

ARTHUR PAUL PEDERSEN

CONTACT INFORMATION	<i>E-Mail:</i> app@arthurpaulpedersen.org <i>Phone:</i> +1 650.469.3561	<i>Web:</i> arthurpaulpedersen.org
RESEARCH EXPERTISE	Decision and Game Theory, Economics, Probability and Statistics, Logic and Computation, Artificial Intelligence and Cognitive Science, Measurement Theory, Functional Analysis, Algebraic and Topological Systems	
TECHNICAL SKILLS	C, C++, Java, Perl, Python, R, Shell, PHP, HTML, SQL, CSS, L ^A T _E X, Unix/Linux	
POSITIONS	The Graduate Center, CUNY Department of Computer Science <i>Research Scientist, Graduate Center Foundation Fellowship</i>	August 2019 - PRESENT
	The City University of New York, Brooklyn College Department of Computer and Information Science <i>Assistant Professor, Adjunct</i>	August 2019 - PRESENT
	Ludwig-Maximilians-Universität München Munich Center for Mathematical Philosophy <i>External Faculty Research Scientist</i> <i>Visiting Research Scientist</i>	Jan 2012 - PRESENT Aug 2015 - Dec 2017
	Messmer High School Department of Mathematics <i>Long-term Substitute Instructor</i>	Jan 2018 - Jul 2018
	Universität Regensburg Department of Theoretical Philosophy <i>Research Scientist</i>	Aug 2015 - Dec 2017
	Max Planck Institute for Human Development Center for Adaptive Rationality <i>Adjunct Research Scientist</i> <i>Postdoctoral Research Fellow</i>	Aug 2015 - Dec 2017 Jan 2013 - Jul 2015
	University of Wisconsin-Madison Department of Mathematics <i>Research Fellow</i>	May 2005 - May 2006
EDUCATION	Carnegie Mellon University Ph.D. Logic, Computation and Methodology (2012) Dissertation: <i>Archimedes Wake</i> Committee: Teddy Seidenfeld (advisor), Rohit Parikh (CUNY) Marcus Pivato (Université de Cergy-Pontoise), Kevin Zollman (co-advisor) M.S. Logic, Computation and Methodology (2009) Committee: Horacio Arló-Costa (advisor) and Teddy Seidenfeld (advisor)	
	University of Notre Dame Visitor of the Department of Mathematics on Scholarship (Summer 2005)	
	University of Wisconsin-Madison B.A. Mathematics (2005) B.A. Philosophy (2005)	

PUBLICATIONS

- “Dilation and Asymmetric Relevance” (with Gregory Wheeler). Forthcoming in *Proceedings of Machine Learning Research* (PMLR): 2019.
- “Trivialities and Possibilities of Normative Accounting Standards” (with Jack Stecher). *In preparation*.
- “Visualizing Dilation” (with Gregory Wheeler). *In preparation*.
- “A (Critical) Chronicle of Convexity” (with Isaac Levi, Michael Nielsen, Rush T. Stewart). *In preparation*.
- “Qualitative Axioms of Uncertainty as a Foundation for Probability and Decision-Making” (edited and posthumously co-authored with Patrick Suppes). *Minds and Machines*, 26(2):185–202, 2016.
- Finding Foundations for Bounded and Adaptive Rationality* (co-edited and co-authored introduction with Ralph Hertwig). *Minds and Machines*, 26(1-2):2016.
- “Dilation, Disintegrations, and Delayed Decisions” (with Gregory Wheeler). In T. Augustin, S. Doria, E. Miranda, and E. Quaeghebeur, editors, *Proceedings of the Ninth International Symposium on Imprecise Probability: Theories and Applications* (ISIPTA): 227-236, 2015.
- “Demystifying Dilation” (with Gregory Wheeler). *Erkenntnis*, 79(6): 1305-1342, December 2014.
- “Comparative Expectations.” *Studia Logica*, 102(4): 811-848, August 2014.
- “When is an Example a Counterexample?” (with Eric Pacuit and Jan-Willem Romeijn). In B.C. Schipper, editor, *Proceedings of the Fourteenth Conference on Theoretical Aspects of Rationality and Knowledge* (TARK), 156-165, 2013.
- “What Language Dependence Problem? A Reply for Joyce to Fitelson on Joyce” (with Clark Glymour). *Philosophy of Science*, 79(4): 561-574, October 2012.
- “Fast and Frugal Heuristics: Rationality and the Limits of Naturalism” (with Horacio Arló-Costa). *Synthese*: 1-20, November 2012.
- “Belief and Probability: A General Theory of Probability Cores” (with Horacio Arló-Costa). *International Journal of Approximate Reasoning*, 53(3): 293-315, April 2012.
- “Belief Revision” (with Horacio Arló-Costa). In L. Horsten and R. Pettigrew, editors, *Continuum Companion to Philosophical Logic*. Continuum Press, 2011.
- “Bounded Rationality: Models for Some Fast and Frugal Heuristics” (with Horacio Arló-Costa). In A. Gupta, J.F.A.K. van Benthem, and E. Pacuit, editors, *Games, Norms and Reasons: Logic at the Crossroads*. Springer, 2011. A tribute to Rohit Parikh on the occasion of his 70th birthday.
- “Social Norms, Rational Choice and Belief Change” (with Horacio Arló-Costa). In E.J. Olsson and S. Enqvist, editors, *Belief Revision meets Philosophy of Science*, Vol. 21 of *Logic, Epistemology, and the Unity of Science*. Springer, 2010.
- “A Proof of Completeness for Continuous First-Order Logic” (with Itai Ben Yaacov). *Journal of Symbolic Logic*, 75(1): 168-190, March 2010.

