Cheyne and J. Worrall. Kluwer series Studies in the History and Philosophy of Science. The Netherlands: Springer, (2006), 63-99.
- "Severe Testing as a Basic Concept in a Neyman-Pearson Philosophy of Induction." *The British Journal for the Philosophy of Science*, 57, (June 2006), 323-357. Co-authored with Aris Spanos.
- "Frequentist Statistics as a Theory of Inductive Inference." In *Optimality: The Second Erich L. Lehmann Symposium*. Edited by J. Rojo. Lecture Notes-Monograph Series, Institute of Mathematical Statistics (IMS), Vol. 49, (2006), 77-97. Co-authored with Sir David R. Cox.
- Reprinted in *Error and Inference: Recent Exchanges on Experimental Reasoning, Reliability and the Objectivity and Rationality of Science*. Edited by D. Mayo and A. Spanos. Cambridge: Cambridge University Press (2010), 247-275.

- “Philosophical Scrutiny of Evidence of Risks: From Bioethics to Bioevidence.”  
*Philosophy of Science: Symposia, PSA 2004*, 73(5), (2006), 803–816. Co-authored with  
 Aris Spanos.
- “How to Discount Double-Counting When It Counts: Some Clarifications.” *The British  
 Journal for the Philosophy of Science* 59, (2008), 857-879.
- “The Error Statistical Philosopher as Normative Naturalist.” *Synthese* 163(3), (2008), 305-  
 314. Co-authored with Jean A. Miller.
- “Some Methodological Issues in Experimental Economics.” *Philosophy of Science* 75,  
 (2008), 633-645.
- “Risks to Health and Risks to Science: The Need for a Responsible ‘Bioevidential’  
 Scrutiny.” *Biological Effects of Low Level Exposures, Newsletter*, 14 (3), 18-22, (2008).  
 Co-authored with Aris Spanos  
 Reprinted in *Human & Experimental Toxicology* 27, (2009) 794-799.
- “Learning from Error: The Theoretical Significance of Experimental Knowledge.” *The  
 Modern Schoolman*. Guest editor, Kent Staley. 87 (3/4), (March/May 2010).  
 Experimental and Theoretical Knowledge, The Ninth Henle Conference in the History  
 of Philosophy, 191-217.
- Chapters in D. Mayo and A. Spanos (eds.) *Error and Inference: Recent Exchanges on  
 Experimental Reasoning, Reliability and the Objectivity and Rationality of Science*,  
 Cambridge: Cambridge University Press (2010):
- “Error, Severe Testing, and the Growth of Theoretical Knowledge,” 28-57.
- “Can Scientific Theories be Warranted with Severity? Exchanges with Alan Chalmers,”  
 73-87.
- “Towards Progressive Critical Rationalism: Exchanges with Alan Musgrave,” 115-124.
- “An Ad Hoc Save of a Theory of Adhocness? Exchanges with John Worrall,” 155-169.
- “Sins of the Epistemic Probabilist: Exchanges with Peter Achinstein,” 189-201.
- “Explanation and Testing: Exchanges with Clark Glymour,” 351-363.
- “Error and the Law: Exchanges with Larry Laudan,” 397-409.
- “An Error in the Argument from Conditionality and Sufficiency to the Likelihood  
 Principle,” 305-314.
- Chapters jointly authored in *Error and Inference* (2010):
- “Introduction and Background,” 1-27. Co-authored with Aris Spanos.
- “Frequentist Statistics as a Theory of Inductive Inference,” 247-275. (Reprinted from  
 D. Mayo and D. R. Cox (2006)). Co-authored with David R. Cox.
- “Objectivity and Conditionality in Frequentist Inference,” 276-304. Co-authored with  
 David R Cox.

