



CSHPS **SCHPS** 2021

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**

**29 May-2 June 2021
29 mai-2 juin 2021**

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

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

**University of Alberta
Edmonton AB
Canada**

Programme at a Glance / Programme sommaire

Eastern Daylight Time / Heure avancée de l'est (GMT -4)
(Mountain Daylight Time / Heure avancée des rocheuses (GMT -4))

SATURDAY 29 MAY / SAMEDI 29 MAI			
	A	B	C
11:30 - 13:00 (9:30 - 11:00)	Philosophy of cognitive science	Applicability of Mathematics	20th c. HOPOS
13:30 - 15:00 (11:30 - 13:00)	Reduction and emergence in biology	Aristotle and philosophy of science	Underrepresented groups in history
16:00 - 18:00 (14:00 - 16:00)	Subject and agency in biology	Decentered sciences: Beyond centre/periphery stories	Values and inductive risk
SUNDAY 30 MAY / DIMANCHE 30 MAI			
	A	B	C
11:30 - 13:00 (9:30 - 11:00)	History of science	Issues in science funding policy	Early modern philosophy of science
13:30 - 15:00 (11:30 - 13:00)	Explanation in the life sciences	Philosophy of physics and ontology	Expertise
16:00 - 17:30 (14:00 - 15:30)	Drake Lecture: <i>Galileo Among the Giants</i> by Anita Guerrini		
17:30 - 18:00 (13:30 - 16:00)	Social Lounge Time		
MONDAY 31 MAY / LUNDI 31 MAI			
	A	B	C
11:30 - 13:00 (9:30 - 11:00)	History and philosophy of biology	Laws	Social epistemology
13:30 - 15:00 (11:30 - 13:00)	Aims-based approaches in the life sciences	Philosophy of physics	Science and society
16:00 - 18:00 (14:00 - 16:00)	Marxist theories of science	History of 20th c. physics	Models and metrics
TUESDAY 1 JUNE / MARDI 1 JUIN			
	A	B	C
11:30 - 13:00 (9:30 - 11:00)	Science, technology and Northern exploration	HPS and AI	Climate science and policy
13:30 - 15:00 (11:30 - 13:00)	Philosophy of health sciences	Models, modality, representation	Scientific reasoning and theory change
16:00 - 17:30 (14:00 - 15:30)	International Keynote: <i>The Circulation of Mathematical Knowledge in 19th Century India and Europe</i> by Dhruv Raina		
17:30 - 18:00 (13:30 - 16:00)	Social Lounge Time		
WEDNESDAY 2 JUNE / MERCREDI 2 JUIN			
	A	B	C
11:30 - 13:00 (9:30 - 11:00)	Annual General Meeting and Hadden Prize Ceremony / Assemblée générale et remise du prix Hadden		
13:30 - 15:00 (11:30 - 13:00)	International and colonialist history of science	Teaching HPS through experiences	Nature of experiments
16:00 - 18:00 (14:00 - 16:00)	Cognition and psychiatry	Explanation, imagination, learning	Philosophy of technology

CSHPS Programme SCHPS 2021

(24 May / 24 mai)

Eastern Daylight Time / Heure avancée de l'est (GMT -4)
(Mountain Daylight Time / Heure avancée des Rocheuses (GMT-6))

SATURDAY 29 MAY / SAMEDI 29 MAI

A		B		C
11:30-13:00 (9:30-11:00)	Philosophy of cognitive science Chair : Agnes Bolinska Ingo Brigandt How to Properly Investigate Human Cognitive Difference and Diversity? Andrew Richmond Representation and Representational Explanation Erik Nelson The Grammar of Bird Cognition: Wittgenstein, Corvids, and Nonlinguistic Concepts	Applicability of mathematics Chair : Robert Hudson Jessica Oddan Novel Methodology in Reconstructions of Quantum Theory Aditya Jha Formal Analogies, Scientific Explanation and Understanding André Curtis-Trudel Computatational Pluralism	20th c. HOPOS Chair : Jamie Shaw Alan Richardson The Reichenbach Scare: Cold War Reason and Closing the Gemeinschaft Gap Bianca Crewe The Theory of Knowledge and the Education of the People: Unified Science as Social Epistemology Deivide Garcia da Silva Oliveira On Feyerabend's Theory of Experience: The Empiricist Fluidness and Theoretical Speculation	
13:00-13:30 BREAK				
13:30-15:00 (11:30-13:00)	Reduction and emergence in biology Chair : Aja Watkins Erica Onnis Irreducibility, Novelty, or What? Towards a Property Cluster Theory of Emergence Sun Kyeong Yu Biology and Its Tale of Two Reductions	Aristotle and philosophy of science Chair : Margaret Farrell Jennifer Whyte A Turn at the Wheel: The three lives of the Rota Aristotelica Adam Woodcox The Dialectic of Aristotle's De Divinatione per Somnum	Underrepresented groups in history Chair : Marga Vicedo Jörg Matthias Determann A More Diverse Universe: Identity and Inclusion in Modern Astronomy Landon D. C. Elkind The Lone Wrangler: Dorothy Wrinch's Original Contributions to Set Theory in the 1920s	
15:00-16:00 LUNCH				
16:00-18:00 (14:00-16:00)	Subject and agency in biology	SESSION - Decentered Sciences: Beyond Centre/Periphery stories		Values and inductive risk