PRESENTATIONS

- “Bayesian Aggregation under Severe Uncertainty and Unresolved Conflict.” (October 2019). *Seminar in Logic, Games and Language*, Department of Computer Science, CUNY Graduate Center.

PRESENTATIONS

(CONT'D)

- “From Hölder to Hahn: Comparative, Classificatory, and Quantitative Conceptions in Probability and Decision.” (April 2019). *Logic, Probability, and Games*, University Seminars, Columbia University.
- “Invited Discussion Panel.” (April 2016). *Second Munich Graduate Workshop in Mathematical Philosophy: Formal Epistemology*, Munich Center for Mathematical Philosophy.
- “Dilation and the Value of Information” (with Gregory Wheeler). (March 2016). *Fifth Annual Meeting of New Frameworks of Rationality*, Schloss Etelsen.
- “Conditionals and Conditional Reasoning: Qualitative Perspectives” (with Hans Rott). (March 2016). *Fifth Annual Meeting of New Frameworks of Rationality*, Schloss Etelsen.
- “Invited Tutorial Session.” (March 2016). *MuST 9: Evidence, Inference, and Risk*, Munich Center for Mathematical Philosophy.
- “Full Belief and Partial Belief under Conditions of Severe Uncertainty” (March 2016). *Invited Symposium: Full Belief and Partial Belief. The 113th Annual Meeting of the Central Division of the American Philosophical Association (APA)*, Chicago.
- “Comparative, Classificatory, and Quantitative Conceptions of Probability, Independence, and Entropy.” (16 February 2016). Workshop on Entropy, Ludwigsburg University.
- “Admissible Decisions, Permissive Previsions” (5 November 2015). *Colloquium in Mathematical Philosophy*, Munich Center for Mathematical Philosophy.
- “Strictly Coherent Choice under Uncertainty.” (3 September 2015). *The Eighth Workshop on Principles and Methods of Statistical Inference with Interval Probability (WPMSIP)*, Department of Statistics, Ludwig-Maximilians-Universität München.
- “Predictable Doubts” (with Gregory Wheeler). (1 September 2015). *The Eighth Workshop on Principles and Methods of Statistical Inference with Interval Probability (WPMSIP)*, Department of Statistics, Ludwig-Maximilians-Universität München.
- “Dilation, Disintegrations, and Delayed Decisions” (with Gregory Wheeler). (July 2015). *The Ninth Biennial International Symposium on Imprecise Probability: Theories and Applications (ISIPTA)*, Pescara.
- “Slightly More Radical Personal Probability.” (8 July 2015). *Bristol-Groningen Conference in Formal Epistemology*, University of Bristol.
- “Slightly More Radical Personal Probability.” (13 June 2015). *Workshop on Probability and Belief*, University of Regensburg.
- “Comparative Expectations” (2 June 2015). *Research Colloquium*, Düsseldorf Center for Logic and Philosophy of Science, Heinrich Heine University Düsseldorf.
- “Dilation, Disintegrations, Dominance Principles, and Delayed Decisions.” (6 February 2015). *Workshop on Information, Search, and Causes: Rational and Cognitive Approaches*, Center for Logic, Language, and Cognition, University of Turin.
- “Demystifying Dilation” (with Gregory Wheeler). (27 June 2014). *Workshop on Imprecise Probabilities in Statistics and Philosophy*, Munich Center for Mathematical Philosophy.
- “Numerical Representations of Ordered Vector Spaces.” (6 June 2014). *Seminar on Model Theory*, Department of Mathematics and Statistics, University of Konstanz.