- "Error Statistics." In *Handbook of Philosophy of Science*, Volume 7: *Philosophy of Statistics*. Edited by D. Gabbay, P. Thagard, and J. Woods. The Netherlands: Elsevier, (2011), 153-198. Co-authored with Aris Spanos
- "The Objective Epistemic Probabilist and the Severe Tester." In *Philosophy of Science Matters: The Philosophy of Peter Achinstein*. Edited by G. Morgan. Oxford: Oxford University Press, (2011), 135-150.
- "Statistical Science and Philosophy of Science: Where Do/Should They Meet in 2011 (and beyond)?" *Rationality, Markets and Morals (RMM): Studies at the Intersection of Philosophy and Economics*, 2, (2011), 79–102.
- "A Statistical Scientist Meets a Philosopher of Science: A Conversation between Sir David Cox and Deborah Mayo (as recorded, June 2011)." *Rationality, Markets and Morals (RMM): Studies at the Intersection of Philosophy and Economics*, 2, (2011), 103-114. Co-authored with Sir David R. Cox.
- "How Can We Cultivate Senn's Ability," Comment on Stephen Senn, "You May Believe You are a Bayesian But You're Probably Wrong." *Rationality, Markets and Morals (RMM): Studies at the Intersection of Philosophy and Economics*, 3, (2012), 14-18.
- "Statistical Science and Philosophy of Science Part 2: Shallow versus Deep Explorations." *Rationality, Markets and Morals (RMM): Studies at the Intersection of Philosophy and Economics*. Volume 3, (2012), 71-107.
- "The error-statistical philosophy and the practice of Bayesian statistics: Comments on Gelman and Shalizi: 'Philosophy and the practice of Bayesian statistics'", *British Journal of Mathematical and Statistical Psychology* 66, (2013), 57-64. (Commentary on A. Gelman and C. Shalizi: "Philosophy and the Practice of Bayesian Statistics" (with discussion)).
- "Discussion: Bayesian Methods: Applied? Yes. Philosophical Defense? In Flux", *The American Statistician*, 67, (2013), 11-15. (Commentary on A. Gelman and C. Robert "Not only defended but also applied": The perceived absurdity of Bayesian inference" (with discussion)).
- "Presented Version: On the Birnbaum Argument for the Strong Likelihood Principle." In *JSM Proceedings*, Section on Bayesian Statistical Science. Alexandria, VA: American Statistical Association, (2013), 440-453.
- "Some Surprising Facts about (The Problem of) Surprising Facts," *Studies in History and Philosophy of Science*, 45 (1), (2014), 79-86. (Special Section: *Novel Predications*, Ioannis Votsis, Ludwig Fahrback, and Gerhard Schurz (eds.)).
- "Learning from Error: How Experiment Gets a Life (of its Own)". In *Error and Uncertainty in Scientific Practice*. Edited by M. Boumans, G. Hon & A. C. Petersen. London: Pickering and Chatto, (2014), 57-77.
- "On the Birnbaum Argument for the Strong Likelihood Principle," (with discussion & rejoinder) *Statistical Science*, 29(2), (2014), 227-239, 261-266.

- “Error Statistical Modeling and Inference: Where Methodology Meets Ontology”. *Synthese*, 192(11), (2015), 3533-3555. Co-authored with Aris Spanos.
- “Don’t Throw out the Error Control Baby with the Bad Statistics Bathwater: A Commentary” on R. Wasserstein and N. Lazar: “The ASA’s Statement on *P*-values: Context, Process, and Purpose”, *The American Statistician* 70(2) (2016).
- “Justify Your Alpha”, *Nature Human Behavior* 2, (2018), 168-171 Co-authored with Daniel Lakens et al. (a megateam of 85 authors)
- “Experimental Flukes and Statistical Modeling in the Higgs Discovery,” in Isabelle Peschard and Bas van Fraassen (eds.), *The Experimental Side of Modeling in Minnesota Studies in the Philosophy of Science*, University of Minnesota Press, (2018), 189-217.
- “The Diagnostic Screening Criticism of Statistical Tests: A Poor Prognosis”, with Richard Morey. OSF preprint: <https://osf.io/nepx9/>, July 2, 2018 (updated). DOI: [10.31219/osf.io/ps38b](https://doi.org/10.31219/osf.io/ps38b)
- “P-value Thresholds: Forfeit at Your Peril”, *European Journal of Clinical Investigation* 2019 49(10): e13170. (<https://doi.org/10.1111/eci.13170>)
- “P-Values on Trial: Selective Reporting of (Best Practice Guides Against) Selective Reporting”, (2020) *Harvard Data Science Review*, 2.1. (<https://doi.org/10.1162/99608f92.e2473f6a>)
- “Five ways to ensure that models serve society: a manifesto”, with Andrea Saltelli et al., (2020), *Nature* 582: 482-484. (<https://www.nature.com/articles/d41586-020-01812-9>)
- “Significance Tests: Vitiating or Vindicating by the Replication Crisis in Psychology?” (2020). *Review of Philosophy and Psychology* 12: 101-120. DOI <https://doi.org/10.1007/s13164-020-00501-w>.
- “Rejecting Statistical Significance Tests: Defanging the Arguments”. In *JSM Proceedings*, Statistical Consulting Section. Alexandria, VA: American Statistical Association. (2020). 236-256.
- “The Statistics Wars and Intellectual Conflicts of Interest” (Editorial). (2022), *Conservation Biology* 36(1). (December 6, 2021 (online). DOI: <https://doi.org/10.1111/cobi.13861>.
- “A Remembrance of Sir David Cox: ‘In celebrating Cox’s immense contributions, we should recognise how much there is yet to learn from him’” *Significance*. (April 2022, p. 36).
- “Statistical Significance and its Critics: Practicing damaging science, or damaging scientific practice?” (2022). *Synthese* 200, 220. Co-authored with David Hand.
- “In regard to Fornaçon-Wood et al.” (2023). *International Journal of Radiation Oncology\*Biophysics*, 115(1), [249–250](#). Co-authored with Chowdhry, A. K., Pugh, S. L., Park, J., Fuller, C. D., & Kang, J.

