



Canadian Society for the History and Philosophy of Science

Photo: Sabina Bernacchini,
Museo Galileo - Florence

PROGRAMME

**Canadian Society for the History
and Philosophy of Science
Annual Conference**

**Congrès annuel de la Société
canadienne d'histoire et de
philosophie des sciences**

1-3 June/juin 2019

**University of British Columbia
Vancouver, B.C.
Canada**

**Part of the Congress of the Humanities
and Social Sciences**

**Dans le cadre du Congrès
des sciences humaines**

Programme at a Glance / Programme sommaire

SATURDAY JUNE 1 / SAMEDI 1 JUIN

ROOM	Buch-D218	Buch-D316	Buch-D322
8:30 – 10:00	Philosophy of Biology I: Evolution	New Conversations in the Field of Science and Religion	Measuring the Mind
10:30 – 12:00	Causation and Causal Inference	Sociology of Scientific Knowledge	[Cancelled session]
13:30 – 15:00	Methods in the Philosophy of Science	Machine Learning and Artificial Intelligence	Mines, Mountains, Caves: Sites of Knowledge Making
15:30 – 17:00	Probability and Evidential Reasoning	Values and Theory Choice	Science in Asia in the 19 th and 20 th Centuries
17:00 – 18:30	International Keynote Speaker: Two Approaches to Social Epistemology by Helen Longino (Location: Buchanan-A102)		

SUNDAY JUNE 2 / DIMANCHE 2 JUIN

ROOM	Buch-D218	Buch-D316	Buch-D322
8:30 – 10:00	Non-causal and Mathematical Explanations	Science and Public Policy	Natural History and Collections
10:30 – 12:00	Philosophy of Biology II: Ontology and Taxonomy	Science, Science Policy and the Federal State in Canada	Science in the Soviet Union
13:30 – 15:00	Methodology of Research and Experiments	Climate Science	Women, Transnational Mobilities, and Medico-Scientific Innovation (joint session with CSHM) Location: SWNG 222
15:30 – 17:00	Stillman Drake Lecture: Data Madness and Quantified Heredity by Theodore Porter (Location: Buchanan A-102)		
17:00 – 18:00	President's Reception (Location: Robert H. Lee Alumni Centre)		

MONDAY JUNE 3 / LUNDI 3 JUIN

ROOM	Buch-D323	Buch-D312	Buch-D218
8:30 – 10:00	Philosophy of Time (starts at 9:00)	Scientific Explanation	Scientific Lives and Correspondence
10:30 – 12:00	Logic and Structure of Scientific Theories	Scientific Approaches to Health Care	Book Panel on Christopher Byrne: <i>Matter and Teleology in Aristotle's Natural Philosophy</i>
12:00 – 13:30	Annual General Meeting & Hadden Prize Ceremony (Lunch Served; Buchanan A-102)		
13:30 – 15:00*	Scientific Realism	Models and Mathematical Foundations of Science	Ancient and Early Modern Science
15:30 – 17:00	Inquiry and Scientific Progress	Computation: Philosophical and Social Perspectives	History and Philosophy of Psychiatry

***Additional session June 3, 13:30 – 15:00:** New Research in the History of Soviet Science (joint session with CAS). **Location: Lasserre 102.**

Programme

FRIDAY MAY 31

18:00 - 20:00 Executive Meeting / Réunion du Comité exécutif
Henry Angus 332

SATURDAY JUNE 1

8:30 - 10:00
Buch-D218

PHILOSOPHY OF BIOLOGY I: EVOLUTION

Chair: **Tiernan Armstrong-Ingram**

[Against a Force Theory of Evolution](#)

Todd Nagel University of Western Ontario and

Aleta Quinn University of Idaho

[Emergence and Novelty in Evolutionary Biology](#)

Yasmin Haddad McGill University

[The Evolution of Moral Belief: Support for the Debunker's Causal Premise](#)