PRESENTATIONS

(CONT'D)

- “Dogmas, Dominance, and Disintegrations.” (30 April 2014). *Formal Epistemology Symposium: Justification and Probabilistic Support*, Faculty of Philosophy, University of Groningen.
- “Great Expectations: Strictly Coherent Preferences, No Holds Barred.” (16 October 2013). *Research Colloquium*, Adaptive Behavior and Cognition, Max Planck Institute for Human Development.
- “Prospects for a Theory of Non-Archimedean Expected Utility: Impossibilities and Possibilities.” (18 September 2013). *The Sixth Workshop on Combining Probability and Logic (PROGIC)*, Munich Center for Mathematical Philosophy.
- “An Extension Theorem and a Numerical Representation Theorem for Qualitative Comparative Expectations without an Archimedean Axiom, without Measurability or Closure Conditions, and without help from Ultraproducts.” (6 August 2013). *The 46th Annual Meeting of the Society for Mathematical Psychology (MATHPSYCH)*, University of Potsdam.
- “A Very Brief Introduction to Non-Monotonic Logic: Formal and Philosophical Issues.” (1 August 2013). *Workshop on Descriptive and Normative Theories of Conditionals*, Adaptive Behavior and Cognition, Max Planck Institute for Human Development.
- “Strictly Coherent Preferences, No Holds Barred.” (25 July 2013). *The 13th Annual Conference of the Society for the Advancement of Economic Theory (SAET): Current Trends in Economics*, Mines ParisTech.
- “Bigger is Not Always Better When Nothing is Good Enough.” (18 July 2013). *Colloquium in Mathematical Philosophy*, Munich Center for Mathematical Philosophy.
- “When is an Example a Counterexample?” (with Eric Pacuit and Jan-Willem Romeijn). (7 January 2013; delivered by Hans van Ditmarsch on our behalf). *The 14th Conference on Theoretical Aspects of Rationality and Knowledge (TARK)*, Institute of Mathematical Sciences.
- “Conditional Probability, Conditionals, Belief, And Decision: The Theory of Probability Cores.” (3 August 2012). *Logic Workshop in Buenos Aires*, Sociedad Argentina De Análisis Filosófico.
- “Individual and Collective Deliberation in Decision Making” (with Eric Pacuit). (5 June 2012). *Workshop on Consensus*, Ecole Normale Supérieure.
- “The Theory of Probability Cores in Bayesian Epistemology and Decision Theory.” (2 June 2012). *The Ninth Annual Formal Epistemology Workshop (FEW)*, Munich Center for Mathematical Philosophy.
- “Matryoshka Epistemology: The Role of Cores in Belief and Decision.” (19 November 2011). *Commemorative Colloquium for Horacio Arló-Costa*, Carnegie Mellon University.
- “Matryoshka Epistemology: The Role of Cores in Belief and Decision.” (10 September 2011). *The Fifth Workshop on Combining Probability and Logic (PROGIC)*, Columbia University.
- “Filling in the Foundations of Probability.” (9 September 2011). *Seminar on Logic and Games*, CUNY Graduate Center.
- “Dutch Books for Primitive Conditional Probability and Lexicographic Decision-Making, or Probabilism with Tiers: Where to Find Support when You Want It.” (26 June 2011). *The Eighth Annual Episteme Conference*, Carnegie Mellon University.

PRESENTATIONS

(CONT'D)

“Fast and Frugal Heuristics in Perspective: Take the Best and the Priority Heuristic in Perspective” (with Horacio Arló-Costa). (1 December 2010). *Workshop on Experience, Heuristics, and Choice: Prospects for Bounded Rationality*, Carnegie Mellon University.

