

Eric Pacuit

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Center for Logic and Philosophy of Science
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AREAS OF SPECIALIZATION Logic, Foundations of Game Theory, Social Choice Theory

AREAS OF COMPETENCE (Formal) Epistemology, Decision Theory

EDUCATION **Graduate Center of the City University of New York**, New York, NY

Ph.D., Computer Science, June 2005

- **Thesis:** Topics in Social Software: *Information in Strategic Situations*
- **Thesis Advisor:** Rohit Parikh (GC)
- **Committee:** Horacio Arló-Costa (CMU), Sergei Artemov (GC), Steven Brams (NYU) and Melvin Fitting (GC)

Case Western Reserve University, Cleveland, OH

M.S., Mathematics, May 2000

Ohio University Honors Tutorial College, Athens, OH

B.S., Mathematics, June 1998

GRANTS **National Science Foundation International Research Fellowship**, OISE 0502312, \$90,350, 2006 - 2008.

NWO Vidi Grant on the Foundations of Social Procedures (Humanities Division), Principal Investigator, 720,000 EUR (including matching funds from Tilburg), 2009 - 2014.

ACADEMIC EMPLOYMENT **Tilburg University, Department of Philosophy**
Center for Logic and Philosophy of Science
Assistant Professor & Resident Fellow, August 2009 - present

Stanford University, Department of Philosophy
Acting Assistant Professor, September 2008 - August 2009

Stanford University, Department of Computer Science
Postdoctoral Scholar, September 2007 - August 2008

University of Amsterdam
Institute for Logic, Language and Computations
Postdoctoral Scholar, August 2005 - August 2007

Brooklyn College, Department of Computer Science
Adjunct Lecturer, August 2000 - June 2005

JOURNAL
ARTICLES

10. **Eric Pacuit** (forthcoming). Logics of Informational Attitudes and Informative Actions, *Journal of the Indian Council of Philosophy*.
 9. Tomohiro Hoshi and **Eric Pacuit** (2010). Dynamic Logics of Knowledge and Access, *Synthese*
<http://dx.doi.org/10.1007/s11229-010-9768-5>.
 8. Johan van Benthem, Jelle Gerbrandy, Tomohiro Hoshi and **Eric Pacuit** (2009). Merging Frameworks for Interaction, *Journal of Philosophical Logic*, 38(5), pgs. 491- 526.
 7. Helle Hvid Hansen, Clemens Kupke and **Eric Pacuit** (2008). Neighbourhood Structures: Bisimilarity and Basic Model Theory, *Logical Methods in Computer Science*, 15(2), Dexter Kozen, Ugo Montanari, Till Mossakowski and Jan Rutten (eds.), pgs 1 - 38.

(Preliminary version appeared under the title Neighborhood Bisimulation in the Proceedings of the 2nd Conference on Algebra and Coalgebra in Computer Science (CALCO 2007), Norway, 2007)
 6. Benedikt Löwe and **Eric Pacuit** (2008). An abstract approach to reasoning about games with mistaken and changing belief, *Australasian Journal of Logic*, 6, pgs. 162 - 181.
 5. Tijmen Daniëls and **Eric Pacuit** (2008). A General Approach to Aggregation Problems, *Journal of Logic and Computation*, 19(3), pgs. 517 - 536.
 4. **Eric Pacuit** (2007). Understanding the Brandenburger-Keisler Belief Paradox, *Studia Logica*, 86(3), pgs. 434 - 454.
 3. **Eric Pacuit** (2007). Some Comments on History Based Structures, *Journal of Applied Logic*, 5(4), pgs. 613 - 624.
 2. Horacio Arló-Costa and **Eric Pacuit** (2006). Classical Systems of First-Order Modal Logic, *Studia Logica*, 84(2), pgs. 171 - 210.

