

Soroush Rafiee Rad

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Institute for Logic, Language and Computation (ILLC)
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Research Interests

Areas of Specialization

Logic, Formal Epistemology, Uncertain Reasoning

Areas of Competence

AI, Social Choice Theory, Decision Theory, Quantum Information Theory, Philosophy of Economics

Education

Ph.D. in Philosophy

Tilburg Center for Logic and Philosophy of Science (TiLPS) 2014

Thesis: Four Essays on Mathematical Philosophy

Thesis Promoter: Prof. Stephan Hartmann

Thesis committee: Prof. Stephan Hartmann, Prof. Luc Bovens, Prof. Igor Douven, Prof. Rohit Parikh, Prof. Sonja Smets, Prof. Jan Sprenger

Ph.D. in Mathematical Logic

University of Manchester 2009

Thesis: Inference Processes for Probabilistic First Order Languages

Supervisor: Prof. Jeff Paris

Marie Curie Fellowship

B.Sc. in Pure Mathematics

Sharif University of Technology 2004

Appointments

Research fellow, Dutch Institute for Emergent Phenomena and ILLC, Dec 2020-

Replacement for Chair of Logic, Bayreuth University, Oct 2019- Jan 2020

Postdoctoral Researcher, Bayreuth University, Sep 2017-Nov 2020

Research Fellow, Munich Center for Mathematical Philosophy, Feb 2017- Sep 2017

Postdoctoral Researcher, Institute for Logic, Language and Computation, Sep 2014-Feb 2017

Research Fellow, Munich Center for Mathematical Philosophy, Nov 2013-Sep 2014

Research Associate, Tilburg Center for Logic and Philosophy of Science, 2010-2013

Visiting Researcher, Graduate Center, CUNY, May 2013-July 2013

Visiting Researcher, Center for Reasoning, University of Kent, Nov 2012-Feb 2013

Visiting Researcher, CPNSS, LSE, Sep-Nov 2012

Visiting Researcher, Universite Claude Bernard, May 2008-July 2008

Publications

1. Determining maximal entropy functions for objective Bayesian inductive logic (with J. Landes and J. Williamson), *Journal of Philosophical Logic*, to appear
 2. Probabilistic Entailment and Reasoning with Inconsistencies, *Review of Symbolic Logic*, to appear
 3. Probabilities with Gaps and Gluts (with Dominik Klein and Ondrej Mayer), *Journal of Philosophical Logic*, 50: 1107–1141, 2021.
 4. Tracking Probabilistic Truths: a logic for statistical knowledge (with A. Baltag and S. Smets), *Synthese*, 199: 9041–9087, 2021.
 5. Deliberation, Single-Peakedness, and Coherent Aggregation (with O. Roy), *American Political Science Review*, 115(2): 629–648, 2021.
 6. Towards Limit Entropy Conjecture (with J. Landes and J. Williamson), *Annals of Pure and Applied Logic*, 172(2), 2021.
 7. Probabilistic Characterization of Models of First Order Theories, *Annals of Pure and Applied Logic*, 172(1), 2021.
 8. Learning From Conditionals (with S. Hartmann & B. Eva), *Mind*, 129(514): 461–508, 2020.
 9. Non-Classical Probabilities for Decision Making in Situations of Uncertainty (with Dominik Klein and Ondrej Mayer), *Roczniki Filozoficzne*, 68(4): 315–343, 2020.
 10. Anchoring in Deliberation (with S. Hartmann), *Erkenntnis*, 85:1041–1069, 2020.
 11. Learning Probabilities: Logic of Statistical Learning (with A. Baltag and S. Smets), proceedings of TARK XVII, EPTCS, 297: 35–49, 2019.
 12. A Complete Axiomatisation for the Logic of Lattice Effect Algebras (with A. Sharafi and S. Smets), *Int. J. Theoretical Physics*, 60: 696–709.
 13. Maximum Entropy Models of Σ_1 Sentences, *Journal of Applied Logic*, 5(1): 287–300, 2018.
 14. Voting, Deliberation and Truth (with S. Hartmann), *Synthese*, 195:1273–1293, 2018.
 15. Categorical Equivalence Between Orthomodular Algebras and Orthomodular Lattices (with J. Sacks, K. Kishida and S. Zhong), *Int. Journal of Theoretical Physics*, 56(12):3991-4003, 2017.
 16. Logical Analysis of Quantum Voting Protocols (with S. Smets and E. Shirinkalam), *Int. Journal of Theoretical Physics*, 56(12): 4060–4072, 2017.
 17. Equivocation Axiom for First Order Languages, *Studia Logica*, 105(21), 2017.
 18. A Note On The Least Informative Model of A Theory (with J. Paris), in *Programs, Proofs, Processes, CiE*, Eds. F. Ferreira, B. Löwe, E. Mayordomo, & L. Mendes Gomes, Springer LNCS 6158, pp. 342–351, 2010.
 19. Inference Processes for Quantified Predicate Knowledge (with J. Paris), in *Logic, Language, Information and Computation, WoLLIC*, Edinburgh, Eds. W. Hodges and R. de Queiroz, Springer LNAI, 5110, pp. 249–25, 2009.
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Talks

