

# PHILOSOPHY OF SCIENCE ASSOCIATION PROGRAM

## November 6 – 9, 2014

### Chicago, Illinois

Please be sure to read the printed errata for any updates to this program. Further updates and information during the meeting will be announced on the HSS Twitter feed (@hssonline), using hashtag #hsspsa14.

Sessions will be held on four floors of the hotel. The levels are included with the room for each session on the program. The rooms are also named with a common theme for each floor:

- 2<sup>nd</sup> level – The Great Lakes
- 3<sup>rd</sup> Level – Parks in Chicago
- 5<sup>th</sup> Level – Streets bordering Wrigley Field
- 16<sup>th</sup> Level – Chicago Ballroom

Fret not if your session is in one of the Wrigley Field rooms. Wrigley Field has proven to be quite kind to visitors for more than 100 years.

**Childcare/Nursing Mothers Room:** Waveland, on the 5<sup>th</sup> level, has been designated as a childcare/nursing mothers room for the duration of the meeting. There will be a section of the room screened off for more privacy.

The hours for the book exhibit and registration desk are as follows:

#### Registration Desk

- Thursday, 10:00 AM – 6:00 PM  
Great Lakes Ballroom Foyer
- Friday, 8:00 AM – 5:00 PM  
Outside Superior East
- Saturday, 8:00 AM – 5:00 PM  
Outside Superior East
- Sunday, 8:00 – 12:00 PM  
Outside Superior East

#### Book Exhibit

- Thursday, 6:30 PM – 8:45 PM  
Great Lakes Ballroom A and Foyer
- Friday, 8:00 AM – 5:00 PM  
Great Lakes Ballroom A and Foyer
- Saturday, 8:00 AM – 5:00 PM  
Great Lakes Ballroom A and Foyer
- Sunday, 8:00 AM – 11:00 AM  
Great Lakes Ballroom and Foyer

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## Wednesday November 5

4:30 PM - 7:30 PM

**Meeting of the PSA Governing Board**

*Parks Boardroom – Level 3*

## Thursday November 6

**9:00 AM - 1:00 PM**

### **Meeting of the PSA Governing Board**

*Parks Boardroom – Level 3*

**Session 1 (1:30 PM - 3:00 PM)**

### **Contributed Papers: Mathematics and Complexity**

*Superior East – Level 2*

- Otavio Bueno (University of Miami): What Does a Mathematical Proof Really Prove?
- Nicolas Fillion (Simon Frasier University) and Sorin Bangu (University of Bergen): Solutions in the Mathematical Sciences and Epistemic Hierarchies
- Cyrille Thomas Imbert (Archives Poincaré, CNRS, Université de Lorraine): Realism about the complexity of physical systems without realist commitments to their scientific representations

Chair: Andrew M. Winters (University of South Florida)

### **Contributed Papers: Explanation in Physics**

*Huron C - Level 2*

- Michael E. Cuffaro (LMU Munich): How-Possibly Explanations in Quantum Computer Science
- Chris Pincock (Ohio State University): Newton, Laplace and Salmon on Explaining the Tides
- Lina Jansson (Nanyang Technological University): Making Room for Explanatory Fictions within Realism

Chair: Armond Duwell (University of Montana)

### **Contributed Papers: Realism and Unconceived Alternatives**

*Great Lakes B - Level 2*

- P. Kyle Stanford (University of California, Irvine): Catastrophism, Uniformitarianism, and a Realism Dispute that Makes a Difference
- Matthew S. Sample (University of Washington): Stanford's Unconceived Alternatives from the Perspective of Epistemic Obligations
- Greg Frost-Arnold (Hobart and William Smith Colleges): Should a Historically Motivated Anti-Realist be a Stanfordite?

Chair: Jonathan Rosenberg (University of Washington)

## **Contributed Papers: Mechanistic Explanations in Biology**

*Michigan Ballroom II - Level 2*

- William Bechtel (University of California, San Diego): Biological Mechanisms Don't Exist Except as Theoretical Posits
- Derek John Skillings (CUNY): Mechanistic Explanation of Biological Processes
- Justin Garson (Hunter College – CUNY): Why (a Form of) Function Indeterminacy is Still a Problem for Biomedicine, and How Seeing Functional Items as Components of Mechanisms Can Solve it

Chair: Lindley Darden (University of Maryland)

## **Contributed Papers: Phylogeny and Taxonomy**

*Superior West - Level 2*

- Bengt Autzen (London School of Economics): The Star Tree Paradox in Bayesian Phylogenetics
- Lucas John Matthews (University of Utah): Embedded Mechanisms and Phylogenetics
- P.D. Magnus (University at Albany SUNY): What the 19th Century Knew about Taxonomy and the 20th Century Forgot

Chair: Wes Anderson (Arizona State University)

## **Contributed Papers: Contingency**

*Washington Park II – Level 3*

- Hayley Clatterbuck (University of Wisconsin, Madison): Contingency and the Origin of Life
- Stefan Linquist (University of Guelph): Against Lawton's Contingency Thesis, or, Why the Reported Demise of Community Ecology is Greatly Exaggerated
- Jake Wright (University of Missouri): The Moral of the Story: What Does the Evolutionary Contingency Thesis Teach Us About Biological Laws?

Chair: Francesca Merlin (IHPST, Université Paris 1)

## **Contributed Papers: Psychology and Neuroscience**

*Grant Park – Level 3*

- Guillermo Del Pinal (Ruhr Universität Bochum) and Marco J. Nathan (University of Denver): Bridge Laws and the Psycho-Neural Interface
- Uljana Feest (Leibniz Universität Hannover): Physicalism, Introspection, and Psychophysics: The Carnap/Duncker Exchange
- Elena Walsh (The University of Sydney): Top-Down 'Causation' and Developmental Explanation

Chair: Luis H. Favela (University of Cincinnati)

### **Contributed Papers: Individuality and Indiscernibility in Quantum Mechanics**

*Erie – Level 2*

- Joshua Norton (University of Illinois at Chicago): Weak Discernibility and Relations Between Quanta
- Benjamin Jantzen (Virginia Tech): Why Talk about 'Non-Individuals' Is Meaningless
- Tomasz Bigaj (University of California, San Diego): Quantum Particles, Individual Properties, and Discernibility

Chair: F. A. Muller (Erasmus University Rotterdam and Utrecht University)

### **Contributed Papers: Values, Underdetermination, and Risk**

*Great Lakes C – Level 2*

- Daniel J. Hicks (Western University): Genetically Modified Crops and the Underdetermination of Evidence by Epistemology
- Ingo Brigandt (University of Alberta): Social Values Influence the Adequacy Conditions of Scientific Theories: Beyond Inductive Risk
- Brandon Holter (University of Calgary): Rudner's Challenge and the Epistemic Significance of Inductive Risk

Chair: Susann Wagenknecht (IUPUI)

### **Contributed Papers: Locality, Entanglement, and Information**

*Huron B – Level 2*

- Gábor Hofer-Szabó (Hungarian Academy of Sciences) and Péter Vecsernyés (Hungarian Academy of Sciences): Bell's Local Causality for Philosophers
- Malcolm Forster (University of Wisconsin, Madison): How the Quantum Sorites Phenomenon Strengthens Bell's Argument
- Olimpia Lombardi (CONICET/University of Buenos Aires), Sebastian Fortin (CONICET/University of Buenos Aires), and Leonardo Vanni (CONICET/University of Buenos Aires): A Pluralist View about Information

Chair: David Glick (University of Rochester)

### **HSS Session: Histories of Evolutionary Thought between Science and Philosophy**

*Great Lakes D – Level 2*

- Greg Priest (Stanford University): Charles Darwin's Theory of Moral Sentiments: What Darwin Really Borrowed from Adam Smith
- Aleta Quinn (University of Pittsburgh): William Whewell, Historical Scientist
- Trevor Pearce (University of North Carolina at Charlotte): Weismannism Comes to America: Pragmatism and Evolution in the 1890s
- Peter Collopy (University of Pennsylvania): Bergsonian Science: Creative Evolution in the Twentieth Century

Chair: Sabetai Unguru (University of Tel-Aviv)

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**Session 2 (3:15 PM - 5:15 PM)**

**Contributed Papers: Foundations of Probabilistic Inference**

*Garfield Park – Level 3*

- Jiji Zhang (Lingnan University) and Kun Zhang (Max Planck Institute for Intelligent Systems): Likelihood and Consilience: On Forster's Counterexamples to the Likelihood Theory of Evidence
- Greg Gandenberger (University of Pittsburgh): Why I am not a Methodological Likelihoodist
- Yann Benétreau-Dupin (Western University): Blurring Out Cosmic Puzzles
- Susanna Rinard (Harvard University): Imprecise Probability and Higher Order Vagueness

Chair: Theo Kuipers (University of Groningen)

