# MOLLY KAO

Université de Montréal Département de philosophie Pav. 2910 boul. Édouard-Montpetit Montréal, QC, Canada H3C 3J7 Email: molly.kao@umontreal.ca Tel: +1 514 343-6111 x. 33446 Web: www.mollykao.com

AREAS OF SPECIALIZATION	
General philosophy of science, History and philosophy	of physics
AREAS OF COMPETENCE	
Epistemology, Game theory, Philosophy of biology	
ACADEMIC APPOINTMENTS	
Assistant professor, Université de Montréal	July 2016–present
EDUCATION	
<b>PhD, Philosophy</b> (2016) Dissertation: <i>Evaluating the Quantum Postulate in the C</i> Supervisor: Wayne Myrvold	University of Western Ontario Context of Pursuit
<b>MA, Philosophy</b> (2009) Supervisor: John L. Bell	University of Western Ontario
<b>BA, Philosophy &amp; Mathematics</b> (2008) Minor in French	University of Windsor
PUBLICATIONS	

### REFEREED CONTRIBUTIONS

- "Unification Beyond Justification: A Strategy for Theory Development." Forthcoming in *Synthese.* Online first at doi 10.1007/s11229-017-1515-8.
- "Old Evidence in the Development of Quantum Theory." (2018). *Philosophy of Science*, 85(1), pp. 126–143.
- "Unification and the Quantum Hypothesis in 1900–1913." (2015). *Philosophy of Science*, 82(5), pp. 1200–1210.

"A New Role for Data in the Philosophy of Science." (2015). *Philosophia Scientiae*, 19(1), pp. 9–20.

#### OTHER CONTRIBUTIONS

"Is the Inferential Conception of Applied Math Complete?" (2011). Proceedings of the 37th Annual Meeting of the Canadian Society for History and Philosophy of Mathematics and 5th Joint Conference with the British Society for History of Mathematics, Volume 24, pp. 68-78.

Review of "From a Geometrical Point of View: A Study of the History and Philosophy of Category Theory" by Jean-Pierre Marquis. (2010). First author. Co-authored with Nicolas Fillion and John Bell. *Philosophia Mathematica*, Volume 18(2), pp. 227-234.

## **PRESENTATIONS**

\* = Invited talk

"Background Assumptions and Reasoning to New Theories : Inconsistency in the Old Quantum Theory"

- *VIIème congrès de la Société de philosophie des sciences*, 4-6 July 2018, Nantes, France
- *Scientific theory construction: Measurement and constraints*, Université de Montréal, 4 May 2018, Montreal, Canada

"Employing Agent-Based Computer Simulations in Developing Theories of Distributive Justice." (with Michael Cuffaro)

- Canadian Philosophical Association Annual Congress, Université du Québec à Montréal, 4-7 June 2018, Montreal, Canada
- Models and Simulations 8, University of South Carolina, 15-17 March 2018, Columbia SC, USA

"Unification and Heuristic Strategies in the Development of Quantum Theory."

- *History of Science, Technology and Medicine Colloquium,* University of Minnesota, 17 November 2017, Minnesota, USA

"Unification Beyond Justification: A Strategy for Pursuit."

- Canadian Philosophical Association Annual Congress, 28-31 May 2017, Toronto, Canada
- Exploring Scientific Method: Evidence, Explanation and Unification in Science,
   Munich Center for Mathematical Philosophy, Ludwig-Maximilians-Universität, 8-9
   May 2017, Munich, Germany

