

ARTHUR PAUL PEDERSEN

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AREAS OF SPECIALIZATION Epistemology (including Formal Epistemology), Normative and Behavioral Decision Theory, Game Theory, Cognitive Heuristics, Probability Theory, Philosophical and Mathematical Logic

AREAS OF COMPETENCE Analytic Philosophy, Philosophy of Science, Philosophy of Mathematics, Philosophy of Logic and Language

EDUCATION **Carnegie Mellon University**

Ph.D. Logic, Computation and Methodology (expected Fall 2012)
Committee: Teddy Seidenfeld (co-advisor), Rohit Parikh (CUNY), Kevin Zollman (co-advisor)

M.S. Logic, Computation and Methodology (2009)
Committee: Horacio Arló-Costa (co-advisor) and Teddy Seidenfeld

University of Wisconsin-Madison 2005 – 2006

Research Fellow in the Department of Mathematics, Special Student
Advisor: Itai Ben Yaacov

University of Notre Dame Summer 2005

Visitor of the Department of Mathematics on Scholarship

University of Wisconsin-Madison

B.A. Philosophy (2005)
B.A. Mathematics (2005)

PUBLICATIONS

ARTICLES

“A Proof of Completeness for Continuous First-Order Logic” (with Itai Ben Yaacov). *Journal of Symbolic Logic*, 75(1): 168-190, March 2010.

“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.

“Belief Revision” (with Horacio Arló-Costa). In L. Horsten and R. Pettigrew, editors, *Continuum Companion to Philosophical Logic*. Continuum Press, 2011.

“Belief and Probability: A General Theory of Probability Cores” (with Horacio Arló-Costa). Forthcoming in *International Journal of Approximate Reasoning*.

“Fast and Frugal Heuristics: Rationality and the Limits of Naturalism” (with Horacio Arló-Costa). Forthcoming in *Synthese*.

BOOKS

Horacio: Commemorative Essays on Horacio Arló-Costa (co-edited with Jeffrey Helzner, Vincent F. Hendricks, and Gregory Wheeler). Automatic Press/VIP, expected 2012.

PRESENTATIONS

- Conference on Games, Interactive Rationality and Learning. (19-21 April 2012).
- Ninth Annual Formal Epistemology Workshop. (29 May - 1 June 2012).
- Logic Workshop at Buenos Aires. (2-4 August 2012).
- “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). Prolog Conference, 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). *Episteme* Conference on Recent Developments and Trends in Social Epistemology and Formal Epistemology.
- “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.
- “Indicative Conditionals, Obligation and Decision Theoretic Conditionals” (with Horacio Arló-Costa). (4 September 2010). Formal Epistemology Workshop.
- “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). Formal Epistemology Workshop.
- “Comments on Paul Weirich’s ‘Calibration.’” (20 February 2009). Central Division Meeting of the American Philosophical Association.
- “Completeness for Continuous First-Order Logic.” (10 April 2007). Math Logic Seminar, Carnegie Mellon University.
- “Completeness for Continuous First-Order Logic.” (2 March 2006). Tom Kent Logic Seminar, 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 by Teddy Seidenfeld to conduct summer graduate research, 2009 – Present
- Nuffic HSP Huygens Scholarship, awarded by the Dutch Ministry of Education, Culture and Science, to study at the Institute for Logic, Language and Computation 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

WORK IN
PROGRESS

- “A Slightly More Radical Personal Probability.”
- “The Theory of Probability Cores in Bayesian Epistemology and Decision Theory.”
- “Thinking before Deciding” (with Eric Pacuit).
- “Heuristics and Maximization: Beyond Binary Choice.”
- “Iterated Belief Revision and the Dynamics of Belief” (with Eric Pacuit and Jan-Willem Romeijn).
- “Rational Choice and Conditional Obligation” (with Jack Stecher).
- “Betting on Improbable Conditionals” (with David Rose).
- “Truth in Continuous First-Order Logic.”
- “Pseudo-rationalizability over Infinite Choice Spaces.”

PROFESSIONAL
ACTIVITIES

Journal Referee

Referee for *Erkenntnis*, *Journal of Philosophical Logic*, *Mathematical Logic Quarterly*, *Minds and Machines*, *Review of Symbolic Logic*

- Produce referee reports for journal articles (multiple times for some journals)

Conference Referee

Referee for the *Meeting of Canadian Philosophical Association* in Montreal (30 May - 2 June 2010), *Society for Exact Philosophy* in Winnipeg (26-28 May 2011), *Games, Interactive Rationality and Learning* in Lund (19-21 April 2012)

- Produce referee reports for conference submissions

Committee Member

May 2011 – July 2011

Member of Teller Committee for SIPTA 2011 Election

- Shared responsibility to prepare materials for election and to report election results (July 2011 election).

Committee Member

August 2009 – April 2010

Committee for the SIPTA Workshop on Uncertainty

- Shared responsibility to organize and realize a workshop on the use of imprecise probabilities in models of inference and decision making under uncertainty held at Columbia University on April 17, 2010

Administrator

June 2011 – Present

Primary Administrator of *Choice & Inference*

- Administer group blog for dialogue and news within the fields of formal epistemology and decision theory, broadly construed.

Committee Member

August 2007 – August 2011

Committee for the Annual Pitt-CMU Graduate Student Philosophy Conference

- Represented the graduate students of the Department of Philosophy of Carnegie Mellon University
- Shared responsibility to organize and realize the annual graduate student philosophy conference co-sponsored by the Department of Philosophy of Carnegie Mellon University and the Department of Philosophy and the Department of History and Philosophy of Science of the University of Pittsburgh

Committee Member

January 2009 – February 2009

Graduate Student Admissions Committee for Department of Philosophy, Carnegie Mellon University

- Reviewed applications for admission to the graduate program offered by the Department of Philosophy

ACADEMIC
EXPERIENCE

Instructor

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 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

Researcher

August 2005 – December 2005

University of Wisconsin-Madison, Department of Mathematics

- Researched the proof theory and model theory of continuous first-order logic under the direction of Itai Ben Yaacov
- Devised the first proof of completeness for continuous logic, resulting in a paper meriting publication

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