**Contributed Papers: Confirmation Theory**

*Erie – Level 2*

- Daniel Malinsky (Carnegie Mellon University): Hypothesis Testing, "Dutch Book" Arguments, and Risk
- Kevin T. Kelly (Carnegie Mellon University), Konstantin Genin (Carnegie Mellon University), and Hanti Lin (Australian National University): A Topological Theory of Empirical Simplicity
- Aki Lehtinen (University of Helsinki): Derivational Robustness and Indirect Confirmation
- Benjamin Bewersdorf (University of Groningen): Total Evidence, Uncertainty, and A Priori Beliefs

Chair: Susan Vineberg (Wayne State University)

**Contributed Papers: Epistemology**

*Superior West - Level 2*

- Soazig Le Bihan (University of Montana) and Armond Duwell (University of Montana): Enlightening Falsehoods: A Modal View of Scientific Understanding
- Ioan Muntean (University of Notre Dame): Genetic Algorithms in Scientific Discovery: a New Epistemology?
- Susann Wagenknecht (Centre for Science Studies, AU): A Double Notion of Knowing and Knowledge
- Marion Vorms (University Paris 1): Spatial Representations in Science: Towards a Typology

Chair: Jason Leddington (Bucknell University)

**Contributed Papers: Mechanistic Explanation**

*Great Lakes B - Level 2*

- Tudor Baetu (University of Maryland): The Completeness of Mechanistic Explanations

- Marco Jacob Nathan (University of Denver) and Alan C. Love (University of Minnesota): The Idealization of Causation in Mechanistic Explanation
- Benjamin Sheredos (University of California, San Diego): Ontic Accounts of Explanation Cannot Support Norms of Generality and Systematicity
- Frédéric-I. Banville (Western University): Accounting for the Dynamics of Inquiry in Neuroscience

Chair: Stuart Glennan (Butler University)

### **Contributed Papers: Spacetime and Quantities**

*Huron B – Level 2*

- Zee R. Perry (New York University): Intensive and Extensive Quantities
- John Dougherty (University of California, San Diego): A Few Points on Gunky Space
- Jill North (Cornell University): The Structure of Spacetime: A New Approach to the Spacetime Ontology Debate
- Steven F. Savitt (University of British Columbia): I ♥ ♦s

Chair: Brian Woodcock (University of Wisconsin, Eau Claire)

### **Contributed Papers: Methodology across the Life Sciences**

*Superior East – Level 2*

- Jack Powers (University of Minnesota): Atrazine Research and the Criteria of Characterized Adequacy
- Irina Mikhalevich (Washington University in St. Louis): Experiment and Animal Minds: Why Statistical Choices Matter
- Ayelet Shavit (Tel Hai College): You Can't Go Home Again - or Can You? 'Replication' Indeterminacy and 'Location' Incommensurability in Three Biological Re-Surveys

Chair: Richard Burian (Virginia Tech)

### **Contributed Papers: Trials and Placebos**

*Washington Park II – Level 3*

- Bennett Holman (University of California, Irvine): Why Most Sugar Pills are not Placebos
- Jeremy Howick (University of Oxford) and John Worrall (London School of Economics): What Counts as a Placebo is Relative to a Target Disorder and Therapeutic Theory: Defending a Modified Version of Grünbaum's Scheme
- Spencer Phillips Hey (McGill University): Theory Testing and Implication in Clinical Trials
- Jonathan Fuller (University of Toronto): The Confounding Question of Confounding Causes in Randomized Trials

Chair: Serife Tekin (Daemen College)

## **Contributed Papers: Cognitive Neuroscience**

### *Great Lakes C – Level 2*

- Mikio Akagi (University of Pittsburgh): Going Against the Grain: Functionalism and Generalization in Cognitive Science
- Rosa Cao (NYU): Where Information Fades Away: Some Limitations of Informational Explanations in Neuroscience
- Maurice Lamb (University of Cincinnati) and Anthony Chemero (University of Cincinnati): Understanding Dynamical Models in Cognitive Science

Chair: Vanessa Bentley (University of Cincinnati)

## **Contributed Papers: Axiomatic and Heuristic Approaches to Quantum Field Theory**

### *Huron C - Level 2*

- Bihui Li (University of Pittsburgh): Coarse-Graining as a Route to Microscopic Physics: The Renormalization Group in Quantum Field Theory
- Jonathan Bain (NYU): Pragmatists and Purists on CPT Invariance in Relativistic Quantum Field Theories
- Michael Miller (University of Pittsburgh): Haag's Theorem and Successful Applications of Scattering Theory
- Michael Stoeltzner (University of South Carolina): On Virtues and Vices of Axiomatic Quantum Field Theory

Chair: Doreen Fraser (University of Waterloo)

## **Contributed Papers: Issues in Classical Physics**

### *Michigan Ballroom II - Level 2*

- Kirsten Walsh (University of Otago): Phenomena in Newton's *Principia*
- Marton Gomori (Eötvös University) and Laszlo E. Szabo (Eötvös University): How to Move an Electromagnetic Field?
- Charlotte Werndl (University of Salzburg) and Roman Frigg (London School of Economics): Rethinking Boltzmannian Equilibrium
- Conor Mayo-Wilson (LMU Munich): Structural Chaos

Chair: Eric Winsberg (University of South Florida)

## **HSS Session: Einstein and the Relation between Physics and Math**

### *Michigan Ballroom I – Level 2*

- John Norton (University of Pittsburgh): Einstein as the Greatest of the Nineteenth Century Physicists
- Michel Janssen (University of Minnesota) and Jürgen Renn (Max Planck Institute for the History of Science): Einstein's 1913 Vienna Lecture: Modeling Gravitational theory on Electrodynamics
- Jeroen van Dongen (Utrecht University): A Virtuous Theorist's Theoretical Virtues: Einstein on Physics vs. Mathematics and Experience vs. Unification

- Christoph Lehner (Max Planck Institute for the History of Science): Einstein's Realism between Mathematics and Physics

Chair: Diana Buchwald (Einstein Papers Project, California Institute of Technology)

### **HSS Session: Contingency in Early Modern Science and Natural Philosophy**

*Millennium Park – Level 3*

- Pietro Daniel Omodeo (Max Planck Institute for the History of Science): Secundum quid and Determined Necessity in Scholastic and Early Modern Mechanics
- Rodolfo Garau (Max Planck Institute for the History of Science): Contingency and Laws of Nature in Descartes's Physics
- Jonathan Regier (Université Paris 7 – Diderot): Kepler on Contingency and Matter
- Ofer Gal (University of Sydney): Contingency in the Universe of Precision
- Jürgen Renn (Max Planck Institute for the History of Science): Commentary

Chair: Jürgen Renn (Max Planck Institute for the History of Science)

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**5:30 PM - 6:30 PM**

### **Meet the Editors: Inside the Journal *Philosophy of Science***

*Erie – Level 2*

- Jeffrey Barrett (*Philosophy of Science* Editor-in-Chief, former PSA Program Chair)
- Andrea Woody (*Philosophy of Science* Associate Editor, former PSA Program Chair)

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**History of Science Society Plenary Session (5:30 PM - 7:00 PM)**

### **Bounded Rationality and the History of Science (Chicago Ballroom – Level 16)**

Chair and Commentator: Lorraine Daston (Max Planck Institute for the History of Science)

Organizer: Colin Webster (Columbia University/University of California, Davis)

- Stephanie Dick (Harvard University): Looking for Limits: Configuring Minds, Mathematics, and Machines in the Mid-Twentieth Century
- Henry Cowles (Princeton University): Hypothesis Bound: Trial and Error in the Nineteenth Century
- William Deringer (Columbia University): Financial Bubbles and the Boundaries of Economic Rationality in the Past
- Colin Webster (Columbia University/University of California, Davis): Heuristic Medicine: the Methodists and Galen



7:00 PM - 8:30 PM

## Joint PSA/HSS Opening Reception

*Great Lakes Ballroom – Level 2*

Concurrently in adjacent area:

### Activities for Social Engagement

Organized by the Joint Caucus for Socially Engaged  
Philosophers and Historians of Science

Conveners: Sandy Mitchell, Jane Maienschein, Rachel Ankeny,  
Dawn Digrius, and Julia Bursten

- **Podcasts** with Carla Nappi (University of British Columbia)
- **Science museums and exhibitions** with Kate MacCord (Arizona State University) and Erica O’Neil (Arizona State University)
- **Engaging Federal agencies and committees** with Lee Zwanziger (U.S. Food and Drug Administration)
- **Instant HPS: Short Videos for a general audience** with Sandy Mitchell (University of Pittsburgh), John Norton (University of Pittsburgh), and Trey Boone (University of Pittsburgh)
- **Using social media (e.g. Facebook and Twitter) to get out the message** with Paige Madison (Arizona State University) and Steve Elliott (Arizona State University)
- **Talking with the Press** with Naomi Oreskes (Harvard University)
- **How I got Inside the Beltway** with Jim Fleming (Colby College)
- **Communicating science on socially relevant topics** with Kevin Elliott (Michigan State University) and Dan McKaughan (Boston College)
- **Protecting at-risk people and consulting for federal agencies** with Kristin Shrader-Frechette (University of Notre Dame), Dustin Crummett (University of Notre Dame), Emily Spencer (University of Notre Dame), Rebecca Thomas (University of Notre Dame), and Christopher Glueck (Indiana University)
- **Deliberative and participatory projects on food value** with Rachel Ankeny (University of Adelaide) and Heather Bray (University of Adelaide)
- **Toolbox Project** with Michael O’Rourke (Michigan State University), Sean Valles (Michigan State University), and Chad Gonnerman (University of Southern Indiana)
- **Library Talks for the public** with Dan Hicks (Western University)
- **(History of) Science Cafes** with Jessica Baron (History of Science Society/University of Notre Dame)

**8:45 PM - 10:00 PM**

**HSS/PSA Graduate Student and Early Career Mixer**

*The Grill on the Alley Restaurant*

Join the PSA and GECC for an early careerists mixer following the opening night reception. Appetizers will be provided.

