



PSA2014
CHICAGO, IL
November 6-9, 2014

PSA2014 Preliminary Program

Draft Date: 9/12/2014

If you are appearing on the program for the 2014 PSA Biennial Meeting, please review this document carefully. Please email any corrections to PSA Executive Secretary, Jessica Pfeifer at psa@umbc.edu.

Deadline for Corrections: 9/22/2014

THURSDAY NOVEMBER 6

Session 1 (1:30-3:00)

Contributed Papers: Mathematics and Complexity

Otavio Bueno (University of Miami): What Does a Mathematical Proof Really Prove?

Nicolas Fillion (Simon Fraser 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 Winters (University of South Florida)

Contributed Papers: Explanation in Physics

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

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

William Bechtel (Univ 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

Bengt Autzen (LSE): 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

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: Carol Cleland (University of Colorado, Boulder)

Contributed Papers: Psychology and Neuroscience

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

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

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 (Independent Scholar)

Contributed Papers: Locality, Entanglement, and Information

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)

Session 2 (3:15-5:15)

Contributed Papers: Foundations of Probabilistic Inference

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 and Rotman Institute of Philosophy): Blurring Out Cosmic Puzzles

Susanna Rinard (Harvard University): Imprecise Probability and Higher Order Vagueness

Chair: Theo Kuipers (University of Groningen)

Contributed Papers: Confirmation Theory

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

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

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

Zee R. Perry (NYU): 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

John Powers: Atrazine Research and the Criteria of Characterized Adequacy
Irina Meketa (Boston University): 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

Bennett Holman (University of California, Irvine): Why Most Sugar Pills are not Placebos
Jeremy Howick (University of Oxford) and John Worrall (LSE): 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

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

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

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 (LSE): Rethinking Boltzmannian Equilibrium
Conor Mayo-Wilson (LMU Munich): Structural Chaos
Chair: Eric Winsberg (University of South Florida)

5:30 PM - 6:30 PM

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

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

Andrea Woody (*Philosophy of Science* Associate Editor, former PSA Program Chair)

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

Bounded Rationality and the History of Science

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

Concurrently in adjacent area:

Activities for Social Engagement

Organized by the Joint Caucus for Socially Engaged Philosophers and Historians of Science
(with Sandy Mitchell, Jane Maienschein, Rachel Ankeny, Dawn Digrius, and Julia Burstyn as conveners)

- **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 (US Food and Drug Administration)
- **Instant HPS: Short Videos for a general audience** 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 (Michigan State University)
- **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** 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 (HSS)

8:45 PM

HSS/PSA Graduate Student and Early Career Mixer

Join the PSA and GECC for an early careerists mixer following the opening night reception. The event will be a short walk from the hotel at TBD located TBD from 8:45 pm onward. Appetizers will be provided.

FRIDAY NOVEMBER 7

7:45 AM-8:45 AM

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

Session 3 (9-11:45)

Symposium: Learning from Others

Richard Bradley (LSE): Learning from Others

Denis Bonnay and Mikaël Cozic (Paris-Est University): Weighted Averaging as a Revision Rule

Jan-Willem Romeijn (Groningen) and Olivier Roy (Bayreuth): Agreements, Trust and Higher-Order Beliefs:
DeGroot Meets Aumann

Chair: Simon Huttegger (University of California, Irvine)

Symposium: Measuring What?

Eran Tal (Bielefeld): 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

Michela Massimi (University of Edinburgh): Making Realism Perspectival

Paul Teller (University of California, Davis): Perspectival Realism?

Mazviita Chirumuuta (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 (KLI)

Symposium: Scientific Method Revisited

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

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 A. Kourany (Notre Dame): Should Some Knowledge Be Forbidden? The Case of Cognitive Differences Research
Chair: Manuela Fernandez Pinto (University of Helsinki)

Symposium: What's new in Network Analysis?

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: James Bogen (University of Pittsburgh)

Symposium: Complex Life Cycles, Reproduction and Evolution

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

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

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
Fiona Jordan (University of Bristol): Hows and Whys in Cultural Evolution
Tim Lewens (University of Cambridge): What is Human Nature good for?
Chair: Matthew Kopec (Northwestern University)

Symposium: Chemical Structure

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)

Session 4 (1:30-3:30)**Symposium: Principal Principle**

Richard Pettigrew (University of Bristol): Accuracy-based arguments for chance-credence norms
Zalan Gyenis (Hungarian Academy of Sciences) and Miklos Rédei (LSE): Measure theoretic analysis of consistency of the Principal Principle
Ittay Nissan-Rozen (Hebrew University): On the inadmissibility of some high-order and past events
Carl Hoefer (Western University): Commentary
Chair: James Joyce (University of Michigan)

Contributed Papers: Game and Decision Theory

Alexandru Marcoci (LSE): Solving the Absentminded Driver Problem Through Deliberation
J. McKenzie Alexander (LSE): Cheap Talk, Reinforcement Learning and the Emergence of Cooperation
Jian Shen (CUNY): 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)