Michael Dale University of Texas at Austin

8:30 - 10:00
Buch-D316

SESSION: NEW CONVERSATIONS IN THE FIELD OF SCIENCE AND RELIGION

Chair: **Anthony Nairn**

[Moving Beyond Complexity: Re-thinking Historiographical Approaches to Science and Religion](#)

Sarah Qidwai University of Toronto

[Psychedelic Testimony and Neurobiological Explanation](#)

Andrew Jones University of Toronto

[Perspectives of the Earth: The Distributed Affect of Three Photographs of the Earth and How the Transformation Perspective Exposes an Intersection Between Science and Religion](#)

Anthony Nairn University of Toronto

8:30 - 10:00
Buch-D322

MEASURING THE MIND

Chair: **Julien Prud'homme**

[Mediation in Measuring the Pure Experience of Pain](#)

Celia Edell McGill University

[Measuring Minds: Boring, Skinner, McGregor, and Stevens, and the Origins of Operationism](#)

Sander Verhaegh Tilburg University

10:00 - 10:30

COFFEE BREAK

10:30 - 12:00
Buch-D218

CAUSATION AND CAUSAL INFERENCE

Chair: **Jacob Neal**

Formalizing Causal Inference: Sewall Wright's Path Analysis in the Early Twentieth Century
Zili Dong Simon Fraser University

Process, not just Product: the Case of Network Motifs Analysis
Shimin Zhao Simon Fraser University

10:30 - 12:00
Buch-D316

SOCIOLOGY OF SCIENTIFIC KNOWLEDGE

Chair: **Alison Wylie**

The Emergence of Peer Reviewed Books: University Press Publishing Editorial Practice in the United States

Joshua Silver University of Chicago

The Symmetry Principle and Post-Truth Politics: Taking the Strong Programme's Naturalism Further

Kinley Gillette University of British Columbia

Anti-Psychologism, Distributed Cognition, and the Cognitive/Social Divide

Gui Sanches de Oliveira University of Cincinnati

10:30 - 12:00
Buch-D322

SESSION: THE 'SCIENTIFIC OCCUPATION': PHOTOGRAPHY IN THE CONSTRUCTION OF THE PORTUGUESE AFRICAN EMPIRE

Session cancelled: Mendes Flores talk moved to June 2, 8:30.

12:00 - 13:30

LUNCH BREAK

13:30 - 15:00
Buch-D218

METHODS IN THE PHILOSOPHY OF SCIENCE

Chair: **Nicolas Fillion**

[Negotiating History: Contingency, Canonicity, and Case Studies](#)

Agnes Bolinska University of Cambridge

Joseph Martin University of Cambridge

[What Counts as Scientific Practice?](#)

Ananya Chatteraj University of Calgary

[Duhem's Warning](#)

Melanie Frappier University of King's College

13:30 - 15:00
Buch-D316

MACHINE LEARNING AND ARTIFICIAL INTELLIGENCE

Chair: **Yasmin Haddad**

[The Return of Mind Design: Cognitive Science and the Turing/Ashby Debate](#)

Darren Abramson Dalhousie University

Erik Nelson Dalhousie University

[Analysis of the Rise of Deep Learning from a Philosophy of Science Perspective](#)

Smitha Milli University of California, Berkeley

Ravit Dotan University of California, Berkeley

[Representationalism in Affordance-Based Robotics](#)

Zachariah A. Neemeh University of Memphis

13:30 - 15:00
Buch-D322

SESSION: MINES, MOUNTAINS, CAVES: SCIENTIFIC, TECHNOLOGICAL AND POLITICAL SITES OF KNOWLEDGE MAKING

Chair: **Elspeth Gow**

[The Mine as Adversary: Leibniz versus the Harz Mountains](#)

Andre Wakefield Pitzer College

[A Mountain, Romantics and a Nation: Science and the First Ascent of Mt. Ararat](#)