Sponsored by the Center for Philosophy of Science at the University of Pittsburgh

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OF SCIENCE**

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**Friday November 7**

**7:45 AM – 8:45 AM**

***Philosophy of Science* Editorial Board Meeting**

*Parks Boardroom – Level 3*

**Session 3: 9:00 AM - 11:45 AM (Break from 10:00 AM – 10:15 AM)**

**Symposium: Learning from Others**

*Huron B – Level 2*

- Mikaël Cozic (Paris-Est, IUF and IHPST): Opinion Pooling and Bayesian Updating
- Jan-Willem Romeijn ( University of Groningen): Pooling and Voting: Trust as Truth-Conduciveness
- Denis Bonnay (ENS Paris): Pooling, Partial Updates, and Independence
- Olivier Roy (Bayreuth): All Agreed: DeGroot Meets Aumann
- Richard Bradley (LSE): Learning from Others: Conditioning vs. Averaging

Chair: Simon Huttegger (University of California, Irvine)

**Symposium: Measuring What?**

*Superior West - Level 2*

- Eran Tal (University of Cambridge): Measurement, Models and Coherence
- Anna Alexandrova (University of Cambridge) and Dan Haybron (St. Louis University): Is Construct Validity Valid?
- Leah McClimans (University of South Carolina) and Erik Angner (George Mason University): Measurement in Medicine

- Jacob Stegenga (University of Utah): Measuring Effectiveness
- Chair: Brian Hood (University of West Florida)

### **Symposium: Perspectivism**

*Great Lakes B - Level 2*

- Michela Massimi (University of Edinburgh): Making Realism Perspectival
- Paul Teller (University of California, Davis): Perspectival Realism?
- Mazviita Chirimuuta (University of Pittsburgh): Vision, Perspectivism, and Haptic Realism
- Sandra D. Mitchell (University of Pittsburgh): Perspectives, Representation and Integration
- Ronald N. Giere (University of Minnesota): Philosophical Perspectivism

Chair: Werner Callebaut (Konrad Lorenz Institute)

### **Symposium: Scientific Method Revisited**

*Millennium Park – Level 3*

- Elliott Sober (University of Wisconsin, Madison): Is the Question of Global Versus Local Theories of Scientific Inference a Pseudo-Problem? The Test Case of Parsimony
- Clark Glymour (Carnegie Mellon University): Reliable (?) Methods for Finding Reliable Methods
- Samuel Schindler (Aarhus University): On the Necessity of a Scientific Method
- Ioannis Votsis (Düsseldorf Center for Logic and Philosophy of Science): Principia Universalis
- Nancy Cartwright (University of California, San Diego and Durham University): Loose Talk Kills: What's Worrying about Unity of Method

Chair: Paul Roth (University of California, Santa Cruz)

### **Symposium: Agnotology—Its Untapped Potential**

*Huron A – Level 2*

- Miriam Solomon (Temple University): Hermeneutical Injustice and Agnotology: The Case of the Disappearance of Asperger's Syndrome
- Martin Carrier (Bielefeld): Agnotological Challenges: Coping with Biases in Research Direction and Assessment
- Michael Friedman (Stanford): How Ignorance Makes Morality Possible: Kant on the Limits of Scientific Knowledge
- Janet Kourany (Notre Dame): Should Some Knowledge Be Forbidden? The Case of Cognitive Differences Research

Chair: Manuela Fernández Pinto (University of Helsinki)

### **Symposium: What's New in Network Analysis?**

*Great Lakes C – Level 2*

- Danielle S. Bassett (University of Pennsylvania): Human Brain Network Dynamics
- Carl F. Craver (Washington University): Graphing the Brain's Dark Energy: How Network Analysis Contributes to Our Mechanistic Understanding of Complex Systems.
- Philippe Huneman (Université Paris I Sorbonne): Network Analysis and Mechanistic Models in Community Ecology: Is Realism the Crucial Difference?
- Sonia Kéfi (Université de Montpellier 2): Ecological Networks – Challenges and Opportunities
- Daniel Kostic (University of Belgrade): Does Network Analysis Provide a Novel Kind of Topological Explanations in Life and Brain Sciences?

Chair: David Barack (University of Pennsylvania)

### **Symposium: Complex Life Cycles, Reproduction and Evolution**

*Michigan Ballroom II - Level 2*

- Peter Godfrey-Smith (CUNY): Complex Life Cycles and the Evolutionary Process
- Matthew D. Herron (University of Montana): Fitness and Individuality in Complex Life Cycles
- Maureen A. O'Malley (University of Sydney): Reproduction without Bottlenecks: Multilineal Units of Evolution
- James R. Griesemer (University of California, Davis): Life Cycle Complexity: Reproducing Systems and their Developmental Contexts

Chair: Thomas Pradeu (Paris-Sorbonne University)

### **Symposium: Conceptions of Space, Time and Spacetime**

*Lincoln Park – Level 3*

- Gordon Belot (University of Michigan): Does Time Flow Equally in General Relativity?
- Jeremy Butterfield (Trinity College, Cambridge) and Sebastian De Haro (University of Amsterdam): Two Kinds of Under-Determination of Spacetime Structure
- John Manchak (University of California, Irvine): On Gödel and the Ideality of Time
- Philip Ehrlich (Ohio University): Are Points (Necessarily) Unextended?

Chair: Carolyn Brighthouse (Occidental College)

### **Symposium: Putting Pressure on Human Nature**

*Huron C - Level 2*

- Heidi Colleran (University College, London): Fertility Decline and Human Reproductive Decision-Making: Can the 'Central Theoretical Problem of Human Sociobiology' Tell us Anything about an Evolved Human Psychology?
- Stephen M. Downes (University of Utah): Confronting Variation in the Social and Behavioral Sciences

- Matt Haber (University of Utah): Paradigmatic People
- Tim Lewens (University of Cambridge): What is Human Nature Good for?

Chair: Matthew Kopec (Northwestern University)

### **Symposium: Newton, Mathematics, and Mechanism**

*Superior East – Level 2*

- Mary Domski (University of New Mexico): Mechanics in Geometry and in Natural Philosophy: Newton's Programmatic Statement against Descartes
- Andrew Janiak (Duke): Newton's Surprising Struggle with Mechanistic Thinking
- Eric Schliesser (Ghent): Newton's Taxonomic Science
- Zvi Biener (University of Cincinnati): Newton, the Galilean Tradition, and the Foundations of Mechanics

Chair: Katherine Brading (University of Notre Dame)

### **HSS Session: What Chemistry Has Brought to Philosophy: Philosophical and Historical Perspectives**

*Great Lakes E – Level 2*

- Alfred Nordmann (Technische Universität Darmstadt): Similarities – What Chemistry Brings to the Philosophy of Technoscience
- Minwoo Seo (University of Cambridge): Know-how and Know-that as a Tool Kit
- Jean-Pierre Noël Llored (Ecole Polytechnique): Reconceptualizing Emergence from Chemistry: Connecting Continental and Analytic Philosophy
- Ronan De Calan (Université Paris 1 Panthéon Sorbonne): "Chemical Analysis and the Analysis of Mind: Elements for a Prehistory of Psychology
- Bernadette Bensaude-Vincent (Université Paris 1 – Panthéon Sorbonne, France): Commentary

Co-Chairs: Hasok Chang (University of Cambridge) and Yoshiyuki Kikuchi (The Graduate University for Advanced Studies, [SOKENDAI], Japan)

### **HSS Session: History of Interdisciplinarity: What We Do and Do Not Know – and Why it Matters**

*Grant Park – Level 3*

- Hanne Andersen (Aarhus University), Anne Markovich (University of Paris IV), and Terry Shinn (University of Paris IV/CNRS): Disciplinarity Studies and the 'New Disciplinarity' in Nanoscale Scientific Research
- Henrik Kragh Sørensen (Aarhus University): Mathematics and the Sciences: Two-Way Interdisciplinarity
- Kristian Hvidtfeldt Nielsen (Aarhus University): Interdisciplinarity in Mission-Oriented Military Research: The Case of US Military Research Activities in Greenland during the Cold War
- Julia Bursten (University of Pittsburgh): Boundary Work: Nanoscience Meets Philosophy at Material Surfaces

- Ronald E. Doel (Florida State University): What We Know (and particularly do not yet know) About Twentieth Century Interdisciplinary Science

Chair: Hanne Andersen (Aarhus University)

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**(12:00 PM - 1:15 PM)**

### **Q&A Session Concerning NSF's Newly Published STS Program Solicitation**

*Superior East – Level 2*

- Fred Kronz (National Science Foundation)

The solicitation should be published by Nov 7<sup>th</sup>; if not, this will be a Q&A session about the funding opportunities for historians and philosophers of science at NSF including the STS program and other programs.