“Sir David Cox's Statistical Philosophy and its Relevance to Today's Statistical Controversies.” (2023). *JSM 2023 Proceedings*, DOI: <https://zenodo.org/records/10028243>.

“Introduction to recent issues in philosophy of statistics: evidence, testing, and applications.” (2023). Guest editors Introduction to Special Issue of *Synthese: Recent Issues in Philosophy of Statistics: Evidence, Testing, and Applications*. V. 201: Article 120. Co-authored with Molly Kao and Elay Shech.

“Severe Testing” (2025). In: Lovric, M. (eds) *International Encyclopedia of Statistical Science*, pp. 2307-2315. Springer, Berlin, Heidelberg. [https://doi.org/10.1007/978-3-662-69359-9\\_561](https://doi.org/10.1007/978-3-662-69359-9_561)

“Severe Testing: Error Statistics versus Bayes Factor Tests.” (2025). *British Journal for the Philosophy of Science*. DOI: <https://doi.org/10.1086/736950>.

### Reprinted:

“A Critique of Salmon’s Bayesian Way” (from Chapter 2, 112-127 of Mayo 1996). In M. Curd, J. Cover, and C. Pincock eds., *Philosophy of Science: The Central Issues* (2<sup>nd</sup> edition), 2013: 550-564.

### Translated Chapter:

"Learning From Error," Chapter 1 of *Error and the Growth of Experimental Knowledge* (Mayo, 1996) has been translated into Spanish as “Capítulo XIV Aprender del error” in Victòria Camps, Anna Estany i Mercè Izquierdo (Eds.), *Error y Conocimiento: la Gestión de la Ignorancia desde la Didáctica, la Ética y la Filosofía*, Comares: Granada, (2012).

### Other:

National Security Agency Research Report: “Peircean Reasoning Project: “Peircean Induction, Severe Testing, and Statistical Model Validation.” (2003). Co-authored with Aris Spanos.

Exploratory Software for Confidence Intervals (ESCI): “Mayo & Spanos: Excel program for Calculating Confidence Intervals and Severity.” (2002) Co-developed with G. Cumming and A. Spanos. (Project stemming from work at NCEAS, Santa Barbara.)

### Blogs

2011- *Error Statistics Philosophy blog* ([errorstatistics.com](http://errorstatistics.com)), Blog on Philosophy of Statistics and Philosophy of Science <http://errorstatistics.com/>. (A professionally active blog on the foundations of statistics.)

- 2019 *Summer Seminar Philosophy of Statistics* blog. <https://summerseminarphilstat.com>. Platform for the *Summer Seminar in Philosophy of Statistics*, held at Virginia Tech in 2019. (This blog provides a trove of Philosophy of Statistics information, articles, and references of use to scholars in the field.)
- 2020- *Phil Stat Wars* blog <https://phil-stat-wars.com>. Platform for the *Phil Stat Wars* Forum and the *Statistics Wars and their Casualties* Workshop. (Includes videos of forum presentations & discussions, slides, readings, etc.)