Chair : Christophe Malaterre

Auguste Nahas

Cui Bono? The Continental Critique of Teleonomy

Fermin Fulda

Agential Autonomy and Biological Individuality

Matthew Perkins-McVey

Morphine, alcohol, and the victorious body: how intoxicants intersected bodies and minds in the development of the biological subject

Alistair Whittle

Singing Immunological Songs: An Exploration of Holobiont Individuality

Chair: Gianamar Giovanetti-Singh

Maria Amuchastegui*

The Discovery of Binary Numeration: Leibniz, Caramuel, and the New World

Ernst Hamm

Science, Empire, Centre and Periphery: Considerations via the Caucasus, Tartu, Saint Petersburg and Paris

Gordon McOuat

Tracking Decolonisation: The Case of the Journal of Genetics Going East

Arden Rogalsky [Talk cancelled]

J.B.S. Haldane: Charting a New Genetics Through Language and Place

Chair : Faeze Fazeli

Aaron Kenna

Contra the Value-Free Ideal of Science

Helen Zhao

The Importance of (An Account of) Empirical Adequacy

Tyler Paetkau

Degrees of Harm and Legitimacy: A Defense of the Inductive Risk Account of Epistemically Detrimental Dissent

Parysa Mostajir

Values in Science: Pragmatist and Feminist Perspectives

SUNDAY 30 MAY / DIMANCHE 30 MAI

A

B

C

11:30-13:00
(9:30-11:00)

History of science

Chair : Matthew Wiseman

David Orenstein

A Scientific Centennial: The 1921 Toronto Meeting of the American Association for the Advancement of Science

Vincent Auffrey

“Pour l’amélioration de la race humaine”: The Reception of Eugenics in the French-Canadian Press, 1912-1921

Bertrand Guillaume [Talk cancelled]

Des hivers Belges: Projets de géo-ingénierie climatique de la Sibérie pendant la Guerre Froide

SESSION: Issues in Science Funding Policy

Chair : Rachel Katz

Jamie Shaw

Feyerabend, Pluralism, and Socially Responsible Science Funding Policy

Mark Solovey

Social Science for What? Wasting Taxpayer Dollars, Winning Golden Fleece Awards

Kareem Khalifa

Science Funding, Unpredictability, and New Inductions

Early modern philosophy of science

Chair : Jennifer Whyte

Ryan Michael Miller

Descartes, Model-based Scientist

Qiu Lin

Du Châtelet on Mechanical Explanation versus Physical Explanation

Aaron Wells

Kant on Mental Association and the Limits of Physiological Explanation

13:00-13:30

BREAK

13:30-15:00 (11:30-13:00)	Explanation in the life sciences	Philosophy of physics and ontology	Expertise
	Chair : Danielle Brown	Chair : Jessica Oddan	Chair : Parysa Mostajir
	Sepehr Ehsani Principled Mechanistic Explanations in Biology: A Case Study of Alzheimer's Disease	Frida Trotter On the Structural Nature of Entanglement	Kinley Gillette Conceptualizing deferential models of expert authority
	Katie Deaven Relative Significance Controversies in Evolutionary Biology	Michael Cuffaro The Open Systems View	Marga Vicedo Experience as expertise: Clara Park's call for valuing a mother's knowledge
	Lane DesAutels The Case for Final Causes in Life Science	Thomas De Saegher [Talk cancelled] Vague Dynamical Ontological Models of Quantum Theory	Kamil Aftyka The Role of Popular Science in the Formation of Expert Knowledge. Observations About Ludwik Fleck's Epistemology

15:00-16:00	LUNCH
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16:00-17:30 (14:00-15:30)	DRAKE LECTURE <i>Anita Guerrini</i> Galileo Among the Giants
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17:30-18:00 (15:30-16:00)	Social Lounge Time
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MONDAY 31 MAY / LUNDI 31 MAI