### **Open Access – What's Next?**

*Huron A – Level 2*

Sponsored by the History of Science Society

- Mary Ellen Davis, Executive Director, Association of College and Research Libraries
- Michael Magoulias, Director, University of Chicago Press Journals Division
- H. Floris Cohen, Editor, History of Science Society
- Steven Wheatley, Vice President, American Council of Learned Societies

### **Roundtable: The Ontological Turn: Ian Hacking and the History of Science**

*Grant Park – Level 3*

Sponsored by the History of Science Society

Organizers: Henry Cowles (Yale University) and Laura Stark (Vanderbilt University)

- “Human Kinds,” Henry Cowles (Yale University)
- “Translated Kinds,” Carla Nappi (University of British Columbia)
- “Natural Kinds,” Lukas Rieppel (Brown University)
- “Moral Kinds,” Laura Stark (Vanderbilt University)
- Commentary, John Zammito (Rice University)

### **Forum for the History of Science in America, Distinguished Lecture and Business Meeting**

*Michigan Ballroom I (Level 2)*

- “Why I Am a Presentist,” Naomi Oreskes (Harvard University)

## Session 4 (1:30 PM - 3:30 PM)

### Symposium: Principal Principle

*Michigan Ballroom II - Level 2*

- Richard Pettigrew (University of Bristol): Accuracy-based Arguments for Chance-Credence Norms
- Zalan Gyenis (Hungarian Academy of Sciences) and Miklos Rédei (London School of Economics): Measure Theoretic Analysis of Consistency of the Principal Principle
- Ittay Nissan-Rozen (Hebrew University): Contrastive Explanations, Crystal Balls and the Inadmissibility of Historical Information
- Carl Hoefer (Western University): Commentary

Chair: James Joyce (University of Michigan)

### Contributed Papers: Game and Decision Theory

*Superior East – Level 2*

- Alexandru Marcoci (London School of Economics): Solving the Absentminded Driver Problem Through Deliberation
- J. McKenzie Alexander (London School of Economics): Cheap Talk, Reinforcement Learning and the Emergence of Cooperation
- Jian Shen (City University of New York): Gradual Revelation: A Signaling Model
- Bennett Holman (University of California, Irvine) and Justin Bruner (Australian National University): The Problem of Intransigently Biased Agents

Chair: Patrick Forber (Tufts University)

### Contributed Papers: Varieties of Realism

*Great Lakes B - Level 2*

- Alberto Cordero-Lecca (City University of New York): Where's the Beef? Selective Realism and Truth-Content Identification
- Leah Henderson (Carnegie Mellon University): Should the Debate over Scientific Realism Go Local?
- Boaz Miller (Tel Aviv University): What is Hacking's Argument for Entity Realism Anyway?
- Dana Tulodziecki (Purdue University): Realist Continuity, Approximate Truth, and the Pessimistic Meta-Induction

Chair: K. Brad Wray (SUNY Oswego)

### Contributed Papers: Mechanisms in Neuroscience

*Lincoln Park – Level 3*

- Carlos Zednik (University of Osnabrueck): Are Systems Neuroscience Explanations Mechanistic?
- Mark Povich (Washington University in St. Louis): Mechanisms and Model-Based fMRI

- Joseph B. McCaffrey (University of Pittsburgh): Neural Multi-Functionality and Mechanistic Role Functions
- Colin Klein (Macquarie University): Brain Regions as Difference-Makers

Chair: Catherine Stinson (Ryerson University)

### **Contributed Papers: Metaphysics**

*Huron B – Level 2*

- Olin Matthew Robus (University of Washington): Does Science License Metaphysics?
- Luke Fenton-Glynn (University College, London): Ceteris Paribus Laws and Minutis Rectis Laws
- Michael Townsen Hicks (Rutgers University): Solving the Coordination Problem
- Tarja Knuuttila (University of South Carolina): Abstract and Concrete: Towards an Artifactual Theory of Fiction in Science

Chair: Joshua Filler (Ripon College)

### **Contributed Papers: Fitness, Individuals and Kinds**

*Huron A – Level 2*

- Charles H. Pence (Louisiana State University) and Grant Ramsey (University of Notre Dame): Is Organismic Fitness at the Basis of Evolutionary Theory?
- Harold Kincaid (University of Cape Town): Open Empirical and Methodological Issues in the Individualism-Holism Debate
- Karen Kovaka (University of Pennsylvania): Biological Individuality and Scientific Practice
- Matthew H. Slater (Bucknell University): In Favor of the (Possible) Reality of Race

Chair: Sun Kyeong Yu (Minnesota State University, Mankato)

### **Contributed Papers: Evolved Minds**

*Huron C - Level 2*

- Yasha Rohwer (University of Missouri): Iterated Theory of Mind and the Evolution of Human Intelligence
- Elizabeth O'Neill (University of Pittsburgh): Which Causes of Moral Beliefs Matter
- Isaac Wiegman (Washington University in St. Louis): Evidential Criteria of Homology: Adjudicating Competing Homology Claims

Chair: Gary Hardcastle (Bloomsburg University)

### **Contributed Papers: Spacetime in Relativity and Beyond**

*Millennium Park – Level 3*

- James Brian Pitts (University of Cambridge): Historical and Philosophical Insights about General Relativity and Space-time from Particle Physics
- Craig Callender (University of California, San Diego) and Christian Wüthrich (University of California, San Diego): What Becomes of a Causal Set



- Nick Huggett (University of Illinois at Chicago) and Tiziana Vistarini (Rutgers University): Deriving General Relativity from String Theory
- Syman Stevens (University of Oxford): The Dynamical Approach as Practical Geometry

Chair: Edward Slowik (Winona State University)

### **Contributed Papers: Idealizations in Physics**

*Great Lakes C – Level 2*

- Martin King (University of Guelph): Idealization and Explanation in Physics
- Elay Shech (University of Pittsburgh): Can an Idealization be Essential?
- Julie Jebeile (University Paris 4) and Ashley Graham Kennedy (Florida Atlantic University): Idealization in the Process of Model Explanation

Chair: Andrew Wayne (University of Guelph)

### **Contributed Papers: Confirmation in Scientific Practice**

*Superior West - Level 2*

- Ann-Sophie Barwich (The KLI Institute): A Fine Nose for Timeliness: The Discovery of the Olfactory Receptors and the Question of Novelty
- Adrian Wüthrich (Technische Universität Berlin): The Higgs Discovery as a Diagnostic Causal Inference
- Molly Kao (Western University): Unification in the Old Quantum Theory
- Wolfgang Pietsch (Technische Universität München): Aspects of Theory-Ladenness in Data-Intensive Science

Chair: Richard DeWitt (Fairfield University)

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## **Session 5 (4:00 PM - 6:00 PM)**

### **Contributed Papers: Bayesianism**

*Great Lakes C – Level 2*

- Olav Benjamin Vassend (University of Wisconsin, Madison): Confirmation Measures and Sensitivity
- Kevin Coffey (NYU, Abu Dhabi): Quine-Duhem through a Bayesian Lens
- Stephan Hartmann (LMU Munich): A New Solution to the Problem of Old Evidence
- Ilho Park (Chonbuk National University): Conditionalization and Credal Conservatism

Chair: Brad Armendt (Arizona State University)

### **Contributed Papers: Formal Models in Biology**

*Huron A – Level 2*

- Simon M. Huttegger (University of California, Irvine), Justin P. Bruner (University of California, Irvine), and Kevin J.S. Zollman (Carnegie Mellon University): The Handicap Principle is an Artifact
- Hannah Rubin (University of California, Irvine): The Phenotypic Gambit