“Indicative Conditionals, Obligation and Decision Theoretic Conditionals” (with Horacio Arló-Costa). (4 September 2010). *The Seventh Annual Formal Epistemology Workshop (FEW)*, University of Konstanz.

“Fast and Frugal Heuristics: Take the Best and the Priority Heuristic in Perspective” (with Horacio Arló-Costa). (15 April 2010). *Synthese Conference on Epistemology and Economics*, Columbia University.

“Comments on Sarah Moss’s ‘Updating as Communication.’” (19 June 2009). *The Sixth Annual Formal Epistemology Workshop (FEW)*, Carnegie Mellon University.

“Comments on Paul Weirich’s ‘Calibration.’” (20 February 2009). *The 106th Annual Meeting of the Central Division of the American Philosophical Association (APA)*, Chicago.

“Completeness for Continuous First-Order Logic.” (10 April 2007). *Mathematical Logic Seminar*, Department of Mathematical Sciences, Carnegie Mellon University.

“Completeness for Continuous First-Order Logic.” (2 March 2006). *Southern Wisconsin Logic Colloquium (SWLC)*, Department of Mathematics, University of Wisconsin-Madison.

HONORS AND AWARDS

Chancellor’s Fellowship for Graduate Study, awarded by the Graduate Dean of the University of California, Berkeley, to pursue a doctoral degree in the Group in Logic and the Methodology of Science, 2008 – 2011 (award declined)

Fellowship support from Teddy Seidenfeld to conduct summer graduate research, 2009 – 2012

Nuffic HSP Huygens Scholarship, awarded by the Dutch Ministry of Education, Culture and Science, to study at the Institute for Logic, Language and Computation (ILLC) of the Universiteit van Amsterdam, 2006 – 2008 (award declined)

NSF VIGRE grant to conduct research on continuous first-order logic, 2005 – 2006

Notre Dame Department of Mathematics Scholarship to participate in proof theory course at the University of Notre Dame, Summer 2005

Elected member of the Phi Beta Kappa academic honor society

Dean’s Honor List

PROFESSIONAL ACTIVITIES

Editorial Board Member

January 2013 – Present

Minds and Machines

Journal Referee

The British Journal for the Philosophy of Science, Erkenntnis, Journal of Philosophical Logic, The Journal of Symbolic Logic, The Journal of Philosophy, Philosophy of Science, Minds and Machines, Synthese, Studia Logica, Mathematical Logic Quarterly,

Philosophical Quarterly, The Review of Symbolic Logic, Journal of Economic Methodology, International Journal of Approximate Reasoning

(multiple times for some journals)

PROFESSIONAL
ACTIVITIES

(CONT'D)

Conference Referee

International Symposium on Imprecise Probability: Theories and Applications (ISIPTA) in Ghent (2019)
International Symposium on Imprecise Probability: Theories and Applications (ISIPTA) in Pescara (2015)
Theoretical Aspects of Rationality and Knowledge (TARK) in Pittsburgh (2015)
Conference on Causal and Probabilistic Reasoning (CPR) in Munich (2015)
Meeting of the Central States Philosophical Association (CSPA) in Evanston (2014)
Conference on Logic and the Foundations of Game and Decision Theory (LOFT) in Bergen (2014)
Finding Foundations for Bounded and Adaptive Rationality in Berlin (2013)
Workshop on Logic, Language, Information and Computation (WoLLIC) in Buenos Aires (2012)
Games, Interactive Rationality and Learning (GIRL) in Lund (2012)
Meeting of Society for Exact Philosophy (SEP) in Winnipeg (2011)
Meeting of the Canadian Philosophical Association (CPA) in Montreal (2010)

Program Committee Member

International Symposium on Imprecise Probability: Theories and Applications (ISIPTA) in Ghent (2019)
International Symposium on Imprecise Probability: Theories and Applications (ISIPTA) in Lugano (2017)
Munich Graduate Workshop in Mathematical Philosophy: Formal Epistemology in Munich (2016)
Conference on Logic and the Foundations of Game and Decision Theory (LOFT) in Maastricht (2016)
Conference on Causal and Probabilistic Reasoning (CPR) in Munich (2015)
International Symposium on Imprecise Probability: Theories and Applications (ISIPTA) in Pescara (2015)
Conference on Logic and the Foundations of Game and Decision Theory (LOFT) in Bergen (2014)
Finding Foundations for Bounded and Adaptive Rationality in Berlin (2013)
SIPTA Workshop on Uncertainty at Columbia University (2010)