## TV Show

- 1999 Guest on a television show, “No Dogs or Philosophers Allowed”, a philosophy television show directed to college and high school students. The focus of the 4-person forum was, Methods of Science. NDOPA airs on public television stations and the Philosophy Channel, a web-based source for philosophical media. (November 29, 2000)

## Interviews & Podcasts

- 2019 “Getting Beyond the Statistics Wars: An Interview with Deborah Mayo”, a short interview by Cambridge University Press. February 7, 2019 [[youtube](#)].
- 2019 “Episode 58: Deborah Mayo”, an interview by Nicholas Zautra for *Sci Phi Podcast* February 12, [2019](#). [audio mp3=<https://summerseminarphilstat.files.wordpress.com/2019/02/nzautra190211ep58.mp3>][audio]
- 2019 “The Statistical Crisis of Science: Where are the Philosophers?” on *The American Philosophical Association Blog* (By Nathan Oserloff). [February 21, 2019](#).
- 2019 By Richard Harris’ for comments in his NPR [article](#) “Statisticians’ Call To Arms: Reject Significance And Embrace Uncertainty!” (March 20, 2019).
- 2019 By Carolyn Wilke in her [article](#) “Drop Statistical Significance, Scientists Say” in *The Scientist: Exploring Life, Inspiring Innovation* (March 21, 2019)
- 2020 “Keynote Session: The Philosophical Landscape of Science” in the American Statistical Association (ASA) video interview series for the *Fall Session on Data Science*. (2 parts on *The Pod of Asclepius* with Glen Wright Colopy):

*Episode 1: Revolutions, Reforms, and Severe Testing in Data Science* (November 27, 2020): <https://youtu.be/S4VAEShM3BU>

*Episode 2: The Philosophy of Science & Statistics* (December 1, 2020): <https://youtu.be/9GGAXZ6htrA>

- 2020 Matt Asher's podcast "The Filter" [<https://podcasts.apple.com/ca/podcast/the-filter-microcast/id1510813211>]. (October 30, 2020).
- 2021 American Statistical Association (ASA) sponsored podcast interview on "Science vs Pseudoscience" mini-series on *The Pod of Asclepius* with Glen Wright Colopy. (May 13, 2021).

*Episode 4: Statistics and Severe Testing* (May 13, 2021):  
[https://www.youtube.com/watch?v=MVHoE9V\\_X5g](https://www.youtube.com/watch?v=MVHoE9V_X5g)

### **Graduate Seminars Taught at London School of Economics and Political Science:**

(Fall 2008) Led a Ph.D. Research Seminar in the department of Philosophy, Logic, and Scientific Method, (Ph500): *Topics in the Philosophy and History of Inductive/Statistical Inference and the Foundations of Statistical Science*.

(Summer & Fall 2012) Led a series of 6 Ph.D. research seminars in the department of Philosophy, Logic, and Scientific Method, (Ph500): *Contemporary Philosophy of Statistics*.

(Summer 2020) Research Seminar in the department of Philosophy, Logic, and Scientific Method ([Ph500](#)): *Current Controversies in Philosophy of Statistics*.

### **(recent) Graduate Seminars Taught at Virginia Tech**

(Spring 2019) Phil 6334/Econ 6614: Current Debates on Statistical Inference and Modeling (Wednesdays 4-6:30 pm) with Aris Spanos (Economics).

(Spring 2023) Phil 6014: Philosophy of Inductive-Statistical Inference. (Wednesdays 4-6:30 pm).

### **ACTIVITIES SPONSORED & CO-SPONSORED UNDER FUND FOR E.R.R.O.R.**

Organized and sponsored or co-sponsored Conferences, Workshops, and Speakers Series (since 2006) through the Mayo-Chatfield Fund for E.R.R.O.R. [Co-sponsors indicated below.]

### **Major Conferences:**

#### ***At Virginia Tech:***

June 1-5, 2006: Co-organized with Aris Spanos, *ERROR06* at Virginia Tech. *Special Invited Speakers:* P. Achinstein (Johns Hopkins), A. Chalmers (Flinders AU), Sir. D. Cox (Oxford), C. Glymour (Carnegie Mellon), H. Kyburg (Rochester), L. Laudan (UNAM), A. Musgrave (Otago), J. Worrall (LSE). There were *16 contributed papers* and *20 posters*. (Besides the US and Canada, presenters came from Australia, Germany,

Israel, Italy, Mexico, New Zealand, Portugal, and the UK.) Co-sponsored with Dept. of Philosophy and NSF.