- Bryan Chambliss (University of Arizona): Optimality and Bayesian Perceptual Systems
- Marshall Abrams (University of Alabama at Birmingham): Coherence, Muller's Ratchet, and the Maintenance of Culture

Chair: Yoichi Ishida (Ohio University)

### **Contributed Papers: Measurement and Data**

*Sheffield – Level 5*

- Teru Miyake (Nanyang Technological University): Reference Models: Using Models to Turn Data into Evidence
- Conrad Heilmann (Erasmus University): A New Interpretation of the Representational Theory of Measurement
- James Nguyen (London School of Economics): Why Data Models do not Supply the Target Structure Required by the Structuralist Account of Scientific Representation
- Sabina Leonelli (University of Exeter): What Counts as Scientific Data? A Relational Framework

Chair: John Huss (University of Akron)

### **Contributed Papers: Explanation**

*Superior West - Level 2*

- Andrea I. Woody (University of Washington): Re-orienting Discussions of Scientific Explanation: A Functional Perspective
- James Alexander Overton (Independent Scholar): Explanation in Science
- Rune Nyrupe (Durham University): How Explanatory Reasoning Justifies Pursuit: A Peircean View of IBE

Chair: Joseph Pitt (Virginia Tech)

### **Contributed Papers: Causation**

*Lincoln Park – Level 3*

- David Danks (Carnegie Mellon University): The Mathematics of Causal Capacities
- Totte Harinen (King's College London): Normal Causes for Normal Effects
- Maria Kronfeldner (Bielefeld University): When Specificity Trumps Proximity

Chair: James Woodward (University of Pittsburgh)

### **Contributed Papers: Psychiatry**

*Huron C - Level 2*

- Nicholas Gaddis Zautra (Indiana University Bloomington): Embodiment, Interaction, and Experience: Toward a Comprehensive Model in Addiction Science
- Kathryn Tabb (University of Pittsburgh): Psychiatric Progress and the Assumption of Diagnostic Discrimination
- Kari L. Theurer (Trinity College): More Information, Better Explanations: Reductionism in Biological Psychiatry

- Anke Bueter (Leibniz University Hannover): Is it Time for an Etiological Revolution in Psychiatric Classification?

Chair: Jonathan Tsou (Iowa State University)

### **Contributed Papers: Methodology in the Social Sciences**

*Huron B – Level 2*

- Rosa Willemijn Runhardt (London School of Economics): Evidence for Causal Mechanisms in Social Science: Recommendations from Woodward's Manipulability Theory of Causation
- Robert Northcott (Birkbeck College, London): Opinion Polling and Election Predictions
- Alexandre Marcellesi (University of California, San Diego): External Validity: Is There Still a Problem?
- Chiara Lisciandra (Tint Centre of Excellence in the Philosophy of the Social Sciences): Robustness Analysis as a Non-empirical Confirmatory Practice

Chair: Wenceslao J. Gonzalez (University of A Coruña, Spain)

### **Symposium: Newtonian Relativity**

*Millennium Park – Level 3*

- George E. Smith (Tufts University): Newtonian Relativity: An Understressed Corollary, an Unnoticed Manuscript
- Robert DiSalle (Western University): The Newtonian Theory of Relativity
- Craig W. Fox (Western University): In Pursuit of Foundations
- Howard Stein (University of Chicago): Commentary

Chair: William Harper (Western University)

### **Contributed Papers: Science and Public Policy**

*Great Lakes B - Level 2*

- Matthew J. Brown (The University of Texas at Dallas) and Joyce C. Havstad (Field Museum of Natural History): The Disconnect Problem in Science and Policy
- Arnon Keren (University of Haifa): Science and Informed, Counterfactual, Democratic Consent
- Till Grüne-Yanoff (Royal Institute of Technology (KTH)): Why Behavioural Policy Needs Mechanistic Evidence
- Stephanie Ruphy (Université Pierre Mendès-France): Which forms of limitation of the autonomy of science are epistemologically acceptable (and politically desirable)?

Chair: Kevin Elliott (Michigan State University)

### **Contributed Papers: Measurement Problem and Primitive Ontology**

*Superior East – Level 2*

- Joshua Rosaler (University of Minnesota): Is de Broglie-Bohm Theory Specially Equipped to Recover Classical Behavior?

- Charles Thorne Sebens (University of Michigan, Ann Arbor): Killer Collapse: Empirically Probing the Philosophically Unsatisfactory Region of GRW
  - Vincent Lam (University of Lausanne): In Search of a Primitive Ontology for Quantum Field Theory
  - Thomas Pashby (University of Pittsburgh): Quantum Mechanics for Event Ontologists
- Chair: Alyssa Ney (University of Rochester)

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**6:15 PM - 7:15 PM**

**Bridging the Philosophy/Science Divide: Getting Philosophy of Science Heard in Science Communities**

*Erie – Level 2*

**Panelists:**

- Carole J. Lee (University of Washington)
- Sandra Mitchell (University of Pittsburgh)
- Elliott Sober (University of Wisconsin, Madison)
- James O. Weatherall (University of California, Irvine)

**HSS Distinguished Lecture**

*Michigan Ballroom – Level 2*

Keith Wailoo (Princeton University):  
Science and the Political History of Pain



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**7:15 PM - 8:15 PM**

**PSA Reception**

*Chicago Ballroom – Level 16*

Cash bar and light hors d'oeuvres



Sponsored by the Department of Logic and Philosophy of Science at University of California, Irvine

**8:00 PM -9:30 PM**

**Everything You Wanted to Know About Negotiating a Job Offer, but Were Afraid to Ask**

*Huron A – Level 2*

Sponsored by the HSS Graduate and Early Career Caucus

Presenter: Erin Thomas, Yale University

Chair and Organizer: Bridget Collins, University of Wisconsin-Madison

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## Saturday November 8

**7:00 AM - 8:45 AM**

**PSA Womens' Caucus Breakfast Meeting**

*Chicago Ballroom – Level 16*

All are welcome. Breakfast and socializing begins at 7:00 AM. The meeting will begin promptly at 7:30.

Sponsored by the Minnesota Center for Philosophy of Science



**Session 6: 9:00 AM – 11:45 AM (Break from 10:00 AM – 10:15 AM)**

Coffee break in the Great Lakes Ballroom Foyer – Level 2

**Symposium: Formal Methods**

*Great Lakes B - Level 2*

- Hans Halvorson (Princeton University): Categories of Scientific Theories
- Sahotra Sarkar (University of Texas at Austin): Models and Theories in Evolutionary Biology
- Thomas W. Barrett (Princeton University): How to Count Structure
- James O. Weatherall (University of California, Irvine): Understanding Gauge

Chair: Benjamin Feintzeig (University of California, Irvine)

## **Contributed Papers: Modeling and Simulation**

*Huron C - Level 2*

- Roberto Fumagalli (University of Bayreuth & London School of Economics): No Learning from Minimal Models
- Sherrilyn Roush (King's College London): The Epistemic Superiority of Experiment to Simulation
- Anna-Mari Rusanen (University of Helsinki): On Relevance
- Alisa Bokulich (Boston University): Frankenmodels, Or a Cautionary Tale of Coupled Models in the Earth Sciences
- Emre Keskin (University of South Florida): Collective Success of Cosmological Simulations

Chair: Collin Rice (Lycoming College)

## **Symposium: Non-Causal Explanation in the Sciences**

*Lincoln Park – Level 3*

- Holly Andersen (Simon Fraser University): Causal versus Non-causal Explanations: Competitors or Complements?
- Marc Lange (University of North Carolina, Chapel Hill): Two Kinds of Identity Explanations
- Alexander Reutlinger (LMU Munich): Scientific Explanation and Non-causal Dependence
- Lawrence Shapiro (University of Wisconsin, Madison): Mechanism or Bust? Explanation in Psychology and Neuroscience

Chair: Laura Ruetsche (University of Michigan)

## **Symposium: Beyond the Lab Experiment**

*Superior West - Level 2*

- Sharon Crasnow (Norco College): Mixed Methods in Political Science: Natural Experiments, Causal Process Observations, and Evidence for Use
- Roberta L. Millstein (University of California, Davis): Cause-finding practices in studies of ecological-evolutionary interactions
- Emily Parke (University of Pennsylvania): Experiments, Simulations, and Surprises
- Eric Desjardins and Marco Van De Wiel (Western University): Predicting, Explaining and Exploring with Computer Simulations in Geomorphology

Chair: Christopher Eliot (Hofstra University)

## **Symposium: 50 Years of Inclusive Fitness**

*Michigan Ballroom II – Level 2*

- Ullica Segerstrale (Illinois Institute of Technology): Hamilton's Struggles with Inclusive Fitness and Kin Selection
- Patrick Forber (Tufts University) and Rory Smead (Northeastern University): The Evolution of Spite, Recognition, and Morality

