

# 6th Biennial Conference of the Society for Philosophy of Science in Practice (SPSP) Rowan 2016

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## Thursday, 16 June 2016

- 9:30-14:00 **Pre-Conference Workshop: Empirical Methodology for Philosophy of Science** (Enterprise 409)
- 19:00-22:00 **Pre-Conference Informal Gathering** (Landmark Americana Tap & Grill)

## Friday, 17 June 2016

- 8:30-9:00 **Continental Breakfast & Coffee** (Eynon Anteroom)
- 9:00-10:10 **Plenary I - Julie Nelson, "Critiquing the Foundations of Economics, and Why It Matters"** (Eynon Ballroom)  
*Session Chair: Joe Rouse*

10:10-10:30 **Coffee Break** (Eynon Anteroom)

10:30-12:00

### CONCURRENT SESSIONS I

<p><b>Symposium - Repertoires: Dynamics of Scientific Collaboration in the Life Sciences</b> <i>Session Chair: Hanne Andersen</i> <i>Session Description:</i> Sabina Leonelli; Rachel Ankeny <i>The Functions Of Repertoires In Scientific Research</i> Rachel Ankeny; Sabina Leonelli <i>Repertoires Integrate Platforms And Research Programs</i> Elihu Gerson; Alok Srivastava <i>Emerging Model Organisms, Platform Development And Repertoire Acquisition</i> Christopher DiTeresi</p>	<p><b>Contributed Papers - Instruments and Data</b> <i>Session Chair: Mieke Boon</i> <i>On The Application Of Science To Science Itself: Chemistry, Instruments, And The Scientific Labor Process</i> George Borg <i>The Evolution Of Instruments For Empirical Investigation: Choosing Between The Material And The Algorithmic Options</i> Vincent Israel-Jost <i>If You Go Too Far Western, You Can't Trust Your Data Anymore</i> Stephan Guttinger</p>	<p><b>Contributed Papers - Issues in the Social Sciences</b> <i>Session Chair: Michael Stuart</i> <i>Ontological Investigations And Social Scientific Practice</i> Simon Lohse <i>Bias And Social Science Experiments</i> Sharon Crasnow <i>Using Philosophy Of Statistics To Make Progress In The Replication Crisis In Psychology</i> Deborah Mayo; Caitlin Parker</p>	<p><b>Symposium - Philosophy of Autism</b> <i>Session Chair: Abigail Gosselin</i> <i>Session Description:</i> Jami L. Anderson; Ruth J. Sample; Susan V. H. Castro <i>Self Identities And Self Diagnoses</i> Jami L. Anderson <i>Does Autism Spectrum Disorder Have A Gender?</i> Ruth J. Sample <i>Autism: A Kantian Imagination-based Theory</i> Susan V. H. Castro</p>	<p><b>Contributed Papers - Diverse Modeling Practices</b> <i>Session Chair: Emmanuele Ratti</i> <i>Animal Models Of Pain And The Puzzle Of Similarity</i> Nina Atanasova <i>Experimentation On Analogue Models</i> Susan Sterrett <i>There And Back Again: Comparative Resituation Of Models Between Ecology And Political Economy</i> Jason Oakes</p>
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12:00-13:30