- "Discovery vs. Justification: Refining the Context Distinction."
  - *Philosophy Speaker Series*, Concordia University, 27 October 2017, Montreal, Canada\*
  - History and Philosophy of Science Lunchtime Talk Series, McGill University, 5
     October 2017, Montreal, Canada\*
  - *Canadian Society for the History and Philosophy of Science*, 24-29 May 2017, Toronto, Canada
- "Einstein, Millikan and quantum theory: the evidential import of the photoelectric effect."
  - *Workshop on Explanations in Physics*, Leibniz Universität Hannover, 11 May 2017, Hannover, Germany\*
  - *6e congrès de la société de philosophie des sciences*, 29 June-1 July 2016, Lausanne, Switzerland
- "Old Evidence in the Development of Quantum Theory."
  - *Colloquium in Philosophy, Logic and Philosophy of Science*, Munich Center for Mathematical Philosophy, 10 May 2017, Munich, Germany\*
  - Philogica IV: IV Colombian Conference on Logic, Epistemology and Philosophy of Science, 17-19 February 2016, Bogotá, Colombia
- "L'unification comme stratégie de poursuite."
  - *Atelier de philosophie moderne et contemporaine*, Université Laval, 27 January 2017, Québec, Canada\*
- "Interpretations of Probability."
  - *Séminaires Universitaires en Mathématiques à Montréal*, McGill University, 13 January 2017, Montreal, Canada\*
- "Une comparaison du rôle d'unification dans l'histoire de Perrin et de Planck."
  - Colloque 2016 du Laboratoire étudiant interuniversitaire en philosophie des sciences (LEIPS), 23-24 September 2016, Montreal, Canada\*
- "Quantum Theory and the Context of Pursuit: Defining the Quantum Hypothesis."
  - *WIP Series*, Munich Centre for Mathematical Philosophy, January 2015, Munich, Germany
- "Unificatory Power and the Quantum Hypothesis: Measuring Planck's Constant 1900-1913."
  - *Philosophy of Science Association Biannual Meeting*, 6-8 November 2014, Chicago, USA
- "Quantization in the Early Twentieth Century: Investigating an Instance of Theory Change."
  - Structuralism, Structural Realism and Theory Change Workshop, Munich Centre for Mathematical Philosophy, 3 July 2014, Munich, Germany\*

"Unification in the Old Quantum Theory: Planck's Constant and the Quantum Hypothesis."

- *Inductive Logic and Confirmation in Science*, University of Kent, 17-18 October 2013, Paris campus, France
- 17th UK and European Meeting on Foundations of Physics, 29-31 July 2013, Munich, Germany

"Theory Pursuit and the Old Quantum Theory."

- *Congress on Logic and Philosophy of Science*, 16-18 September 2013, Ghent, Belgium

"Confirmation and the Old Quantum Theory"

- *PGSA Colloquium Series*, Department of Philosophy, University of Western Ontario, October 2012, London, Canada

"From Foundation to Function: Rethinking the Role of Data in Science."

- Congress for Logic, Methodology and Philosophy of Science, 19-26 July 2011, Nancy, France
- Canadian Society for History and Philosophy of Science, 28-31 May 2011, Fredericton, Canada

"Is the Inferential Conception of Applied Mathematics Complete?"

- Canadian Society for History and Philosophy of Mathematics, 15-17 July 2011, Dublin, Ireland
- Canadian Philosophical Association Annual Congress, 30 May-2 June 2011, Fredericton, Canada

"Why de Broglie-Bohm Theory is Not Everettian."

- Canadian Philosophical Association Annual Congress, 30 May-2 June 2010, Montreal, Canada

# FELLOWSHIPS, AWARDS AND PRIZES \_

Aesop Chair of Philosophy, University of Montreal, 2017–2020

Mary Routledge Fellowship, 2016

Richard A. Harshman Memorial Scholarship, 2014

Research Assistantship, Online course development for Introduction to Critical Thinking, University of Western Ontario, 2014

University of Western Ontario Graduate Thesis Research Award, 2014

Rotman Institute of Philosophy Graduate Research Award, 2012, 2013

University Students' Council Teaching Honour Roll Award of Excellence, 2012

Ontario Graduate Scholarship Doctoral Level, 2013-2014

Social Sciences and Humanities Research Council of Canada, Doctoral Fellowship, 2011–2013

Ontario Graduate Scholarship Doctoral Level, 2011–2012 (declined)

Ontario Graduate Scholarship Doctoral Level, 2009–2011

Social Sciences and Humanities Research Council of Canada, Canada Graduate Scholarship Masters Level, 2008–2009