(<http://web.archive.org/web/20060807053427/http://www.error06.econ.vt.edu/>)

May 4-5, 2013: Co-organized with Ben Jantzen and Lydia Patton, *Ontology and Methodology*, at Virginia Tech for the Department of Philosophy, which the (Mayo-Chatfield) E.R.R.O.R. Fund partly sponsored. *Special Invited Speakers*: D. Danks (CMU), P. Godfrey-Smith (CUNY), K. Hoover (Duke), L. Ruetsche (U. Mich.), J. Woodward (Pittsburgh); plus 5 contributed papers. (<http://ontometh2013.com/>)

### **International:**

June 2009: Co-organized with Aris Spanos, and co-sponsored, *Multiplicity and Unification in Statistics and Probability* at the University of Kent (under a Kent-Virginia Tech International program). *Participants* (from LSE, Kent & VT) include: B. Autzen, N. Cartwright, D. Corfield, D. Fennell, G. Gaskell, C. Hennig, K. Hohl, D. Mayo, J. Mingers, F. Russo, A. Spanos, S. Stares, J. Williamson, J. Worrall. Co-sponsored with LSE, Kent, Virginia Tech. (<http://www.kent.ac.uk/secl/philosophy/jw/2009/musp/>)

June 21-2, 2010: Main organizer with Aris Spanos, *Statistical Science Meets Philosophy of Science: Where Do/Should They Meet in 2010 (and Beyond)?* at the London School of Economics. *Speakers and Panel Leaders(\*)*: M. Albert (Justus Liebig Univ), J. Bernardo (Univ. of Valencia), N. Cartwright (LSE; UCSD), Sir D. Cox (Oxford), Sir D. Hendry (Oxford), C. Hennig\* (Univ College London), D. Mayo (Virginia Tech; LSE), S. Senn (Univ of Glasgow), K. Staley\* (St. Louis Univ), A. Spanos (Virginia Tech), J. Williamson (Univ of Kent), J. Worrall (LSE). Sponsored by E.R.R.O.R., Kent-Virginia Tech international program, and a Virginia Tech-LSE collaboration on *Evidence and Error*. ([http://www.phil.vt.edu/dmayo/conference\\_2010/index.htm](http://www.phil.vt.edu/dmayo/conference_2010/index.htm))

### **Workshops:**

June 27-29, 2005: Co-organized with Aris Spanos, *Workshop on the Philosophy and Methodology of Experimental Economics*, at Virginia Tech. *Participants*: included: S. Ball (VT), C. Bicchieri (U Penn), C. Eckel (VT), F. Guala (Exeter), R. Cubitt (Nottingham), K. Hoover (Duke), V. Smith (George Mason/U Alaska), D. Mayo (VT), A. Spanos (VT), C. Starmer (Nottingham), B. Sugden (U East Anglia), Jim Woodward (Pittsburgh). Co-sponsored with Economics.

June 28-29, 2008: Co-organized with Aris Spanos, and co-funded, *Workshop on Philosophy of Science & Evidence Relevant for Regulation & Policy*. *Participants*: N. Cartwright (LSE and UC San Diego), C. Cranor (UC Riverside), K. Elliott (USC), C. Glymour (CMU), K. Hoover (Duke), D. Mayo (VT), S. Mitchell (University of Pittsburgh), W. Parker (OSU), R. Scheines (CMU), K. Shrader-Frechette (Notre Dame), A. Spanos (VT), W. Wagner (University of Texas School of Law), J. Worrall (LSE). Co-sponsor: VT philosophy.  
([http://www.phil.vt.edu/dmayo/personal\\_website/PhilEvRelReg/index.html](http://www.phil.vt.edu/dmayo/personal_website/PhilEvRelReg/index.html))

November 14, 2010: Co-organized with Nancy Cartwright, *Workshop on Methodological Issues of Developmental Economics*, at the London School of Economics.

June 20, 2020-present: Organized international monthly online forum on Philosophy of Statistics, *Phil Stat Wars Forum*, with monthly speakers from the delayed Workshop: *The Statistics Wars and Its Casualties*. Phil Stat Wars Forum. Website: <https://phil-stat-wars.com>. (Details can be found on this post: <https://phil-stat-wars.com/2020/08/08/1508/>).