**Lunch** (Rowan Marketplace)

13:30-15:00

**CONCURRENT SESSIONS II**

<p><b>Symposium - Diverse Practices with Model Organisms</b>  <i>Session Chair: Rachel Ankeny</i>  <i>Session Description:</i>  William Bechtel  <i>An Ethnographic Approach To Integrating Perspectives On Model Organisms</i>  Rebecca Hardesty  <i>The Epistemic Role Of Model Organisms In Biomedicine</i>  Veli-Pekka Parkkinen  <i>Developing Model Organisms For Model Organisms In The Study Of Sleep</i>  William Bechtel</p>	<p><b>Symposium - Replication and Evidence: A Tenuous Relationship</b>  <i>Session Chair: Deborah Mayo</i>  <i>Session Description:</i>  Brian D. Earp; Veronica J. Vieland; Stuart Firestein  <i>What Kind Of Crisis Is Psychology (supposedly) In?</i>  Brian D. Earp  <i>Replication, Evidence, And Statistical Practice</i>  Veronica J. Vieland  <i>Replicate That...</i>  Stuart Firestein</p>	<p><b>Contributed Papers - Organization and Engineering in Cognitive and Biological Sciences</b>  <i>Session Chair: Jessey Wright</i>  <i>Organizing Principles In Neuroanatomical And Physiological Practice</i>  Philipp Haeuiss  <i>From Neural Engineering To Scientific Understanding</i>  Maria Serban</p>	<p><b>Contributed Papers - Citizen Science and Democratization</b>  <i>Session Chair: Henk de Regt</i>  <i>Ebirding, Conservation, And Mapping The Moral Terrain Of Science At A Smaller Scale</i>  Jon Rosenberg  <i>Democracy And Planetary Defense: Involving Citizens In Technical Decisions Through Participatory Technology Assessment</i>  David Tomblin; Zachary Pirtle  <i>Trust, Objectivity, And The Democratization Of Science</i>  Inkeri Koskinen</p>	<p><b>Contributed Papers - Realism and Truth</b>  <i>Session Chair: Joe Rouse</i>  <i>Stability And Scientific Realism: The Coming Of Age Of Perturbation Theory</i>  Massimiliano Badino  <i>Pragmatist Coherence As The Source Of Truth And Reality</i>  Hasok Chang  <i>Residual Phenomena And The Mechanism Of Deep Earthquakes</i>  Teru Miyake</p>
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15:00-15:30

**Coffee Break** (4th and 5th Floor Enterprise)

15:30-17:30

**CONCURRENT SESSIONS III**

<p><b>Symposium - In Pursuit of History</b>  <i>Session Chair: Sabina Leonelli</i>  <i>Session Description:</i>  Chiara Ambrosio  <i>"each Chief Step In Science Has Been A Lesson In Logic": (pragmatist) Lessons From Peirce's History Of Science</i>  Chiara Ambrosio  <i>Between The Empty And The Blind: N. R. Hanson's Historiography Of</i></p>	<p><b>Contributed Papers - Understanding and Discovery</b>  <i>Session Chair: Mieke Boon</i>  <i>An Ethnography Of Scientific Imagination</i>  Michael Stuart  <i>Mechanism Discovery And Design</i>  <i>Explanation: Where Causal Role Meets Biological Advantage</i>  Dingmar van Eck; Julie Mennes  <i>Discovery:</i></p>	<p><b>Contributed Papers - Molecular Sciences</b>  <i>Session Chair: Andrea Woody</i>  <i>Articulating Organic Chemistry Into Structural Biochemistry</i>  William Goodwin  <i>Biochemistry Research Programs Through The 20th Century Use</i>  A Dual-column Programmatic Practice To Resolve And</p>	<p><b>Contributed Papers - Disease and Diagnosis in Psychiatry and Medicine</b>  <i>Session Chair: Nina Atanasova</i>  <i>A Pragmatist Interpretation Of Schizophrenia</i>  Abigail Gosselin  <i>On The General Concept Of Mental Disorder And The Subordinate Concepts Of Individual Disorders In Dsm-v</i></p>	<p><b>Contributed Papers - Issues in Social Epistemology</b>  <i>Session Chair: Hanne Andersen</i>  <i>Individual Vs. Collective Justification: What Happens In Research Groups?</i>  Haixin Dang  <i>Defending Limited Non-deference To Science Experts</i>  Lawrence Lengbeyer  <i>Big Data And The</i></p>
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<i>Science</i> Matthew Lund ----- <i>A New Comparative Model Of The Historiography Of Science: From Neutral Data Assessments To Comparisons Through Epistemic Values</i> Jouni-Matti Kuukkanen ----- <i>Commentary</i> Hasok Chang	<i>Abduction In Everyday Practice Of Science</i> Frederick Grinnell	<i>Reconstitute The Molecular Economy Of A Biological Activity</i> Alok Srivastava ----- <i>On The Distinction Between 'models Of' And 'models For' In Molecular Biology</i> Emanuele Ratti ----- <i>Multiscale Modeling In Nanoscience: Beyond Non-mereological Relations</i> Julia Bursten	Maria Cristina Amoretti; Elisabetta Lalumera ----- <i>Philosophical And Historical Perspectives On The Diagnosis Of Non-accidental Head Injury In Infants</i> Nicholas Binney ----- <i>Explanatory Agnosticism In Translational Medicine</i> Spencer Hey; James Overton	<i>Evaluation Of Experts</i> Darcy McCusker
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18:00-19:30 **Dr. Lacovara's Fossil Lecture and Exhibit** (Eynon Ballroom)