Conference and Program Chair

January 2016 – October 2016

Conceptions of Belief in Philosophy and Science in Regensburg (2016)

Conference and Program Chair

April 2013 – November 2013

Finding Foundations for Bounded and Adaptive Rationality in Berlin (2013)

Workshop Organizer

August 2009 – April 2010

SIPTA Workshop on Uncertainty at Columbia University (2010)

Conference Organizer

August 2007 – August 2011

Annual PITT-CMU Graduate Student Philosophy Conference

Session Chair

November 2008

“Inference, Abduction, Trials,” *The 21st Biennial Meeting of the Philosophy of Science Association* (PSA)

Applicant Interviewer

February 2014 – August 2015

Faculty Search Committee for the Center for Adaptive Rationality

PROFESSIONAL
ACTIVITIES
(CONT'D)

Applicant Reviewer April 2013 – April 2015
Annual Summer Institute on Bounded Rationality, Max Planck Institute for Human Development

Committee Member May 2011 – July 2011
Teller Committee for SIPTA 2011 Election

Presiding Administrator 2011 – 2017
Choice & Inference

Admissions Committee Member January 2009 – February 2009
Graduate Student Admissions Committee for Department of Philosophy, Carnegie Mellon University

TEACHING
EXPERIENCE

Instructor

Department of Computer Science, CUNY, City College

- Theoretical Computer Science Spring 2020
- Senior Project Spring 2020

Department of Computer and Information Science, CUNY, Brooklyn College

- Analysis of Algorithms Spring 2020
- Discrete Mathematics Fall 2019

Munich Center for Mathematical Philosophy, Ludwig-Maximilians-Universität München

- Models of Belief and Decision (with Gregory Wheeler) Spring 2016

Department of Philosophy, Carnegie Mellon University

- Introduction to Philosophy Spring 2011
- Introduction to Philosophy Summer 2010
- Introduction to Philosophy Spring 2010
- Introduction to Philosophy Summer 2009
- Arguments and Logical Analysis Summer 2007

Guest Lecturer

Department of Philosophy, Carnegie Mellon University

- Logic and Artificial Intelligence (Eric Pacuit) Fall 2011
- Modal Logic (Horacio Arló-Costa) Spring 2011
- Modal Logic (Horacio Arló-Costa) Spring 2010

TEACHING
EXPERIENCE
(CONT'D)

Teaching Assistant

Center for Formal Epistemology, Carnegie Mellon University

- Philosophical Logic and Formal Epistemology (Horacio Arló-Costa) Summer 2010

Department of Philosophy, Carnegie Mellon University

- Introduction to Philosophy (John Mumma) Fall 2007
- Introduction to Philosophy (Mara Harrell) Fall 2006

Grader

Department of Philosophy, Carnegie Mellon University

- Rational Choice (Kevin Zollman) Fall 2011
- Rational Choice (Kevin Zollman) Fall 2010
- Rational Choice (Kevin Zollman) Fall 2009
- Language and Thought (Horacio Arló-Costa) Spring 2009
- Introduction to Political Philosophy (Robert Cavalier) Fall 2008
- Continental Philosophy (Robert Cavalier) Spring 2008
- Computers, Society, and Ethics (Peter Madsen) Spring 2007

Department of Mathematical Sciences, Carnegie Mellon University

- Set Theory (Ernest Schimmerling) Spring 2007

Instructor/Tutor

August 2002 – December 2005

University of Wisconsin-Madison, TRIO Program

- Prepared tests and educational material for elementary and advanced mathematics and philosophy courses
- Instructed classes and tutored students individually and in groups

Seminar Co-leader

May 2005 – August 2005

University of Wisconsin-Madison, Department of Philosophy

- Co-led seminar in modal logic with two graduate students

Teaching Assistant

June 2002 – August 2002

University of Wisconsin-Madison, PEOPLE Program

- Shared responsibility for lectures, exams, homework assignments, and grades