A	B	C
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11:30-13:00 (9:30-11:00)	History and philosophy of biology	Laws	Social epistemology
	Chair : Lane DesAutels	Chair : Philippe Verreault-Julien	Chair : Justin Donhauser
	Jacob P. Neal From Static to Dynamic: A Historical Account of the Emergence of the Dynamic View of Proteins	Chris Meacham The Nomic Likelihood Account of Laws	Remco Heesen and Liam Bright Publication Bias is Bad for Science if not Necessarily Scientists
	Agnes Bolinska Molecular models as tools for gaining information about protein and DNA structure	Mousa Mohammadian An Armstrongian Defense of Dispositional Monist Accounts of Laws	Daniel Saunders How to Put the Cart Behind the Horse in the Cultural Evolution of Gender
	Aja Watkins Accommodating Horizontal Inheritance in Phylogenetics	Alexandru Manafu The Analyticity Objection to Special Science Laws	Michelle Pham Social Roles in Scientific Collaboration

13:00-13:30		BREAK	
13:30-15:00 (11:30-13:00)	Aims-based approaches in life sciences	Philosophy of physics	Science and society
	Chair : Ingo Brigandt Ely Mermans Controversies Over the Keystone Species Concept: A Brigandt-Longino's Analysis Alican Basdemir Integrating-for-Purposes: The Aims-Based Approach to Scientific Integration in Biology	Chair : Michael Cuffaro Adam Koberinski Regularizing (away) vacuum energy Michael Miller Quantum Determinables	Chair : Mark Solovey Rachel Katz Funding the future? Trust and Transparency on Crowdfunding Platforms for Research Projects Garrett Richards and Svetlana Barkanova Evaluating STEM Outreach Programs: What Works Best and How Would We Know?
15:00-16:00		LUNCH	
16:00-18:00 (14:00-16:00)	Marxist theories of science	History of 20th century physics	Models and metrics
	Chair : Bianca Crewe Alex Bryant Gilbert Simondon contra Marx and Hegel: Alienation and Analogical Understanding Spencer Hayden Marx and Engels: Against Positivism, for Dialectical Materialism Zeyad El Nabolsy Paulin J. Hountondji on Science, Capitalism, and Imperialism: An African Philosopher's Quest for a Sociology of Scientific Knowledge in the Peripheries George Borg Discovery and Instrumentation: How Surplus Knowledge Contributes to Progress in Science	Chair : Michael Miller Marco Forgione The Spacetime View in Feynman's Electrodynamics Andrea Oldofredi On the Meaning of the Wave Function: Ettore Majorana’s Lectures Notes on Theoretical Physics Theodora Vardouli and Salmaan Craig [Talk cancelled] The Circuit and the Bath: Cultures of Energy Modelling at the University of Cambridge, 1960-1980 Doreen Fraser Taking the long view on quantum field theory	Chair : Aaron Kenna Ryan O'Loughlin Climate model comparisons: history and philosophical implications Federica Bocchi Justifying inferences: the case of paleodiversity measurements and the contemporary biodiversity crisis Justin Donhauser A New, Robust, Method for Weather Event Attribution Shimin Zhao Two statistical approaches to simplicity: a comparison
TUESDAY 1 JUNE / MARDI 1 JUIN			
A		B	
		C	
11:30-13:00 (9:30-11:00)	SESSION: Science, Technology and Northern Exploration		Climate science and policy

Chair: Fiona Amery

Antony Adler

Diving Under Ice: Saturation Diving and Canadian Sovereignty Claims in Arctic Waters

Sarah Pickman

"A Maximum of Nourishment with Minimum of Bulk": Arctic Exploration, Experimental Failure, and the Pemmican Campaigns of Vihjalmur Stefansson

Matthew Wiseman

Northern Depictions: Military Science and Inuit Knowledge on Film in Cold War Canada

Chair : Isaac Record

Joseph Wilson

The Ghost in the Machine: Structural Metaphors in the 'Golden Age' of Artificial Intelligence Research, 1956-1976

Hakob Barseghyan and Nichole Levesley

Big-Data and Integrated HPS: Towards a Database of Intellectual History

Christophe Malaterre

Reconstructing the history of philosophy of science by means of topic-modeling

Chair : Ryan O'Loughlin

Joshua Luczak

Climate Denialism is Harmful Bullshit

Ahmad Elabbar

Following Climate Science Towards Greater Emissions: Framing and Subversion in the Trump Administration's Assessments for Environmental Policy

Faeze Fazeli

Science, Post-Truth, and Superficial Democracies: How Social Psychology Undermines Kitcher's Solution for Climate Change

13:00-13:30

BREAK

13:30-15:00
(11:30-13:00)

Philosophy of health sciences

Chair : Brandon Boesch

Paul Istasy and Ben Chin-Yee

The Problem of Trustworthy AI in Medicine

Sarah Clairmont

Valuing Population Health Science

Zahra Meghani [Talk cancelled]

The 'construction' of GE mosquitoes with gene drives as the solution to the high incidence of mosquito-borne diseases: An epistemically and ethically justified scientific practice?