19:30-21:30 **Book Fair** **Dinner Reception**

## Saturday, 18 June 2016

8:30-9:00 **Continental Breakfast & Coffee** (4th and 5th Floor Enterprise)

### 9:00-11:00 CONCURRENT SESSIONS IV

<b>Symposium - Inductive and Other Epistemic Risks in Research: Conceptual Explorations</b>	<b>Contributed Papers - Simulation and Modeling in the Physical Sciences</b>	<b>Contributed Papers - Concepts, Kinds, and Classification</b>	<b>Contributed Papers - Philosophy Biology: Ontological and Epistemological Issues</b>	<b>Contributed Papers - STSS perspectives</b>
<i>Session Chair: Henk de Regt</i> ----- <i>Session Description: Torsten Wilholt</i> ----- <i>Expanding Epistemic Risk</i> Justin B. Biddle; Rebecca Kukla ----- <i>Inductive Risk, Wishful Thinking, And Practical Reason</i> Matthew J. Brown ----- <i>Risk, Judgments, And Objectivity In Medical Research -</i>	<i>Session Chair: Julia Bursten</i> ----- <i>The Use Of Simulation Models In The Atlas Experiment At Cern's Large Hadron Collider: Implications For Model-based Experimentation</i> Koray Karaca ----- <i>Identifying Skills Of Mathematical Modelling And Computational Simulations</i> Brandon Boesch ----- <i>Philosophically Understanding Models In Scientific</i>	<i>Session Chair: Daniel Schwartz</i> ----- <i>Concepts As Forward-looking: Reframing The Question Of Referential Stability</i> Corinne Bloch-Mullins ----- <i>The Structural Heterogeneity Of Scientific Concepts</i> Hyundeuk Cheon ----- <i>Natural Kinds In Practice</i> Beckett Sterner ----- <i>When Are A Priori Assumptions Warranted In The Metaphysics Of Scientific Practice?</i> Thomas Reydon	<i>Session Chair: Joe Rouse</i> ----- <i>Evolutionary Process</i> John Dupre ----- <i>Fuzzy Practice: Homologizing Liminality</i> Comparative Parts Catherine Kendig ----- <i>The Crocodile's Snout: The Epistemic Function Of Phylogenetics In Paleobiology</i> Adrian Currie ----- <i>Refutation In Historical Sciences: Cavalier-smith's 'archezoa' Hypothesis</i> Thomas Bonnin	<i>Session Chair: Sharon Crasnow</i> ----- <i>Trading Zones In Peripheral Science: Scientific Practice From A Peripheral Point Of View</i> Deepanwita Dasgupta ----- <i>Philosophy Of Science Undisciplined: Recovering Ethics And Politics With Sts</i> Matthew Sample ----- <i>"typically, But Not Exclusively": interactional Expertise, Language Use And The Politics Of Nanotechnology Terminologies Standardization</i> Sharon Ku; Frederick Klaessig ----- <i>Transcending The Distinction Between Making And Using: The Phenomenology Of Technical Artifact Functions</i>

<i>Evaluating The Strengths And Weaknesses Of Meta-analysis</i> Saana Jukola	<i>Practice: The London &amp; London Case Study</i> Jan Potters			Mark Thomas Young
<i>Objectivity And Cognitive Interests</i> Torsten Wilholt	<i>Chaos Regained: On The Possibility Of A New Era Of Orbital Dynamics</i> Isaac Wilhelm			

11:20-12:30 **Plenary II - Alan Love, "Protocols and Potentiality: From Biological Practice to Scientific Metaphysics"** (Eynon Ballroom)  
*Session Chair: Sabina Leonelli*

12:30-14:00 **Catered Lunch** (Eynon Ballroom)

**Panel Discussion with Advisory Board members in celebration of the 10th anniversary of SPSP**

14:00-15:10 **Plenary III - Andrea Woody, "Format and Function: Representational Practices in Chemical Contexts"** (Eynon Ballroom)  
*Session Chair: Rachel Ankeny*

15:10-15:30 **Coffee Break** (4th and 5th Floor Enterprise)