- David C. Queller (Washington University in St. Louis): Inclusive Fitness and the Evolution of Eusociality
  - Samir Okasha (University of Bristol): Inclusive Fitness, Non-Additivity, and Rational Agency
  - Jonathan Birch (Christ's College, Cambridge): The Trait-Relativity of Inclusive Fitness
- Chair: Frederic Bouchard (University of Montreal)

### **Symposium: Unifying the Mind-Brain Sciences**

*Great Lakes C – Level 2*

- Muhammad Ali Khalidi (York University): Critical Questions about the Critical Period
- Gualtiero Piccinini (University of Missouri – St. Louis) and Trey Boone (University of Pittsburgh): The Cognitive Neuroscience Revolution
- Jacqueline Sullivan (Western University): Experimentation and Construct Stabilization in Neuroscience
- Daniel Weiskopf (Georgia State University): Integrative Science and the Many-Models Problem

Chair: Carrie Figdor (University of Iowa)

### **Symposium: Chemical Structure**

*Superior East – Level 2*

- Julia Bursten (University of Pittsburgh): Surface Tension
- Joyce C. Havstad (Field Museum of Natural History): Messy Chemical Kinds
- Robin F. Hendry (Durham University): Structure as Abstraction
- Michael Weisberg (University of Pennsylvania): Structure, Functional Groups, and Idealization

Chair: Robert Batterman (University of Pittsburgh)

### **Symposium: How Adequate are Causal Graphs and Bayes Networks?**

*Huron B – Level 2*

- Alexander Gebharter (Heinrich Heine University Düsseldorf) and Gerhard Schurz (Heinrich Heine University Düsseldorf): A Modeling Approach for Mechanisms Featuring Causal Cycles
- Lorenzo Casini (University of Geneva) and Jon Williamson (University of Kent): How to Model Mechanisms
- Marie Kaiser (University of Cologne): Modeling Spatially and Structurally Complex Mechanisms
- Marcel Weber (University of Geneva): On the Incompatibility of Dynamical Biological Mechanisms and Causal Graph Theory

Chair: Mara Harrell (Carnegie Mellon University)

### **Symposium: What Kind of Climate Evidence does Policy Need?**

*Millennium Park – Level 3*

- Mathias Frisch (University of Maryland): Calibrating Climate Simulations and the Problem of Old Evidence
- William M. Goodwin and Eric Winsberg (University of South Florida): Missing the Forest for the Fish
- Roman Frigg and Erica Thompson (London School of Economics): Using Evidence to Inform Good Climate Policy Decisions
- Wendy Parker (Durham University): Evaluating Climate Models with “Observational” Data from Simulations
- Katie Steele (London School of Economics) and Charlotte Werndl (University of Salzburg): Model Selection Theory and Cross-Validation – the Need for a More Nuanced View on Use-Novelty

Chair: Michael Goldsby (Washington State University)

### **Symposium: Curie's Principle**

*Washington Park II – Level 3*

- John Norton (University of Pittsburgh): Curie's Truism
- Bryan Roberts (LSE): Curie's Hazard: From Electromagnetism to Symmetry Violation
- Elena Castellani (University of Florence): Which Curie's Principle?
- Jenann Ismael (University of Arizona): Curie's Principle: Comments and Applications

Chair: Kerry McKenzie (University of California, San Diego)

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**12:00 PM - 1:15 PM**

### **Joint Caucus for Socially Engaged Philosophers and Historians of Science (JCSEPHS) Business Meeting**

*Ontario – Level 2*

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**Session 7 (1:30 PM - 4:00 PM)**

### **Symposium: How many Sigmas to Discovery?**

*Washington Park II – Level 3*

- Robert D. Cousins (University of California, Los Angeles): Unresolved Philosophical Issues Regarding Hypothesis Testing in High Energy Physics
- Allan Franklin (University of Colorado, Boulder): The Rise of the Sigmas
- Deborah G. Mayo (Virginia Tech): Statistical flukes, the Higgs Discovery, and 5 Sigma
- Kent Staley (Saint Louis University): Inductive Risk and the Higgs Boson

Chair: Vitaly Pronskikh (Fermilab)



### **Symposium: Explanation: Communication, Representation, Objectivity**

*Millennium Park – Level 3*

- Arnon Levy (Hebrew University): Against the Ontic Conception of Explanation
- Angela Potochnik (University of Cincinnati): Putting Communication First
- Michael Strevens (NYU): Idealization: Ontic, Semantic, or Pragmatic? All of the Above.
- Laura Franklin-Hall (NYU): Between Explanatory Objectivity and Explanatory Anthropocentrism

Chair: Sarah Robins (University of Kansas)

### **Symposium: Narrating Order**

*Lincoln Park – Level 3*

- M. Norton Wise (University of California, Los Angeles): Narratives and Simulations
- Alirio Rosales (University of British Columbia): Theories as Narratives: The Fisher-Wright Controversy
- Brian Hurwitz (King's College London): Does Form Trump Content in Clinical Case Reports?
- Mary S. Morgan (London School of Economics): Making Credible Narratives of Society
- John Beatty (University of British Columbia): Narrative Order and the Problem of Chance

Chair: Rachel Ankeny (University of Adelaide)

### **Symposium: Moral Emotions**

*Great Lakes B - Level 2*

- Michael J. Deem and Grant Ramsey (University of Notre Dame): Guilt as an Evolutionary Problem
- Edouard Machery (University of Pittsburgh): Emotions and the Distinction Between Moral and Non-Moral Norms
- Cailin O'Connor (University of California, Irvine): A Model of Guilt as an Individual Adaptation
- Jay Odenbaugh (Lewis & Clark College): A Guilt Trip: Moral Judgment, Expressivism, and the Basic Emotions

Chair: Isaac Wiegman (Washington University, St. Louis)

### **Contributed Papers: Bias and Trust**

*Washington Park I – Level 3*

- Carole J. Lee (University of Washington, Seattle): Commensuration Bias in Peer Review
- Sarah Richardson (Harvard University): The Concept of Gender Bias in Science
- Felipe Romero (Washington University in St. Louis): Infectious Falsehoods

- Carlo Martini (Center of Excellence in the Philosophy of the Social Sciences): The Limits of Trust in Interdisciplinary Science
- Robin Zheng, M.D. (University of Michigan): Responsibility, Causality, and Social Inequality

Chair: Elizabeth Victor (William Paterson University)

### **Symposium: Quantifying Life**

*Superior East – Level 2*

- Louis Narens (University of California, Irvine): Measurement and the Meaningfulness Problem
- Günter P. Wagner (Yale University): The Critical Role of Measurement Theory in the Biological Sciences
- Philipp Mitteroecker (University of Vienna) and Simon M. Huttegger (University of California, Irvine): How to Measure Phenotypic Variation?
- Veronica J. Vieland (Ohio State University) and Hasok Chang (University of Cambridge): Replication, Measurement and Biological Evidence

Chair: Robert Richardson (University of Cincinnati)

### **Symposium: Population Concepts and Race**

*Huron C - Level 2*

- Quayshawn Spencer (University of San Francisco): Do Humans have Continental Populations?
- Lisa Gannett (St. Mary's University): From Genetics to Genomics: Still Making Populations
- Jonathan Kaplan (Oregon State University): Populations, Clusters, and “Racial Realism:” A Partial Taxonomy of Key Concepts
- M.A. Hunter (University of California, Davis): Populations, Individuals, and Biological Race

Chair: Charissa S. Varma (University of Cambridge)

### **Symposium: Foundations of Gravity and Thermodynamics**

*Michigan Ballroom II - Level 2*

- Erik Curiel (LMU Munich): Classical Black Holes Are Hot
- Craig Callender (University of California, San Diego) and John Dougherty (University of California, San Diego): Black Hole Thermodynamics: More Than an Analogy?
- Karim Thébault (LMU Munich), Eric Winsberg (University of South Florida), and Radin Dardashti (LMU Munich): Confirmation via Analogue Simulation: What Dumb Holes Can Tell Us about Gravity
- Robert Wald (University of Chicago): Black Hole Thermodynamics: The Current State of Play

Chair: Samuel Fletcher (LMU Munich)

## **Symposium: Naturalism and Values**

### *Great Lakes C – Level 2*

- Daniel Steel, Michael O'Rourke, and Chad Gonnerman (Michigan State University): Scientist Attitudes on Three Philosophical Theses regarding Values in Science: Data from the Toolbox Project
- Heather Douglas, John Turri, and Wesley Buckwalter (University of Waterloo): Inductive Risk and Data on Values in Science
- Kristen Intemann (Montana State) and Inmaculada de Melo-Martín (Weill Cornell Medical College): Evaluating the Naturalistic Turn: Should We Care What Scientists Actually Think or Do?
- Justin Biddle (Georgia Tech): Naturalism, Values, and the Social Organization of Research