(Preliminary version appeared in the Proceedings of Theoretical Aspects of Reasoning about Rationality and Knowledge (TARK 2005), R. van der Meyden (editor), pgs. 262 - 278, 2005)
 1. **Eric Pacuit**, Rohit Parikh and Eva Cogan (2006). The Logic of Knowledge Based Obligation, *Synthese*, 149(2), pgs. 311 - 341.
- EDITED
VOLUMES
4. Johan van Benthem and **Eric Pacuit** (2010). Temporal Logics of Agency, Special issue of *Journal of Logic, Language and Information*, Volume 19, Number 4, pgs. 389 - 503.

3. Benedikt Löwe, **Eric Pacuit**, Jan-Willem Romeijn (2009). *Foundations of the Formal Sciences VI, Probabilistic Reasoning and Reasoning with Probabilities*, Studies in Logic 16, King's College Press.
2. Thomas Agotnes, Johan van Benthem and **Eric Pacuit** (2009). Logic and Intelligent Interaction, Special issue of *Synthese: Knowledge, Rationality and Action*, 169(2), pgs. 219 - 424.
1. Xiangdong He, John F. Horty and **Eric Pacuit** (2009). Logic, Rationality and Interaction, Lecture Notes in Artificial Intelligence, Volume 5834.

REFERRED
CONFERENCE
PUBLICATIONS

11. Thomas Icard, **Eric Pacuit** and Yoav Shoham (2010). Joint Revision of Beliefs and Intentions, Proceedings of KR2010 and (Informal) Proceedings of NMR2010.
10. Jonathan Zvesper and **Eric Pacuit** (2010). Assumption-Completeness in Modal Logic in Logic and the Foundations of Game Theory and Decision Theory (LOFT 7), Giacomo Bonanno, Wiebe van der Hoek, Benedikt Löwe (eds.), LNCS, Volume 6006/2010, pgs. 190 - 206.
9. Benedikt Löwe, **Eric Pacuit** and Sanchit Saraf (2009). Identifying the structure of a narrative via an agent-based logic of preferences and beliefs: Formalizations of episodes from CSI:Crime Scene Investigation, Proceedings of MOCA 2009.
8. Johan van Benthem, Jelle Gerbrandy and **Eric Pacuit** (2007). Merging Frameworks for Interaction: DEL and ETL, **Proceedings of Theoretical Aspects of Rationality and Knowledge (TARK XI)**, Brussels.
7. Johan van Benthem and **Eric Pacuit** (2006). The Tree of Knowledge in Action: Towards a Common Perspective, **Proceedings of Advances in Modal Logic Volume 6 (AiML 2006)**, Guido Governatori, Ian Hodkinson and Yde Venema (editors).
6. Ulle Endriss and **Eric Pacuit** (2006). Modal Logics of Negotiation and Preference, **Proceedings of the 10th European Conference on Logics in Artificial Intelligence (JELIA-2006)**, LNAI, volume 4160, pages 138-150, Springer-Verlag, M. Fisher, W. van der Hoek, B. Konev, and A. Lisitsa (editors).
5. **Eric Pacuit** and Olivier Roy (2006). Preference-Based Belief Dynamics, **Proceedings of 7th Conference on Logic and the Foundations of Game and Decision Theory (LOFT)**, G. Bonanno, W. van der Hoek and M. Woolridge (editors).
4. **Eric Pacuit** (2005). Some Comments on Explicit Modal Logics, **Proceedings of the 5th Panhellenic Logic Symposium**, University of Athens.
3. **Eric Pacuit** and Samer Salame (2004). Majority Logic, **Principles of Knowledge Representation and Reasoning: Proceedings of the Ninth International Conference (KR2004)**, Whistler, Canada, pgs. 598-605.
2. **Eric Pacuit** and Rohit Parikh (2004). The Logic of Communication Graphs, **Proceedings of Declarative Agent Languages and Technologies (DALT 2004)**, Lecture Notes in Artificial Intelligence, pgs. 256 - 269.

1. Samir Chopra, **Eric Pacuit** and Rohit Parikh (2004). Knowledge-Theoretic Properties of Strategic Voting, **Proceedings of European Conference on Logics in Artificial Intelligence**, Lecture Notes in Artificial Intelligence, pgs. 18 - 30.