15:30-17:30 **CONCURRENT SESSIONS V**

<b>Symposium - Ideals in Practice: Discovery and Decision-Making in Biomedicine</b> <i>Session Chair: Sara Green</i> <i>Session Description: Sophie van Baalen</i> <i>Personalised Medicine: A Negotiable Ideal Without Precise Definition</i> Giovanni De Grandis; Vidar Halgunset <i>From "personalized" To "precision" Psychiatry: What's In A Name?</i> Kathryn Tabb <i>The Socio-technical Epistemology Of</i>	<b>Contributed Papers - Values, Research Ethics, and Regulation</b> <i>Session Chair: Fred Grinnell</i> <i>The Interwovenness Of Societal, Institutional And Epistemic Dimensions Of Risk</i> <i>Controversies</i> Jeroen van der Sluijs <i>Research Ethics, Epistemic Trust And Bad Actors In The Retraction Watch Era</i> Barton Moffatt <i>What After The Morning After Pill? Values In The Science And Regulation Of Contraception</i> Christopher	<b>Symposium - Philosophical Implications for Optimal Control in the Sciences over Vast Length and Time Scales</b> <i>Session Chair: Hasok Chang</i> <i>Session Description: Herschel Rabitz; Andrea Woody</i> <i>An Introduction To Optisci And Optimization Of Quantum (optiq) Phenomena</i> Benjamin Russell; Herschel Rabitz <i>Optimization In The Chemical Sciences (optichem)</i> Katharine Tibbetts; Herschel Rabitz <i>Natural Evolution Expressed In</i>	<b>Contributed Papers - Mechanisms &amp; explanation</b> <i>Session Chair: John Dupre</i> <i>Mechanisms As Modal Patterns</i> Joseph Rouse <i>Patterns, Mechanisms And The Ontic/epistemic Distinction</i> Lena Kästner; Philipp Haueis <i>Abstraction, Idealization, And The Ontic View Of Explanation</i> Marta Halina <i>Understanding The Explanatory Power Of Dynamical Models In Systems Science</i> Karen Yan	<b>Contributed Papers - Collaboration and Interdisciplinary Challenges</b> <i>Session Chair: Sabina Leonelli</i> <i>Terminological Ambiguity In Cross-disciplinary Collaboration</i> Julie Mennes <i>Explanation And Collaborative Practices</i> Melinda Fagan <i>Transdisciplinary Understanding In The Courtroom: The Case Of Legal Insanity</i> Henk de Regt; Gerben Meynen <i>Disciplinary Capture And Path Dependence: When Interdisciplinarity Goes Bad</i> Evelyn Brister
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<i>Clinical Decision-making</i> Sophie van Baalen; Annamaria Carusi <i>Distributed Cognition In Critical Care Medicine</i> Thomas Cunningham	ChoGlueck <i>Making Ecological Value Make Sense</i> Justin Donhauser	<i>Terms Of Optimization (optievo)</i> Xiaojiang Feng; Jinhai Chen; Mohammad Seyedsayamdost; Herschel Rabitz <i>Commentary</i> Andrea Woody		
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18:00-19:30 **Book Fair** **Dinner**

## Sunday, 19 June 2016

8:30-9:00 **Continental Breakfast & Coffee** (4th and 5th Floor Enterprise)

9:00-11:00 **CONCURRENT SESSIONS VI**

<p><b>Symposium (sponsored by SRPoiSE) - Race and Inclusion in Science and in Science Policy</b> <i>Session Chair: John Dupre</i> Note: Talks to be followed by Panel and Open Discussion <i>Measuring Inequality: Race And Gender In Science</i> Robin O. Andreasen; Heather Doty <i>Discrimination And Accumulation</i> Ron Mallon <i>We're Mismeasuring Diversity In Stem And Biomedicine: It's Time To Choose More Equitable Race And Ethnicity Variables</i> Sean M. Valles</p>	<p><b>Symposium - Securing Science in a Protean World</b> <i>Session Chair: James Bogen</i> <i>Session Description:</i> Nora Boyd; David Colaço; Aaron Novick; Raphael Scholl <i>The Tree, The Labyrinth, And The Minefield</i> Nora Boyd <i>The Identification Of Scientific Phenomena: Lessons From The Life Sciences</i> David Colaço <i>Presume It Not: True Causes In The Search For The Basis Of Heredity</i> Aaron Novick; Raphael Scholl <i>Stability Without Stasis: Ambition And Modesty Of Realism About True Causes</i> Raphael Scholl</p>	<p><b>Contributed Papers - Grappling with History</b> <i>Session Chair: Chiara Ambrosio</i> <i>Simplicity As Integrity In Galileo's Dialogue Concerning The Two Chief World Systems</i> Daniel Schwartz <i>How And How Not To Be Whiggish About 'phlogiston'</i> Jonathon Hricko <i>Debating Darwin's Debts To Philosophy</i> Phillip Honenberger <i>The Search For Kuhn-loss: A New Strategy For Hps</i> Jamie Shaw</p>	<p><b>Contributed Papers - Issues of Representation</b> <i>Session Chair: Andrea Woody</i> <i>Who Makes Scientific Graphics, And What Makes Them "good" Graphics?</i> Benjamin Sheredos <i>On The Elusiveness Of Intentional Gaps In Mathematical Proofs</i> Line E. Andersen <i>Representation And The Analogy Between Scientific Models And Maps: Insights From Cartographic Epistemology And Practice</i> Gui Oliveira <i>Inferentialism In Biological Practice</i> Daniel Burnston</p>
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11:20-12:30 **Plenary IV - Miriam Solomon, "The Historical Epistemology of Evidence-Based Medicine"** (Eynon Ballroom)  
*Session Chair: Hanne Andersen*