Ontario Graduate Scholarship Masters Level, 2008–2009 (declined)

Dean's Entrance Scholarship, Faculty of Arts & Humanities, University of Western Ontario, 2008

Board of Governors' Medal in Philosophy, University of Windsor, 2008

## TEACHING EXPERIENCE \_\_\_\_\_

#### INSTRUCTOR

#### Université de Montréal

Induction et raisonnement scientifique : Induction and scientific reasoning (Fall 2018) Introduction à la philosophie des sciences : Introduction to philosophy of science (Winter 2019)

Séminaire en philosophie des sciences, "Fondements philosophiques de la mécanique quantique" : Graduate seminar on "Philosophical foundations of quantum mechanics" (Fall 2018)

Séminaire en philosophie des sciences, "Le problème d'induction" : Graduate seminar on "The Problem of Induction" (Winter 2018)

Logique 2: Intermediate Logic (Winter 2017, Winter 2018)

Logique 1: Introductory Logic (Fall 2017)

## **University of Western Ontario**

Basic Logic (Winter 2012)

## TEACHING ASSISTANT

Introduction to Logic, University of Western Ontario (2010-2011)
Reasoning and Critical Thinking, University of Western Ontario (2008-2010)
Linear Algebra III, University of Windsor (Winter 2008)
Introduction to Linear Algebra, University of Windsor (Fall 2007)
Mathematical Foundations, University of Windsor (2007-2008)

## OTHER ACADEMIC ACTIVITY \_

Participant in round table "Naturaliser en science," organised by Christophe Malaterre and *Centre interuniversitaire de recherche sur la science et la technologie*, Université du Québec à Montréal, 21 September, Montreal, Canada (upcoming)

Visiting Student, Munich Center for Mathematical Philosophy, Ludwig-Maximilians-Universität München, 2013–2015, Munich, Germany

Rotman Summer Institute, "Foundations of Statistical Mechanics," Rotman Institute of Philosophy, 14-20 July 2013, Ontario, Canada

#### SERVICE \_\_\_\_\_

Board of Directors Member, Canadian Philosophical Association (2017–2019)

Category Editor for *Philpapers*, History of Quantum Mechanics (2015–present)

Referee for *Philosophy of Science* (2012–present), *Studies in History and Philosophy of Modern Physics* (2016–present)

Reviewer, "Annual Graduate Conference in Philosophy of Physics," Munich Center for Mathematical Philosophy, Ludwig-Maximilians- Universität (2014)

Committee Chair, "Annual Graduate Conference in Philosophy of Logic, Mathematics and Physics," University of Western Ontario (2011–2013)

Committee Member, "Annual Graduate Conference in Philosophy of Logic, Mathematics and Physics," University of Western Ontario (2010–2011)

Co-president, Philosophy Graduate Students Association, University of Western Ontario (2010–2012)

Department representative, Society of Graduate Students, University of Western Ontario (2008–2009)

#### Professional Memberships

Philosophy of Science Association Canadian Society for History and Philosophy of Science Canadian Philosophical Association

#### LANGUAGES \_\_

English (native speaker)
French (good reading and speaking knowledge)
German (basic reading knowledge)
Mandarin Chinese (conversational)

## REFERENCES \_\_\_

# Wayne C. Myrvold

Professor of Philosophy and Field Director for the Philosophy of Science, University of Western Ontario; Affiliate Member of the Perimeter Institute for Theoretical Physics.

Tel. 519-661-2111 ext. 85754. Email: wmyrvold@uwo.ca

# William L. Harper

Professor Emeritus of Philosophy, University of Western Ontario. Tel. 519-661-2111 ext. 80091.

Email: wlharp@uwo.ca

#### **Chris Smeenk**

Associate Professor of Philosophy, Director of the Rotman Institute of Philosophy, University of Western Ontario. Tel. 519-661-2111 ext. 85770. Email: csmeenk2@uwo.ca

# **Lorne Falkenstein (Teaching)**

Professor of Philosophy, University of Western Ontario.

Tel: 519-661-2111 ext. 85774 Email: lfalkens@uwo.ca