BOOK
CHAPTERS

4. Barteld Kooi and **Eric Pacuit** (2010). Logics of Rational Interaction in *Dynamic Epistemology: Contemporary Perspectives*, O. Roy, P. Girard and M. Marion (editors), Springer-Verlag.
3. **Eric Pacuit** (forthcoming). Towards a Logical Analysis of Adjusted Winner in *Logic at the Crossroads: An Interdisciplinary View*, A. Gupta, R. Parikh and J. van Benthem (editors), Springer-Verlag.
2. **Eric Pacuit** and Rohit Parikh (2007). Reasoning about Communication Graphs, in *Interactive Logic*, J. van Benthem, B. Löwe and D. Gabbay (editors), Texts in Logic and Games, University of Amsterdam Press, pgs. 135 - 157.
1. **Eric Pacuit** and Rohit Parikh (2006). Social Interaction, Knowledge, and Social Software, in *Interactive Computation: The New Paradigm*, D. Goldin, S. Smolka and P. Wegner (editors), Springer-Verlag, pgs. 441 - 461.

WORKS IN
PROGRESS

- *Interactive Rationality*, book project with Olivier Roy (in preparation)
- *Reasoning about Protocols Under Imperfect Information* (with Sunil Simon) (under submission)
- *Voting Methods*, the Stanford Encyclopedia of Philosophy (in preparation)
- *The Epistemic Foundations of Game Theory* (with Olivier Roy), the Stanford Encyclopedia of Philosophy (in preparation)
- *Of what one cannot speak, must one pass over in silence? Logical Perspective on universal knowledge structures* (with Olivier Roy) (in preparation)

INVITED
TALKS

- **International Workshop on Logic and Philosophy of Knowledge, Communication and Action**, San Sebastian, November 3-5, 2010
- **PhDs in Logic III**, Brussels, February 17 - 18, 2011
- **Workshop: Structures of Rationality, Paradoxes of Interactive Rationality**, Kanpur, India, December 2009.
- **Groningen Logic Colloquium, Intention Based Belief Revision**, Groningen, November 2009.
- **LORI-II Tutorial Day, Logics of Rational Agency**, China, October 2009.
- **Decisions, Games and Logic, Tutorial: Logic of Rational Interaction**, Amsterdam, June 2008.
- **UCLA Logic Colloquium, The Tree of Knowledge in Action**, Los Angeles, May, 2008.

- **American Philosophical Association**, *Commentator on New Foundations for Imperative Logic II* by P. Vranas, Pasadena, March, 2008.
- **2nd Indian Logic Winter School**, *Tutorial: Logic and the Foundations of Game Theory*, Kanpur, India, January, 2008.
- **Berkeley Logic Colloquium**, *An Overview of Logic in Game Theory*, Berkeley, November 2007.
- **Workshop on Deontic Logic**, *Knowledge Based Obligation*, Copenhagen, November, 2007.
- **Mathematical Methods in Philosophy**, *Neighborhood Semantics for First-Order Modal Logic* (with Horacio Arló-Costa), Banff, February, 2007.
- **KNAW: New Perspectives in Games and Interaction**, *Commentator on How Much Coordination is Possible via Correlation?* by Adam Brandenburger, Amsterdam, February, 2007.
- **Second Indian Conference on Logic and its Relationship with Other Disciplines**, *Comparing Dynamic and Temporal Epistemic Logic*, Mumbai, January, 2007.
- **Logic, Navya-Nyaya and Applications**, *Logics for Social Software and Introduction to Neighborhood Semantics for Modal Logic*, Calcutta, January, 2007.
- **University of Aachen Logic Talks**, *The Tree of Knowledge in Action: Towards a Common Perspective*, Aachen, September 2006.
- **Bloomington Logic Talks at Indiana University**, *The Tree of Knowledge in Action: Towards a Common Perspective*, Bloomington, June 2006.
- **Workshop for the 70th Birthday Celebration for Krister Segerberg**, *Preference Based Belief Dynamics*, Amsterdam, May 2006.
- **The Logic Tea**, *Neighborhood Semantics for First-Order Modal Logic*, ILLC, University of Amsterdam, January 2006.
- **Pure and Applied Logic Colloquium**, *A Logic of Knowledge for Social Software*, Carnegie Mellon University, Pittsburgh, October 2005.
- **August De Morgan Workshop: Interactive Logic and Social Software**, *A Logic of Knowledge and Communication for Social Software*, King's College, London, 2005.
- **Games, Logic, Language and Computation 10**, *The Logic of Communication Graphs*, University of Amsterdam, 2005.
- **Multi-Agent Resource Allocation**, *Some Recent Results on Adjusted Winner*, Budapest, 2005.