Chair: Boaz Miller (Hebrew University and Bar Ilan University)

## **Symposium: Philosophy of Interdisciplinarity**

### *Huron A – Level 2*

- Hanne Andersen (Aarhus University): Philosophy of Interdisciplinarity: Mapping the Issues
- Brian Hepburn (Wichita State University): Problems, Problem Spaces and Interdisciplinarity
- Melinda Fagan (University of Utah): Interventionist Omissions: A Critical Study of Mechanistic Explanation in Biology
- Federica Russo (University of Amsterdam) and Michael Kelly (National Institute for Health and Care Excellence): Social and Biological Mechanisms of Disease
- Henrik Kragh Sørensen (Aarhus University): Mathematics in Interdisciplinary Modelling: the Case of Quasi-Crystals

Chair: Evelyn Brister (Rochester Institute of Technology)

## **HSS Session: The History of the Humanities – A Challenge to the History of Science?**

### *Great Lakes D – Level 2*

- Rens Bod (University of Amsterdam) and Johanna Sprondel (Stanford University): Patterns in Humanities and Sciences: Aller-Retour
- Jimena Canales (University of Illinois at Urbana-Champaign) and Markus Krajewski (Bauhaus University Weimar): Precisely. Differentiating Accuracy, Precision, and Exactitude in the Sciences and Humanities
- Soraya de Chadarevian (University of California, Los Angeles) and Julia Kursell (University of Amsterdam): Methods and Concepts in the Loop of Exchange: Historians Investigating Life and Life Scientists Testing History
- Ingrid Rowland (University of Notre Dame School of Architecture): Commentary

Chair: Dagmar Schäfer (Max Planck Institute for the History of Science)

Organizers: Rens Bod and Julia Kursell (University of Amsterdam)

### **HSS Session: Publication and Peer Review**

*Michigan Ballroom I – Level 2*

- Aileen Fyfe (University of St. Andrews): Refereeing in Action at the *Philosophical Transactions*, 1850–1890
- Sylvia Nickerson (IHPST, University of Toronto): Publishing Britain's Scientific Sphere: Macmillan and Co. as Publishers of Science, 1860–1890
- Julie McDougall-Waters (University of St. Andrews): Tracing the Paper Trail of the *Philosophical Transactions*: Correspondence, Referees' Reports and Proofs, 1850–1885
- Stacy Wykle (University of Illinois, Urbana-Champaign): History of Editorial Peer-Review in Scientific Journals: Factors Influencing Publication in French and English Scientific Society 1665–1830

Chair: Bruce Lewenstein (Cornell University)

### **HSS Session: Transmission and Exchange of Scientific Knowledge before 1600**

*Garfield Park – Level 3*

- Matthew Sargent (California Institute of Technology): How Social Boundaries Limit Access to Indigenous Knowledge: Case Studies from Sixteenth-Century India
- Robert Morrison (Bowdoin College): Scholarly and Scientific Exchange in the Eastern Mediterranean in the 15<sup>th</sup> and 16<sup>th</sup> Centuries
- Scott Trigg (University of Wisconsin-Madison): Fathallah al-Shirwani and the Transmission of Science from Samarkand to Istanbul
- Peter McLaughlin (University of Heidelberg): The Problems of Aristotle's Mechanics

Chair: Cassandra Hatton (Bonhams)

### **HSS Session: Transnational Technology Networks and Knowledge-Diffusion in the Cold War**

*Ontario – Level 2*

- John Krige (Georgia Tech): Helping and Hindering Allies: The Transnational Circulation of Nuclear Information between the U.S. and Europe from the Late 50s to the Early 70s
- Jay Sarkar (Harvard University): Transnational Networks of Nuclear Scientists and North-South Technological Cooperation during the Cold War: The Case of India, 1950–1974
- Abel Streefland (Leiden University): Dreams of Transnational Uranium Enrichment: International Ambitions of the Dutch Ultracentrifuge Program, 1955–1962
- Douglas O'Reagan (University of California, Berkeley): Know-how and International Transmission of Industrial Science in the Cold War

Chair: Daniel Kevles (Yale University)

Organizer: Jay Sarkar (Harvard University)

**4:15 PM - 4:45 PM**

## **2014 PSA Members Business Meeting**

*Great Lakes B - Level 2*

All PSA members are encouraged to attend.

### **Agenda:**

- *President's Welcome*  
Helen Longino
- *Executive Secretary's Report*  
Jessica Pfeifer
- *Program Chair Report*  
Chris Smeenk
- *New Business*

**4:15 PM - 6:15 PM (Overlap with PSA Business Meeting and PSA Awards and Presidential Address)**

## **HSS Session: Thought Experiments as an Epistemic Practice in the Natural and Social Sciences, 1830-1930**

*Washington Park I – Level 3*

- Adelene Buckland (King's College London): A Day in the Life: Charles Lyell's Geological Daydreams
- Julian Bauer (University of Konstanz): Experimenting with Thoughts, Experimenting with Scripture: Ernst Mach On and In Thought Experiments
- Florian Ernst (University of Konstanz): Max Weber's 'Ideal Types': A Theory and its Practice
- Charles Camic (Northwestern University): Commentary

Chair: Bernhard Kleeberg (University of Konstanz)

Organizer: Julian Bauer (University of Konstanz)

## **HSS Session: Evidence in Mathematical Understanding**

*Marquette Park – Level 3*

- Michael Barany (Princeton University): The Sense and Sensibility of Distributions
- Jemma Lorenat (Jussieu/University of Paris, Simon Fraser University): The Figure and Other Forms of Geometric Evidence
- Abram Kaplan (Columbia University): Natural Mathematics and the Account of Error
- Emily Grosholz (Pennsylvania State University): Commentary

Chair: Emily Grosholz (Pennsylvania State University)

**5:30-7:00 PM**

**PSA Awards and PSA Presidential Address**

*Michigan Ballroom – Level 2*

**Presentation of Awards**

***2013 PSA Graduate Student Essay Award***

Naftali Weinberger

***2013 Recent Ph.D. Essay Award***

Charles Rathkopf

***2014 Women’s Caucus Prize in Feminist Philosophy of Science***

Helen Longino

***2014 Hempel Award***

Elliott Sober

See pages 95-97 for more about the award recipients

**Presidential Address**



***Introduction***

C. Kenneth Waters  
(University of Calgary)

**Helen Longino**

(Stanford University)

“Foregrounding the Background: Pandoran Explorations in Philosophy of Science.”

**7:15 PM - 8:15 PM**

## **PSA/HSS Joint Reception**

*Great Lakes Grand Ballroom – Level 2*

Cash bar and light hors d'oeuvres

This is a ticketed event.

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## **Sunday November 9**

**9:00 AM - 11:30 AM Symposia Sponsored by Cognate Societies**

### **Pedagogy Panel: A New Paradigm for Graduate Education: A Joint Research Course for Science, Engineering, and Philosophy of Science PhD. Students**

*Washington Park II – Level 3*

Organizer: Vivian Weil (Illinois Institute of Technology)

- Vivian Weil (Illinois Institute of Technology): Introduction
- John Hasler (Illinois Institute of Technology): Ethical Issues that Arise in Collaboration across Disciplines
- Monica Solomon (University of Notre Dame): Sociocultural Factors in Scientific Collaboration: Some Reflections
- Ming Yin (Illinois Institute of Technology): Scientific International Collaboration
- Eric Brey (Illinois Institute of Technology): A Joint Research Course for Philosophy of Science, Engineering, and Science Graduate Students: An Engineer's Perspective
- Kevin Elliott (Michigan State University): Reflections from a Course Reviewer

### **Interdisciplinary Explanations in Economics**

*Sheffield – Level 5*

Sponsored by the **International Network for Economic Method (INEM)**

Organizer: David Teira (UNED, Madrid)

- Melissa Vergara Fernandez (Erasmus University Rotterdam): Economic Explanations Come from Clusters, not from Models
- Mariam Thalos (University of Utah): On the Deployment of Decision Theory in Economic Modeling
- C. Tyler DesRoches (University of British Columbia): Economics and Basic Ecological Goods
- Jesus Zamora-Bonilla (UNED, Madrid), Social Sciences Are Natural (Though they Can't Be)

## **Heterogeneity in Medicine and Psychiatry: Empirical Strategies, Conceptual Problems**

*Michigan Ballroom II – Level 2*

Sponsored by the **International Philosophy of Medicine Roundtable (IPMR)**

Organizer: Julian Reiss (Durham University)

- Brendan Clarke (University College, London): Homogeneous Reference Classes in Medicine
- Samantha Kleinberg (Stevens Institute of Technology): Replication and the Need for Simulated Data
- Maël Lemoine (Tours University): The Fuzzy Disease — What Is the Epidemiological Homogeneity of Major Depressive Disorder?
- Julian Reiss (Durham University): Heterogeneity in Carcinogenesis
- David Teira (UNED, Madrid) and Giovanni Boniolo (European Institute of Oncology, Milan): Testing Oncological Treatments in the Era of Personalized Medicine