12:30-14:00 **Lunch** (Rowan Marketplace)

14:00-15:30 **CONCURRENT SESSIONS VII**

<b>Symposium - Philosophy of</b>	<b>Contributed Papers -</b>	<b>Contributed Papers -</b>	<b>Contributed Papers - Issues</b>	<b>Contributed Papers -</b>
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<p><b>Scientific Integrity: Distinguishing Error, Fraud, and Malpractice</b>  <i>Session Chair: Barton Moffatt</i></p> <p><i>Session Description:</i>  Hanne Andersen; Douglas Allchin; David Budtz Petersen; Mikkel Willum Johansen; Frederik Voetman Christiansen</p> <p><i>Disentangling Discourse On Misconduct</i>  Hanne Andersen; Douglas Allchin</p> <p><i>Irreproducibility: Experimenter's Regress Or Scientific Misconduct?</i>  David Budtz Pedersen</p> <p><i>When Students Go To The Lab: A Quantitative Study Of The Scientific Conduct Of Students' Relation To Experimental Data</i>  Mikkel Willum Johansen; Frederik Voetmann Christiansen</p>	<p><b>Engineering Practices</b>  <i>Session Chair: Susan Sterrett</i></p> <p><i>The Strategy Of Engineering Cost Analysis?: Independence Within Aerospace Cost Analysis Techniques</i>  Zachary Pirtle; Jay Odenbaugh; Zoe Szajnfarber</p> <p><i>An Engineering Paradigm For The Philosophy Of Science: The Discovery Of Piezo-electricity As A Paradigm Example Of Science</i>  Mieke Boon; Nadine de Courtenay</p> <p><i>Induction And Evidence In Failure Analysis</i>  Inge De Bal</p>	<p><b>Neuroscience: Data and Imaging</b>  <i>Session Chair: Philipp Haueis</i></p> <p><i>The Structured Use Of Concepts As Tools In Neuroimaging Experiments</i>  Eden Smith</p> <p><i>Meta-analyses In Neuroimaging: Integrating Data To Achieve Construct Stability</i>  Jessey Wright</p> <p><i>Ensuring Objective Validity: Functional Triangulation In Neuroscience And The Effects Of Social Biases</i>  Derek Oswick</p>	<p><b>of Experimentation</b>  <i>Session Chair: Hasok Chang</i></p> <p><i>Hypothesis-testing, Exploratory Experiments, And The Space In Between</i>  Emily C. Parke</p> <p><i>David Gooding's Philosophy Of Reconstruction</i>  Laura Georgescu</p> <p><i>What Is Wrong With Our View Of Prediction?</i>  Karim Bschrir</p>	<p><b>Philosophy of Medicine: Data, Evidence, and Application</b>  <i>Session Chair: Rachel Ankeny</i></p> <p><i>Individualized Medicine And The Epistemological Challenges Of Data Integration</i>  Megan Delehanty</p> <p><i>Personalizing Medicine In Silico And In Socio</i>  Sara Green</p> <p><i>Understanding Cancer Through The Practices Of Microbial Experimental Evolution</i>  Katherine Liu</p>
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15:45-16:30 **Closing Remarks, SPSP Business, and Planning** (Eynon Ballroom)

16:30-17:00 **Coffee Break** (Eynon Anteroom)

## Monday, 20 June 2016

9:00-12:00 **Post-Conference Fossil Dig**