- **CUNY Computer Science Colloquium**, *Topics in Social Software: Information in Strategic Situations*, CUNY Graduate Center, New York City, June 2005.
- **First Indian Conference on Logic and its Relationship with Other Disciplines**, *Game Theory and its Foundations*, Indian Institute of Technology, Mumbai, Jan 8-13, 2005.
- **New Developments in Logics of Knowledge and Belief**, *The Logic of Communication Graphs*, CUNY Graduate Center, May 2004.

CONTRIBUTED
TALKS

- **Infinite Majorities**, Workshop on Logic and Collective Decision Making, Lille, 2007.
- **Some New Results on Adjusted Winner**, 1st Conference on Computational Social Choice, Amsterdam, 2006.
- **A General Approach to Aggregation Problems**, August De Morgan Workshop (ADMW 2006): Belief revision, belief merging and social choice, London, November, 2006.
- **Knowledge Considerations in Strategic Voting**, Workshop on Voting Theory and Preference Modeling, October, 2006.
- **The Tree of Knowledge in Action: Towards a Common Perspective**, *Advances in Modal Logic* 6, September 2006.
- **Knowledge Based Obligations: Towards an Axiomatization**, *Studia Logica International Conference: Towards Mathematical Philosophy, Trends in Logic IV*, September 2006.
- **A Logical Analysis of Adjusted Winner**, ESSLLI Workshop on Knowledge and Rationality, August 2006.
- **Understanding the Brandenburger-Keisler Paradox**, FEW 2006 (Formal Epistemology Workshop), University of Berkeley, May 2006.
- **Some Comments on History Based Structures**, CSMRA-IV, Lisbon, Portugal 2005.
- **Knowledge in Strategic Situations**, Knowledge and Games Workshop (KAG 2004), University of Liverpool, June 2004.
- **Logic and the Foundations of Game Theory**, New York Graduate Student Logic Conference, St. Francis College, November 2004.
- **Knowledge-theoretic Properties of Strategic Voting**, JELIA 2004 (Ninth European Conference on Logics in Artificial Intelligence), 2004.
- **Majority Logic**, KR 2004 (Ninth International Conference on the Principles of Knowledge Representation and Reasoning), 2004.

TEACHING
EXPERIENCE

Tilburg University

- Rationality (Fall 2010)

Stanford University

- Model Theory (Fall 2008)
- First-Order Logic (Winter 2009)
- Computability and Logic (Spring 2009)
- Logic and Rational Interaction (with Yoav Shoham, Spring 2009)
- Freshman Seminar: Can Machines Know? Can Machines Feel? (with Yoav Shoham, Spring 2008, Fall 2008)

Institute for Logic, Language and Computation

- Model Theory (Spring 2006)
- Seminar on Decisions, Games and Logic (Spring 2006)
- Recursion Theory (Fall 2005)
- Introduction to Modal Logic (Fall 2005)

Brooklyn College

- Introduction to Theoretical Computer Science (5 semesters)
- Analysis of Algorithms (4 semesters)
- Discrete Mathematics (3 semesters)
- Advanced C Programming (3 semesters)
- Unix Shell Programming (10 semesters)
- Introduction to C Programming (2 semesters)
- Multimedia Programming (Spring 2001)
- Introduction to Computer Science (2 semesters)