## **A HOPOS Sampler: Exemplary Work in the History of the Philosophy of Science**

*Superior East – Level 2*

Sponsored by **The International Society for the History of Philosophy of Science (HOPOS)**

Organizers: David Marshall Miller (Iowa State University) and Gary Hardcastle (Bloomsburg University)

- Jutta Schickore (Indiana University): Methodologies in Context
- Barnaby Hutchins (Ghent University): Reduction, Integration and Mechanism in Descartes's Biology
- Jennifer Jhun (University of Pittsburgh): A Lesson from Economic History: Idealization and Ceteris Paribus Clauses
- Janet Folina (Macalester College): Poincaré and Structuralism in the Philosophy of Mathematics

Chair: David Marshall Miller (Iowa State University)

## **Causation, Kinds, and Structure in Chemical Theory**

*Huron B – Level 2*

Sponsored by the **International Society for Philosophy of Chemistry (ISPC)**

Organizer: Michael Weisberg (University of Pennsylvania)

- Georgie Statham (University of Cambridge): Contrastive Causal Claims in Organic Chemistry: Controlling Reactions by Manipulating the Reaction Conditions
- Karen R. Zwier (University of Pittsburgh): Interventionist Causation in Chemical Thermodynamics
- Marina Paola Banchetti-Robino (Florida Atlantic University): The Function of Microstructure in Boyle's Chemical Philosophy: 'Chymical Atoms' and Structural Explanation
- Juan Camilo Martínez González (FONCyT, Buenos Aires): From Substances to Atoms: Electronegativity Reconsidered
- Jordan Bartol (University of Leeds): Natural Kinds in Chemistry and Biochemistry:



### The Wrong Tools for the Job?

- Josh Hunt (University of Cambridge): Understanding Ligand Field Theory through Symmetry

Chair: Klaus Ruthenberg

## Perspectives in the Philosophy of Mathematics

*Addison – Level 5*

Sponsored by **The Philosophy of Mathematics Association (PMA)**

- Audrey Yap (University of Victoria): Noether's Mathematical Structuralism
- Geoffrey Hellman (University of Minnesota): Mereological Geometry
- W.W. Tait (University of Chicago): Towards the Unity of Mathematics: Classical and Constructive Reasoning

Chair: Elaine Landry (University of California, Davis)

## Recent Trends in the Philosophy of Social Science

*Huron C - Level 2*

Sponsored by the **Philosophy of Social Science Roundtable**

Organizer: Paul A. Roth

- James Bohman (Saint Louis University): Republicanism Then and Now
- David Henderson (University of Nebraska, Lincoln): Human Sentiment and Human Cooperation
- Mark Risjord (Emory University): Interpretation, Culture, and Cognition
- Paul A. Roth (University of California, Santa Cruz): Reviving the Philosophy of History
- Stephen Turner (University of South Florida): Normativity and Social Science

## Enriching Philosophy of Science through Collaborative and Feminist Approaches

*Lincoln Park – Level 3*

Sponsored by **The Consortium for Socially Relevant Philosophy of/in Science and Engineering (SRPoiSE)** and **The Association for Feminist Epistemologies, Methodologies, Metaphysics, and Science Studies (FEMMSS)**

Organizers: Nicolae Morar (University of Oregon) and Carla Fehr (University of Waterloo)

- Carla Fehr (University of Waterloo): FEMMSS as a SRPoiSE Ally
- Sean Valles (Michigan State University): A SRPoiSE Case Study: Obstacles to Defining and Explaining the “Hispanic Paradox”
- Stephen Crowley (Boise State University): Philosophical Facilitation of Interdisciplinary Research: The Story of the Toolbox Project
- Kathryn S. Plaisance (University of Waterloo): Enhancing the Toolbox Project through Feminist Philosophy

## **Technology and the Production of Scientific Knowledge: Reflections on Converging Territories**

*Superior West - Level 2*

Sponsored by the **Society for Philosophy and Technology (SPT)**

Organizer and Chair: Shannon Vallor, Santa Clara University

- Annamaria Carusi (University of Copenhagen): Systems Biomedicine and Computational Technologies: Instituting a Domain of Science and Application
- Robert P. Crease (Stony Brook University): Muon G-2 Experiments: Precision Science and the Scientific Process
- Don Ihde (Stony Brook University): Instrumental Phenomenological Variations
- Shannon Vallor (Santa Clara University): The Automation of Scientific Inquiry: AI, Scientific Virtue and The Value Problem

## **Approaches in the Philosophy of Science in Practice**

*Michigan Ballroom I – Level 2*

Sponsored by the **Society for Philosophy of Science in Practice (SPSP)**

Organizer: Mieke Boon (University of Twente)

- Sara Green (University of Pittsburgh): Should Empirical Results lead to Revision of Philosophical Accounts?
- Nancy J. Nersessian (Harvard University): Investigating Discovery Practices: Studies of Integrative Systems Biology Labs
- Marcel Boumans (University of Amsterdam and Erasmus University Rotterdam): Philosophy of Science-Outside-the-Laboratory
- Mieke Boon (University of Twente) and Annamaria Carusi (University of Copenhagen): Philosophy of Science into Practice

Chair: Rachel Ankeny (University of Adelaide)

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**9:30 AM - 11:30 AM**

## **HSS Session: Theoretical Change in the History of Physics**

*Garfield Park – Level 3*

- Nobumichi Ariga (National Museum of Nature and Science, Japan): Euler's Mechanics as Opposition to Leibnizian Dynamics
- Sybil de Clark (University of Arizona): Dimensional Analysis in the Nineteenth Century
- Frans van Lunteren (VU University of Amsterdam): The Conservation of Energy in the Netherlands
- Michael Miller (University of Pittsburgh): The Origins of Schwinger's Euclidean Green's Functions
- Daniela Monaldi (York University): Quantum Mechanisms and the Microscopic-Macroscopic Divide

Chair: Bruce J. Hunt (University of Texas at Austin)

**2:00 PM - 3:00 PM**

**Elizabeth Paris Memorial Lecture for Socially Engaged History and Philosophy of Science**

“From Einstein’s Clocks to the Refusal of Time,” Peter Galison, Harvard University

The Fourth Presbyterian Church of Chicago – Buchanan Chapel at the Gratz Center (1 block from meeting hotel). This talk is part of the Chicago Humanities Festival and is a ticketed event. You can find more information at <http://chicagohumanities.org/events/2014/journeys/peter-galison-from-einsteins-clocks-to-the-refusal-of-time>.

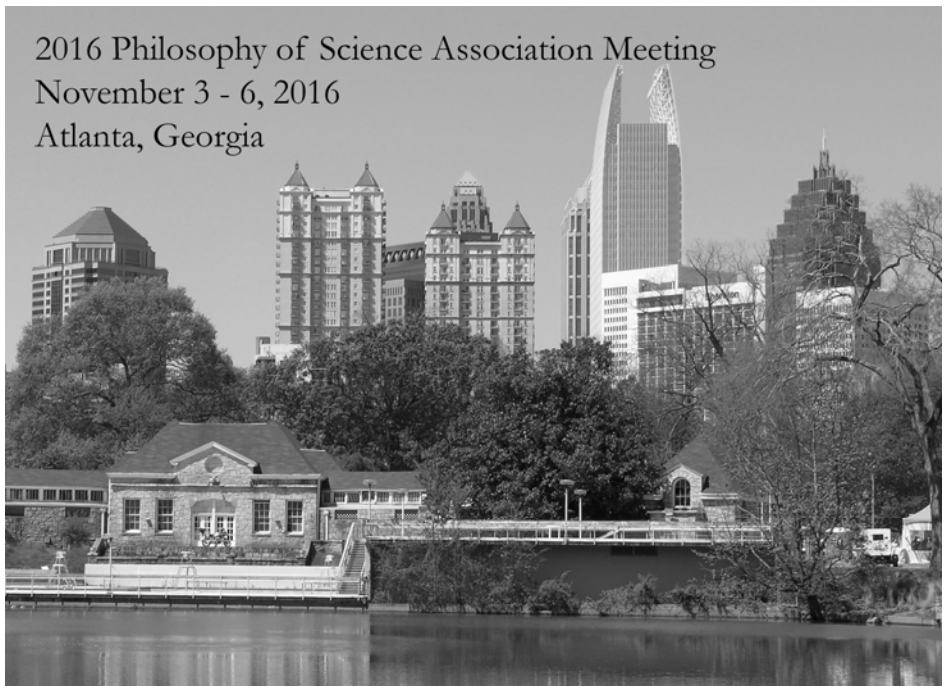


Image by Daniel Mayer