**September 22-23, 2022** (rescheduled from June 20, 2020 and September 24-25, 2021 due to Covid-19 pandemic): Co-Organizing with Roman Frigg (CPNSS, LSE), and co-funding under the E.R.R.O.R. fund, a Workshop: *The Statistics Wars and Its Casualties*. (Details can be found on this post: <https://phil-stat-wars.com/2020/08/08/1508/>). This workshop was originally in conjunction with LSE seminar *Current Controversies in the Philosophy of Statistics* at the London School of Economics in Summer of 2021, and students from the course will be actively participating in the Workshop. **Speakers:** Yoav Benjamini (*Tel Aviv University*), Alexander Bird (*King's College London*), Mark Burgman (*Imperial College London*), Daniele Fanelli (*London School of Economics and Political Science*), Roman Frigg (*London School of Economics*), Steven Guettinger (*London School of Economics*), David Hand (*Imperial College London*), Margherita Harris (*London School of Economics and Political Science*), Christian Hennig (*University of Bologna*), Katrin Hohl (*City University London*), Daniël Lakens (*Eindhoven University of Technology*), Deborah Mayo (*Virginia Tech*), Richard Morey, (*Cardiff University*), Stephen Senn (*Edinburgh, Scotland*), Jon Williamson (*University of Kent*). London, UK, (September 22-23, 2022).

### Summer Seminars:

July 28-August 11, 2019: *Summer Seminar in Philosophy of Statistics (PhilStat)*. Organized and co-funded a 2-week immersive summer seminar on Philosophy of Statistics (Phil Stat) at Virginia Tech for 15 faculty from philosophy, statistics, psychology, and law. My co-director was Aris Spanos (Economics). Our goal was to provide participants with the statistical and philosophical background to integrate philosophy of statistics into their research and teaching. Our focus was on today's statistical crisis of replication, and to associated evidence-policy debates. *Participants:* R. Bolinger (Australian National University, Princeton), C. Lok (Duke); M. Di Bello (CUNY), J. Douard (N.J. Office of the Public Defender; Rutgers), G. Gardiner (Oxford, University of Tennessee), R. Gong (Rutgers), J. Jhun (Duke), M. Kao (Université de Montréal), J. Krijthe (Radboud University, The Netherlands), J. Livengood (University of Illinois at Urbana-Champaign), J. Schupbach (University of Utah), E. Shech (Auburn University), R. van Bork (University of Amsterdam), B. Zaharatos (University of Colorado, Boulder). Website: <https://summerseminarphilstat.com>

### Seminar Mini-Conferences:

April 2009: Co-organized with Aris Spanos (Economics), a seminar conference for Phil 6334: *Philosophy of Experimental Inference and Modeling*. (Guest speaker: Clark Glymour, CMU). Also hosted at Virginia Tech for one month, two participants from my LSE seminar (B. Autzen, K. Hohl).

April 29, 2011: Co-organized with Alan Chalmers, a seminar conference for Phil 6334: *Experimental Knowledge and the Deep Structure of the World*. (Speakers: P. Achinstein (Yeshiva) , Z. Biener (U. Cincinnati), A. Chalmers (Sydney) , V. Di Fate (Johns Hopkins), L. Patton (VT), A. Spanos (VT), K. Staley (Saint Louis Univ.), J. Worrall (LSE); the students in Phil 6334 & 2 Students from UVA.  
([http://www.phil.vt.edu/dmayo/deep\\_structure/](http://www.phil.vt.edu/dmayo/deep_structure/))

### Lecture Series (founded and organized):

#### *Distinguished Lecture Series in Economics and Philosophy (2005-2010):*

November 16, 2005: Guest speaker, *Professor James O. Berger*, Duke University, "Objective Bayesian analysis: its uses in practice and its role in the unification of statistics".

November 13, 2009: Guest speaker, *Professor Jeffrey Bub*, Distinguished University Professor, University of Maryland, "Quantum Games: Einstein & Bohr Meet Alice & Bob."

February 5, 2010: Co-sponsored with the Department of Philosophy, guest speaker, Professor William Lycan, University of North Carolina, Chapel Hill, (arrangers: visiting faculty, Mark Bauer, Ted Parent), "Resuscitating Cartesian Dualism."

April 23, 2010: Co-sponsored with the Department of Philosophy, guest speaker, Professor Patricia Kitcher, Columbia University, (arranger: Lydia Patton) "Kant on Rational Cognition and Moral Agency."

March 18, 2010: Organized and co-sponsored with the Departments of Philosophy and Statistics, guest speaker Professor Cosmo Shalizi, Carnegie-Mellon University, "Dynamics of Bayesian updating with dependent data & misspecified models."