Other Courses

- Introduction to Logic, Department of Philosophy, New York University, Spring 2003.
- Calculus, Case Western Reserve University, Fall 1999, Spring 2000.
- College Algebra, Case Western University, Fall 1998, Spring 1999.
- College Algebra, Cuyahoga Community College, Fall 1999

Short Courses

The following courses have been taught at the European Summer School on Logic, Language and Information (ESSLLI). Each course consisted of five 90 minute lectures.

- **Logic, Interaction and Collective Agency** (with Olivier Roy), ESSLLI 2010.
- **Logics of Rational Agency**, ESSLLI 2009. A broad overview of the logical foundations of rational agency. Also will be taught at North American Summer School on Logic, Language and Information (NASSLLI 2010).
ai.stanford.edu/~epacuit/lograt
- **Reasoning with Probabilities** (with Joshua Sack), ESSLLI 2009. An advanced course on (dynamic) probabilistic epistemic logic.
ai.stanford.edu/~epacuit/classes/esslli/epprob.html

- **Reasoning, games, action, and rationality** (with Olivier Roy), ESSLLI 2008, An general introduction to the epistemic foundations of game theory.
- **Introduction to Formal Epistemology** (with Rohit Parikh), ESSLLI 2007. A course introducing epistemic logic and other topics in formal epistemology for philosophers and economists.
ai.stanford.edu/~epacuit/classes/esslli/formep_esslli.html
- **Neighborhood Structures**, ESSLLI 2007. An advanced course covering many aspects of neighborhood semantics for modal logic and its applications.
ai.stanford.edu/~epacuit/classes/esslli/nbhd_esslli.html

Guest Lectures

- **Common Knowledge, Interactive Reasoning and Collective Agency**, Masters Program in Philosophy, Nijmegen University, Fall 2009.
- **Logics of Rational Agency**, Core Logic, ILLC, Amsterdam, Fall 2009.
- **Invitation to Modal Logic**, Philosophy 150: Introduction to Logic (6 lectures introducing modal logic), Department of Philosophy, Stanford University, Fall 2007, Fall 2008.
- **Cake-cutting Algorithms**, Cooperative Game Theory, ILLC, University of Amsterdam, Spring 2007.
- **Logic in Games**, Core Logic, ILLC, University of Amsterdam, Fall 2007.
- **Introduction to Social Software**, Core Logic, ILLC, University of Amsterdam, Fall 2006.

Student Supervision

- Dominik Klein, Ph.D. supervisor, Tilburg University, in progress.
- Lorenz Demey, Ph.D. co-promoter (with Igor Douven), University of Leuven, in progress.
- Yacin Hamami, *The Interrogative Model of Inquiry meets Dynamic Epistemic Logics*, Masters Thesis Supervisor (with Johan van Benthem), ILLC, Universiteit van Amsterdam, Fall 2010.
- Lena Kurzen, *Logics of Cooperation and Preference*, Masters Thesis Supervisor (with Ulle Endriss), ILLC, Universiteit van Amsterdam, Summer 2007.
- Can Baskent, *Topics in Subset Space Logic*, Masters Thesis Supervisor, ILLC, Universiteit van Amsterdam, Summer 2007.
- Tijmen Daniëls, *Social Choice and Logic via Simple Games*, Masters Thesis Supervisor, ILLC, Universiteit van Amsterdam, Spring 2007.
- Jort Bergefeld, *Epistemic Logic*, Undergraduate Thesis Supervisor, ILLC, Universiteit van Amsterdam, Spring 2007.
- Johathan Zvesper *A Revised Version: Belief Revision and Epistemic Acts*, Masters Thesis Supervisor (with Krister Segerberg), ILLC, Universiteit van Amsterdam, Fall 2006.