Ernie Hamm York University

[National Spaces and Deepest Places: Politics and Practices of Verticality in the Scientific Research of Caves](#)

Johannes Matthes Austrian Academy of Sciences

15:00 - 15:30

COFFEE BREAK

15:30 - 17:00
Buch-D218

PROBABILITY AND EVIDENTIAL REASONING

Chair: **Paul Bartha**

Conditionally Independent Evidential Sources

Robert Hudson University of Saskatchewan

There is More to Probabilities than Meets the Eye: How Private Information can be Inferred from Announced Credences

Somayeh Tohidi Simon Fraser University

Inductive Risk, Expected Utility, and the Consequences of P-Hacking

Adrian Erasmus University of Cambridge

15:30 - 17:00
Buch-D316

VALUES AND THEORY CHOICE

Chair: **Kinley Gillette**

Science, Values, and Epistemic Standards: A Question of Sufficiency

Brandon Holter East Tennessee State University

A New Value-free Ideal: Disrupting the Hegemony of 'Values' in Social Philosophy of Science

Alan Richardson University of British Columbia

Machine Learning, Theory Choice, and Non-epistemic Values

Ravit Dotan University of California, Berkeley

15:30 - 17:00
Buch-D322

SCIENCE IN ASIA IN THE 19TH AND 20TH CENTURIES

Chair: **Ernie Hamm**

Popular Science in India, c. 1830

Jason Grier Independent

Troubled Translations: Science and Ethnoscience in Twentieth-century Philippines

Geoff Bil New York Botanical Garden

Writing the Histories of Japanese Science: The Case of the Neutral Theory of Molecular Evolution

Cédric Blais University of King's College

17:00 - 18:30
Buch-A102

INTERNATIONAL KEYNOTE SPEAKER (OPEN SESSION)

TWO APPROACHES TO SOCIAL EPISTEMOLOGY

Helen Longino Stanford University

This talk is made possible in part thanks to the International Keynote Speaker Support Fund of the Canadian Federation for the Humanities and Social Sciences (CFHSS) /
Cette session est rendue possible grâce au support financier du Fonds de soutien des conférenciers internationaux de marque de la FCSH.

SUNDAY JUNE 2

8:30 - 10:00
Buch-D218

SESSION: NON-CAUSAL AND MATHEMATICAL EXPLANATIONS

Chair: **Nicolas Fillion**

[I Can't Get No Satisfaction, but I Can Explain It](#)

Nicolas Fillion Simon Fraser University

[Levels and a New Role for Mathematics in Empirical Sciences](#)

Atoosa Kasirzadeh University of Toronto

[Mathematical Explanation and the Problem of Counterpossibles](#)

Erlantz Exteberria University of Western Ontario

8:30 - 10:00
Buch-D316

SCIENCE AND PUBLIC POLICY / PHOTOGRAPHY IN PORTUGUESE EMPIRE

Chair: **James Hull**

[Breaking Barriers to Ethical Research: An Analysis of the Effectiveness of Nonhuman Animal Research Approval in Canada](#)

Letitia Meynell Dalhousie University

Macgregor Malloy Dalhousie University

Caroline Vardigans Dalhousie University

[On the Mistaken Image of the Behavioral Sciences Prevalent in Policy Contexts: Insights from the Feminist Philosophy of Science](#)

Magdalena Malecka Stanford University/University of Helsinki

[Framing Territories, Making Borders: Photography in the Context of the Portuguese Missions of Border Delimitation \(1890-1931\)](#)

Teresa Mendes Flores Instituto de Comunicação da Nova

8:30 - 10:00
Buch-D322

NATURAL HISTORY AND COLLECTIONS

Chair: **Geoff Bil**

[The Epistemological Motivations Underlying the Narrative Ordering of American Ornithology](#)

Caroline von Klemperer Simon Fraser University

[The Materiality of Data: Collecting Scientific Information at a University](#)

Erich Weidenhammer University of Toronto

[Genetic Fantasy and Colonial Nostalgia: Backbreeding the “Native Breed” at Old Sturbridge Village](#)

Elspeth Gow University of British Columbia

10:00 - 10:30

COFFEE BREAK

10:30 - 12:00
Buch-D218

PHILOSOPHY OF BIOLOGY II: ONTOLOGY AND TAXONOMY

Chair: **Ingo Brigandt**

Evidence for Ontological Weak Emergence

Hamed Tabatabaei Ghomi University of Cambridge

Genetics and Evolution: Is There More to Life than This?