#### *The I. J. Good Lecture & The Marjorie Grene Lecture, Virginia Tech Distinguished Adjunct Lecture Series in Philosophy:*

September 12, 2010: The I. J. Good Lecture. Guest speaker: Professor Larry Wasserman, Carnegie-Mellon University, "The Foundations of Statistics: A Modern Perspective."

September 9, 2011: The Marjorie Grene Lecture. Guest speaker: Professor David Depew, University of Iowa, "The Creativity of Natural Selection and the Boundaries of the Modern Synthesis."

September 28, 2018: The Marjorie Grene Lecture. Guest speaker: Professor Katherine Brading, Duke University, “Emilie Du Châtelet and the Foundations of Physical Science”. Co-sponsored by the Philosophy Department.

## (Selected) PROFESSIONAL ORGANIZATIONS AND ACTIVITIES

### (Selected) Offices, Committees & Editorial Work:

Governing Board of the Philosophy of Science Association (1986-1989)  
 Philosophy of Science Association 1990 Program Committee  
 Editorial Board of *Philosophy of Science* 1985-99; 2005-2009  
 Nominations Committee, Philosophy of Science Association 1992  
 Chair, Design committee, Philosophy of Science Association 1995-7

Vice President of the Division of Logic, Methodology, and Philosophy of Science of the International Union of History and Philosophy of Science: 2000-2003.

Lakatos Prize Award Committee: 1999-2002, 2003-present

Ethics Review (U.S. member), the International Congress of Scientific Unions: 2003-2006

*Frequentist Analysis Group for The Reproducibility project.* This is an international effort to systematically study published work in psychology and other fields to improve reproducibility and statistical fraud detection.

Member of *American Statistical Association (ASA) advisory working group on P-value principles.*

*Discussant* at a small (30 representatives from different fields) one day workshop to help set an agenda for the emerging field of meta-science. San Francisco. (July 8, 2018).

Member of the [Scientific Committee](#) for Philosophy "in" Biology and Medicine International [Network](#) (PhilInBioMed). (May 3, 2019)

*Member of Scientific Advisory Board for Metascience 2019 Symposium:* This symposium serves as a formative meeting for metascience as a discipline.  
<https://www.metascience2019.org/>

I have been associate editor for Risk: Health, Safety & Environment  
 Associate Editor: Journal of Economic Methodology

I have most often reviewed manuscripts, book proposals, and grants for the following journals, presses and agencies: Philosophy of Science, The British Journal for the Philosophy of Science, Synthese, American Statistician, Entropy, Foundations of Science, Science, Technology and Human Values, Erkenntnis, European Journal of Philosophy of Science, American Statistician, Journal of the American Statistical

Association (JASA); NSF Scholars Awards, NEH; book manuscripts from Oxford, Cambridge

Program Committees: Philosophy of Scientific Experiment (PSX) conferences: 2009-present; Formal Epistemology Workshop (FEW) 2017.

*Mentorship:* (2019) Orestis Tsinalis, Principal Data Scientist, Chief Data Office, Aberdeen Standard Investments (44) 2074 63 6076, [aberdeenstandard.com](http://aberdeenstandard.com)

NEH panel member for research awards in Humanities: Summer 2011.

### **Edited Special Conference & Topic Related Journal Issues**

“Error and Methodology in Practice,” special issue of *Synthese* 163(3), (2008) from the E.R.R.O.R. 06 conference. Co-edited with Kent Staley and Jean A. Miller.

“Statistical Science and Philosophy of Science: Where Do (Should) They Meet in 2011 (and Beyond?),” special issue of *Rationality, Markets and Morals: Studies at the Intersection of Philosophy and Economics (RMM)* Vol. 2 (2011) and Vol. 3(2012) from the conference of the same name. Co-edited with Aris Spanos and Kent Staley.

“Ontology and Methodology” *Synthese* 192(11), (2015) from the Ontology and Methodology 2013 conference. Co-edited with Lydia Patton and Ben Jantzen.

“Recent Issues in Philosophy of Statistics: Evidence, Testing, and Applications” special topic issue of *Synthese* (forthcoming). Co-edited with Molly Kao and Elay Shech.

### **Memberships:**

American Philosophical Association, Philosophy of Science Association, Sigma Xi, British Society for Philosophy of Science, American Statistical Association, American Association for the Advancement of Science