Contributed Papers: Varieties of Realism

Alberto Cordero-Lecca (CUNY): 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

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

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

Charles H Pence (Louisiana State University) and Grant Ramsey (University of Notre Dame): Is Organismic Fitness at the Basis of Evolutionary Theory?
Harold Kincaid (Univ 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

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
Bence Nanay (University of Antwerp and University of Cambridge): Is it Selectively Advantageous to Represent Correctly?
Isaac Thane 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

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

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

Ann-Sophie Barwich (KLI): A Fine Nose for Timeliness: The Discovery of the Olfactory Receptors and the Question of Novelty
Adrian Wuethrich (Technische Universitaet 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)

Session 5 (3:45-5:45)

Contributed Papers: Bayesianism

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

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

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 (LSE): 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: Rosa Runhardt (LSE)

Contributed Papers: Explanation

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

David Danks (Carnegie Mellon University): The Mathematics of Causal Capacities

Totte Harinen (King's College London): Normal Causes for Normal Effects

Andreas Hüttemann (University of Cologne): Misconnections, Disconnections and other Misdemeanours - A Reductive Process-Theoretical Account of Actual Causation

Maria Kronfeldner (Bielefeld University): When Specificity Trumps Proximity

Chair: James Woodward (University of Pittsburgh)

Contributed Papers: Psychiatry

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

Rosa Willemijn Runhardt (LSE): 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 Gonzalez (University of A Coruña, Spain)

Symposium: Newtonian Relativity

George E. Smith (Tufts): 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

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 Rupy (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

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)

6:00-7:00 PM

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

Panelists: TBA

7:00-8 PM

PSA Reception (light hors d'oeuvres)

SATURDAY NOVEMBER 8

7:30 AM-8:50 AM

PSA Womens' Caucus Breakfast Meeting

Session 6 (9-11:45)

Symposium: Formal Methods

Hans Halvorson (Princeton): Categories of Scientific Theories
Sahotra Sarkar (University of Texas, Austin): Models and Theories in Evolutionary Biology
Thomas W. Barrett (Princeton): 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

Roberto Fumagalli (University of Bayreuth & LSE): 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

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

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: Newton, Mathematics, and Mechanism

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)

Symposium: 50 Years of Inclusive Fitness

Ullica Segerstrale (Illinois Institute of Technology): Hamilton's Struggles with Inclusive Fitness and Kin
Selection

Patrick Forber (Tufts) and Rory Smead (Northeastern): The Evolution of Spite, Recognition, and Morality

David C. Queller (Washington University in St. Louis): Inclusive Fitness and the Evolution of Eusociality

Samir Okasha (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

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: How Adequate are Causal Graphs and Bayes Networks?

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?

Roman Frigg and Erica Thompson (LSE): Using evidence to inform good climate policy decisions

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

Wendy Parker (Durham University): Evaluating climate models with "observational" data from simulations

Katie Steele (LSE) and Charlotte Werndl (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

John Norton (University of Pittsburgh): Curie's Axiom

Bryan Roberts (LSE): Curie, CP and T 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)

12:00-1:15

Joint Caucus for Socially Engaged Philosophy and History of Science Business Meeting

Session 7 (1:30-4:00)

Symposium: How many Sigmas to Discovery?

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

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

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 (LSE): 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

Michael J. Deem and Grant Ramsey (Notre Dame): Guilt by Association?
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 Weigman (Washington University, St. Louis)

Contributed Papers: Bias and Trust

Carole J. Lee (University of Washington, Seattle): Commensuration Bias in Peer Review
Sarah Richardson (Harvard): 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 Patterson University)

Symposium: Quantifying Life

Louis Narens (University of California, Irvine): Measurement and the Meaningfulness Problem
Günter P. Wagner (Yale): 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. Wieland (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

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

Erik Curiel (LMU Munich): Classical Black Holes Are Hot
Craig Callender (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
David Wallace (University of Oxford): The Role of Gravity in the Thermodynamics of the Early State of the Universe
Chair: Samuel Fletcher (LMU Munich)

Symposium: Naturalism and Values

Daniel Steel, Michael O'Rourke, and Chad Gonnerman (Michigan State): 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

Hanne Andersen (Aarhus University): Philosophy of Interdisciplinarity: Mapping The Issues
Brian Hepburn (Aarhus 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 Ferrara) 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)

PSA Members Business Meeting

All PSA members are encouraged to attend.

Agenda TBA

5:00-6:45 PM

PSA Awards and PSA Presidential Address

7:00-8:00 PM

PSA/HSS Joint Reception (light hors d'oeuvres)

SUNDAY NOVEMBER 9

9 AM-12:00 PM 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

Organizer: Vivian Weil (Illinois Institute of Technology)

Vivian Weil (Illinois Institute of Technology): Introduction

John Hasier (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

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

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

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

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

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

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

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

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

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)

2:00-3:00 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.](#)