Tiernan Armstrong-Ingram University of California, Davis

Taxonomic Responsibility

Aleta Quinn University of Idaho

10:30 - 12:00
Buch-D316

SESSION: SCIENCE, SCIENCE POLICY AND THE FEDERAL STATE IN CANADA

Chair: **James Hull**

Science, Industry and Policy in Early 20th-century Canada

James Hull University of British Columbia

You Can! Stop Waste So Others May Eat: Wastefulness, the Cold War, and Canada's National Food Conservation Campaign, 1947-1948

Eric Striikwerda Athabasca University

Nuclear Anxieties: Fallout Research and the Northern Radiation Study, 1963-70

Matthew Wiseman University of Toronto

10:30 - 12:00
Buch-D322

SCIENCE IN THE SOVIET UNION

Chair: **Alexei Kojevnikov**

Schools for the Mathematically Gifted Students of the Former Soviet Union. Students' Selection and Admissions. Creating Diversity within Gifted Education.

Inna Tokar City College NYC, FIT, Calhoun School

The Soviet Scientist as Inspector: the Communal Hygienists' Struggle to Regulate Industrial Pollution

Christopher Burton University of Lethbridge

12:00 - 13:30

LUNCH BREAK

13:30 - 15:00
Buch-D218

METHODOLOGY OF RESEARCH AND EXPERIMENTS

Chair: **Sina Fazelpour**

Sending Knowns into the Unknown: Towards an Account of Positive Controls in Experimentation
Rebecca Jackson Indiana University

Archaeological Interpretation as Iterative Process
Kristin Kokkov University of Tartu

From Metaphysics to Methods? Pluralism in Cancer Research
Katherine Valde Boston University

13:30 - 15:00
Buch-D316

CLIMATE SCIENCE

Chair: **Alan Richardson**

Taking Values Seriously: Climate Services and Inductive Risk
Greg Lusk Michigan State University
Wendy Parker Durham University

“The Oceans are our Great Laboratory”: Marine Science and Ocean Governance in the Anthropocene
Antony Adler Carleton College
Climate Change: a Consequentialist Perspective
Carling Bergquist Dalhousie University

13:30 - 15:00
SWNG 222
(West Mall
Swing Space)

SESSION: WOMEN, TRANSNATIONAL MOBILITIES, AND MEDICO-SCIENTIFIC INNOVATION (OPEN SESSION)

Chair: **Catherine Carstairs**

Margaret Sanger in China: The Eugenic Debates on Birth Control and Overpopulation in 1922
Mirela David University of Saskatchewan

Hunting Armadillos and Whales: Frances Oldham [Kelsey] at the University of Chicago in the 1930s
Cheryl Krasnick Marsh Vancouver Island University

“This was a Drug that Healed — it was Love”: the Life and Career of Florence Nichols, Medical Missionary and Psychiatrist
Jill Campbell-Miller Carleton University

Joint session with the Canadian Society for the History of Medicine / Session conjointe avec la Société canadienne d'histoire de la médecine.

This panel is made possible thanks to the Aid for Interdisciplinary Sessions Fund of the Canadian Federation for the Humanities and Social Sciences (CFHSS) / Cette session est rendue possible grâce au support financier du fonds de soutien pour les séances interdisciplinaires de la FCSH.