Models, modality, representation

Chair : Alexandru Manafu

Benedetta Spigola

Cassirer on Representation, Representationalism, and Physical Knowledge

Philippe Verreault-Julien

Representing Non-Actual Targets?

Thomas Donaldson

Abstractionism and Modality

Scientific reasoning and theory change

Chair : Ely Mermans

Charle André Terrault

Deduction and Induction: False Dichotomy?

David Ratray

C.I. Lewis, F.P. Ramsey, and Scientific Theory Change

Jean-Jacques Rousseau

Les créoles comme modèle de changement scientifique

LUNCH

16:00-17:30
(14:00-15:30)

INTERNATIONAL KEYNOTE

Dhruv Raina

The Circulation of Mathematical Knowledge in 19th Century India and Europe

17:30-18:00 (15:30-16:00)	Social Lounge Time		
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WEDNESDAY 2 JUNE / MERCREDI 2 JUIN

A	B	C
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11:30-13:00 (9:30-11:00)	Annual General Meeting and Hadden Award Ceremony / Assemblée générale et remise du prix Hadden		
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13:00-13:30	BREAK		
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13:30-15:00 (11:30-13:00)	International and colonialist history of science Chair : Gordon McOuat Gianamar Giovannetti-Singh Knowledges of Geography and Geographies of Knowledge: Martino Martini's Novus Atlas Sinensis and the emergence of mathematical cosmography Fiona Amery The Sound of the Aurora Borealis: Discussion and Controversy in the First and Second International Polar Years Theo Di Castri "An Unusual Natural Laboratory": Ethnicity, Deviance and Mid-Century US Settler Colonialism in the Construction of Problem Behavior Theory, 1958-1980	SESSION: Teaching HPS Through Experiences Chair: Molly Kao Marisa Brandt Reimagining First-Year Writing for STEM Students as Inquiry-Based Learning in Science Studies Isaac Record "Make the Students Do the Work": Designing a New Space for Learning HPS Eleanor Louson Teach with "GORP" for Better Experiential Learning in HPS	Nature of experiments Chair : Derek Andrews Robert Hudson Explicating Exact versus Conceptual Replication Brandon Boesch Representational Practice of Representative Sampling in Public Health Surveillance Systems Austin Due Discovering Side Effects and Evaluating Efficacy in Post-Market 'Phase IV' Pharmaceutical Trials: Exploratory or Confirmatory Experiments?
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15:00-16:00	LUNCH		
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16:00-18:00 (14:00-16:00)	Cognition and psychiatry Chair : Nicholas Ray Vivien Hamilton and Delia Gavrus Plant Cognition and the Re-enchantment of nature	Explanation, imagination, learning Chair : Kareem Khalifa Haomiao Yu The Epistemology of Scientific Explanation	Philosophy of technology Chair : Zahra Meghani Paula Sanchez-Nunez de Villavicencio Exploring the Networked Subject Through Reality Augmenting Technologies
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Margaret Farrell

What Would Imaginary Ancestors Do?

Derek Andrews

Too Complex to Predict? What Complexity Theory Reveals About Natural Kind Analysis in Psychiatry

Danielle Brown

The Medical Nature of Personality Disorders

Michael Stuart

Metaepistemology of Tools that Extend the Power of the Human Scientific Imagination

Thomas Kivatinos

Familiar Portraits: The Hidden Convergence of Explanatory Practices in Science and Metaphysics

Gui Sanches de Oliveira

Reconceiving modeling: From representation to enaction and construction

Jennifer Jill Fellows

A Mummery of Bondage: Siri and the Subversion of the Master/Slave Dialectic

Arjun Sawhney

Policing in the Age of Algorithms

*Winner of the 2020 Hadden Prize | Récipient du prix Hadden 2020

Note: All talks are half an hour long. Sessions with less than a full slate will begin on time and end early.

Note : Toutes les conférences durent une demi-heure. Lorsqu'une session n'est pas complète, elle commence à l'heure et termine plus tôt.