- PROFESSIONAL ACTIVITIES
- **Subject Editor** *Stanford Encyclopedia of Philosophy*, Logic, Computation and Agency.
 - **Subject Editor: Logic and Games** FoLLI Publications on Logic, Language and Information

- **Book Reviews Editor**, Journal of Logic, Language and Information
- **Reviewer** for Knowledge, Rationality and Action; Synthese; Journal of Logic and Computation; Journal of Philosophical Logic; Review of Symbolic Logic; SIAM Journal of Discrete Mathematics; Journal of AI Research; European Science Foundation
- **Organizing Activities:**
 - Logic, Rationality, and Intelligent Interaction, ESSLLI 2010 (co-organizer)
ai.stanford.edu/~epacuit/lograt/wkshp-esslli2010.html
 - Logics of Rational Interaction (LORI 2009), Chongqing, China, October 8 - 11, 2009 (PC co-chair)
loriweb.org/lori2009
 - Theoretical Aspects of Rationality and Knowledge (TARK XII), Stanford, June 6 - 8, 2009 (local organizing chair)
ai.stanford.edu/~epacuit/tark09
 - Logical Methods in the Humanities: The Logic and Mathematics of Voting, Stanford, Fall 2008 (co-organizer)
ai.stanford.edu/~epacuit/lmh
 - Logic and Intelligent Interaction, ESSLLI, August 2008 (co-organizer)
ai.stanford.edu/~epacuit/LaII/
 - Foundations of the Formal Sciences VI: Reasoning about Probabilities and Probabilistic Reasoning, Amsterdam, May 2007 (co-organizer)
www.math.uni-bonn.de/people/fotfs/VI/
 - Workshop on *Converging Paradigms? Comparing Temporal Frameworks for Logics of Knowledge and Actions*, Amsterdam, December 2006 (co-organizer)
staff.science.uva.nl/~epacuit/socsit/
 - Coordinate the Knowledge, Games and Beliefs group of CUNY (with Rohit Parikh). Organize weekly seminar series and give expository and research related talks (2001 - 2005).
- **PC Member:** AAMAS 2006 (Fifth International Joint Conference on Autonomous Agents and Multiagent Systems); ECAI 2006 (European Conference on Artificial Intelligence); SOFSEM 2007 (Current Trends in Theory and Practice of Computer); COMSOC-2006 (1st International Workshop on Computation Social Choice); AAMAS 2007 (Sixth International Joint Conference on Autonomous Agents and Multiagent Systems); LCD07 (Workshop on Logic and Collective Decision Making, 2007); AAAI 2008 (Association for the Advancement of Artificial Intelligence); TARK 2009 (Theoretical Aspects for Rationality and Knowledge); NASSLLI 2010 (North American Summer School for Logic, Language and Information); ESSLLI 2011 (Logic and Computation Chair); TARK 2011 (PC and Tutorial Chair)

AWARDS

- University Fellowship, City University of New York (2001 - 2005)
- Case Western Reserve University Graduate Fellowship (1998 - 2000)
- Stockard Mathematics Scholarship, Ohio University (1998)

- Honors Tutorial College Deans Scholarship, Ohio University (1994 - 1998)

REFERENCES

- Horacio Arló-Costa (hcosta@andrew.cmu.edu), Associate Professor, Department of Philosophy, Carnegie Mellon University, Pittsburgh, PA. (Phone: +1 412 268 8571)
- Johan van Benthem (johan.vanbenthem@uva.nl), University Professor of logic and its applications, University of Amsterdam, and Professor of philosophy, Stanford University. (Phone: +31 20 525 6051)
- Steven J. Brams (steven.brams@nyu.edu) Professor, Department of Politics, New York University 19 West 4th St., 2nd Fl., New York, NY 10012. (Phone: +1 212 998 8510)
- Rohit Parikh (rparikh@gc.cuny.edu), Distinguished Professor at the Departments of Computer Science, Mathematics and Philosophy, Graduate Center of the City University of New York and Brooklyn College, New York, NY 10016. (Phone: +1 212 817 8197)