15:30 - 17:00
Buch-A102

DRAKE LECTURE (OPEN SESSION)

DATA MADNESS AND QUANTIFIED HEREDITY

Theodore Porter University of California at Los Angeles

17:00 – 18:00
Robert H. Lee
Alumni Centre

PRESIDENT'S RECEPTION

MONDAY JUNE 3

8:30 - 10:00
Buch-D323

PHILOSOPHY OF PHYSICS

Chair: **Bryson Brown**

Can Quantum Mechanics Unfreeze Time?

Kent Peacock University of Lethbridge

Explanation and Effective Field Theories

Martin King Rheinische Friedrich-Wilhelms-Universität Bonn

NOTE: this session will begin at 9:00 a.m.

8:30 - 10:00
Buch-D312

SCIENTIFIC EXPLANATION

Chair: **Adrian Erasmus**

The Role of Structural Explanation in the Study of Health Inequality

Daniel Saunders York University

Changing Explanatory Strategies in Structural Biology: an Example from Protein Allostery

Jacob Neal University of Pittsburgh, HPS

Analogy, Unity, and Scientific Understanding

Shuguo Tang University of British Columbia

8:30 - 10:00
Buch-D218

SCIENTIFIC LIVES AND CORRESPONDENCE

Chair: **Jason Grier**

A Social Network and Text Analysis of Charles Darwin's Correspondence 1835-42

Caroline Floyd University of Guelph

The Limits of Imperial Influence: John James Audubon in British North America

Debra Lindsay University of New Brunswick

A Woman's Place: Mary Warnock and the Public Face of Assisted Reproductive Technology

Angela Yu University of Oxford

10:00 - 10:30

COFFEE BREAK

10:30 - 12:00
Buch-D323

LOGIC AND STRUCTURE OF SCIENTIFIC THEORIES

Chair: **Shuguo Tang**

Empirical Adequacy Debugged

Michael Miller University of Toronto

Reasoning with Incompatible Theories

M Bryson Brown University of Lethbridge

Carnap on Formal Languages: Conversations with Russell and Gödel

Yousuf Hasan University of Western Ontario

10:30 - 12:00
Buch-D312

SCIENTIFIC APPROACHES TO HEALTH CARE

Chair: **Becca Jackson**

Space Allocation and the Mathematization of Hospital Work

Theodora Vardouli McGill University

David Theodore McGill University

Medicine's Transparency Problem: What We Can Learn by Paying Attention to Attention Deficit Disorder

Vivian Feldblyum University of Pittsburgh

Bioethics' Project of Interdisciplinarity: Towards an "Argumentative Epistemology"

Catherine Dussault Laval University

10:30 - 12:00
Buch-D218

SESSION: BOOK PANEL WITH CHRISTOPHER BYRNE

MATTER AND TELEOLOGY IN ARISTOTLE'S NATURAL PHILOSOPHY

Organizer and Chair: **Louis Groarke** St. Francis Xavier University

Author: **Christopher Byrne** St. Francis Xavier University

Participants:

Mechanics in Hellenistic Philosophy

Sylvia Berryman University of British Columbia

The Relation Between Aristotle's Physics and Biology

Byron Stoyles Trent University

Aristotle's Physics and Late Scholastic Philosophy

Daniel Novotny University of South Bohemia

Thomistic and Aristotelian Hylomorphism

Steven Balder St. Francis Xavier University

Joint session with the Canadian Philosophical Association / Session conjointe avec l'Association canadienne de philosophie.

12:00 - 13:30
Buch-A102

LUNCH SERVED AT:
ANNUAL GENERAL MEETING & HADDEN PRIZE CEREMONY
DÎNER SERVI À:
ASSEMBLÉE GÉNÉRALE ANNUELLE & REMISE DU PRIX HADDEN

13:30 - 15:00
Buch-D323

SCIENTIFIC REALISM

Chair: **Brandon Holter**

Realism about Molecular Structures

Amanda Nichols Oklahoma Christian University

Myron Penner Trinity Western University

Realist Intuitions: Theoretical Virtues of Scientific Theories

Corey Mulvihill University of Ottawa

Human Inquiry, Presupposition, and Natural Structure

Josh Mozersky Queen's University

13:30 - 15:00
Buch-D312

MODELS AND MATHEMATICAL FOUNDATIONS OF SCIENCE

Chair: **Daniel Saunders**

Moving Between Models: How Our Ontic Commitments Allow Incompatible Models to Inform One Another

Eric Hochstein University of Victoria

Anti-formalism in Philosophy of Economics: Mathematical Foundations or Mathematical Style?

Patricia Marino University of Waterloo

19th Century Geometry and Physical Theory Testing

Lydia Patton Virginia Tech

13:30 - 15:00
Buch-D218

ANCIENT AND EARLY MODERN SCIENCE

Chair: **Sylvia Berryman**

Successions and Classics in the Thought and Discourse of Ancient Science, or, Why Were There 'Schools' Anyway?

Paul Keyser The Climate Corp. (Chicago)

A Complementary Scientific Approach to Eratosthenes' Calculation of the Earth's Circumference

Cem Erkli Simon Fraser University

The Roots of the Silver Tree: Alchemy and Final Causes in Boyle

Jennifer Whyte University of Pittsburgh HPS

13:30 - 15:00
Lasserre 102

OPEN SESSION: NEW RESEARCH IN THE HISTORY OF SOVIET SCIENCE

Chair: Eric M. Johnson (UBC)

A Science for Aerial Hygiene: Vladimir Riazanov and the Soviet Understanding of Clean Air

Christopher Burton University of Lethbridge

Warming Trend: Soviet Climate Science and State Policy

Connor Stewart Hunter University of British Columbia

Biosocial Boundaries, Abortions and Eugenics in Soviet Russia, 1920-1936

Alexei Kojevnikov University of British Columbia

Kirill Rossiianov Russian Academy of Sciences

Stranger Facts: Mass Scientific Literacy Campaign and Alternative Forms of Knowledge in the Post-World War II USSR

Alexey Golubev University of Houston

Joint session with the Canadian Association of Slavists / Session conjointe avec l'Association canadienne des slavistes.

15:00 - 15:30

COFFEE BREAK

15:30 - 17:00
Buch-D323

INQUIRY AND SCIENTIFIC PROGRESS

Chair: **Shuguo Tang**

[The Dynamics of Reason, Conceptual Analysis, and Scientific Progress](#)

Nicholas Ray University of Waterloo

[Induction and Deduction in the Context of Pursuit](#)

Molly Kao University of Montreal

[Inductive and Deductive Reasoning in Discovering the Cause of Brownian Movement](#)

Klodian Coko University of Western Ontario

15:30 - 17:00
Buch-D312

COMPUTATION: PHILOSOPHICAL AND SOCIAL PERSPECTIVES

Chair: **Zachariah Neemeh**

[Cyborg Landscapes: Intersections of Technology and the Environment in the Late 20th and \(Early\) 21st centuries](#)

Sophie LeBlanc University of Toronto

[Algorithmic Egalitarianism: Alphabet is Building a City of the Future](#)

Anna Artyushina York University

[Agency, Action, and ACTION-IS](#)

Zoe Ashton The Ohio State University

15:30 - 17:00
Buch-D218

HISTORY AND PHILOSOPHY OF PSYCHIATRY

Chair: **Sander Verhaegh**

[Kraepelin's Psychiatry in the Pragmatic Age: Transitions from Germany to the United States](#)

David Rattray Simon Fraser University

[Revolutionizing Psychiatric Classification: Prospects and Problems](#)

Nicholas Slothouber University of Western Ontario

[Towards a More Fine-Grained Methodological Landscape of the Study of Human Behaviour](#)

Ingo Brigandt University of Alberta