1. From Qualitative Probabilities to Full Belief, Conference on Combining Probability and Logic, Munich 2021
2. Qualitative Probabilities and Stability of Belief, SEGA workshop, Bayreuth, Jun 2019
3. Learning Probabilities, Many Faces of Logic: a Workshop in Honor of Johan van Benthem, Aachen, Nov 2018
4. Learning Probabilities: The Logic of Statistical Learning, Trends in Logic, Milan, Oct 2018 (Keynote speaker)
5. Qualitative Probabilities and Stable Belief Full Belief, Prague, Oct 2018

6. Logics for Rational Deliberation, Tsinghua University, Beijing, May 2018
 7. Anchoring in Deliberation, SEGA workshop, Paris Oct 2017
 8. Learning Probabilities, Indian Mathematics Consortium, Varanasi, Dec 2016
 9. A Doxastic Dynamic Logic for Learning Probabilities, LogiCIC, Amsterdam, Nov 2016
 10. Equivalence Between Hilbert Lattices and Quantum Dynamic Algebras, Tbilisi, Jun 2016
 11. Logics of Probabilistic Updates, Workshop on Reasoning in Social Context, Nov 2015
 12. Forming Rational Belief on Quantified Evidence, Tsinghua University, Oct 2015
 13. Maximum Entropy Models and Rational Belief Formation, Rutgers University, Sep 2015
 14. Voting, Deliberation and Truth, LogiCIC workshop, Nov 2014
 15. Learning Conditional Information, Graduate Center, CUNY, Jul 2013
 16. Reasoning From Inconsistent Information, University of Manchester, Nov 2012
 17. Inference Processes for First Order Probabilistic Languages, King College, Nov 2012
 18. Reasoning From Inconsistencies, Choice Group Seminars, LSE, Oct 2012
 19. Learning Causal Conditionals, MCMP Seminars, Venice Nov 2011
 20. Anchoring in Deliberation, Copenhagen-Lund Workshop in Social Epistemology, Copenhagen, Sep 2011
 21. Maximum Entropy and Principles of Rationality, Universite Claude Bernard, Jun 2008
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Professional Activities

Journal/Conference Reviewing

I have reviewed papers for *Studia Logica*, *Synthese*, *Erkenntnis*, *Review of Symbolic Logic*, *Journal of Philosophical Logic*, *Journal of Symbolic Logic*, *Journal of Applied Logic*, *Journal of Logic and Computation*, the *Logic Journal of IGPL* and *Fundamenta Mathematica*, as well as international workshops including IJCAI, LORI, TARK and WOLLIC. I have also been part of the program committee for several conferences including LORI 2017, LogiCIC 2015, 2016, LORI 2019 and will be part of the program committee of LORI 2021.

Conference/Workshop Organization

I have been involved in the organization of the following conferences, workshops and seminars:

1. Bayreuth-LSE student Conference 2019
 2. Congress of the German Association for Mathematical Logic and Foundations of Science, Bayreuth University, 2018
 3. Main coordinator of weekly LIRa seminars at ILLC, Sep 2014- Feb 2017.
 4. Workshop on Logical Structure of Correlated Information Change, ILLC, Nov. 2016
 5. Workshop on Reasoning in Social Context, ILLC, Nov. 2015
 6. Workshop on Logical Structure of Correlated Information Change, ILLC, Nov. 2014
 7. Synthese Conference on Qualitative and Quantitative Methods in Formal Epistemology, ILLC, Nov. 2014
 8. Munich-Tilburg-Sydney conference, Tilburg University 2012
 9. Mathlogapp workshop, University of Manchester, 2009
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Teaching and Supervision

Graduate Supervision

1. Fei Xue, PhD Thesis (co-supervising with Alexandru Baltag)
Topic: Quantum Logic,
ILLC, in progress.
2. Nikki Weststeijn, Msc Thesis (co-supervising with Johan van Benthem)
Topic: Information Theory,
ILLC, in progress.
3. Uddalok Sardar, Msc Thesis (co-supervising with Sujata Gosh)
Topic: Quantum Machine Learning
Indian Statistical Institute, in progress.
4. Laura Bizhou van Pol, MSc Thesis (co-supervised with Sonja Smets)
Topic: Quantum Theory and Logic of Questions,
ILLC, Defended July 2017.
5. Christian Tueschel, MSc Thesis (co-supervised with Sonja Smets),
Topic: Adoption of IPV6 on Internet Routing Network,
ILLC, Defended October 2017
6. Ko Hung Kuan, MSc Thesis (co-supervised with Sonja Smets)
Title: Coherence Preservation: A Threat to Probabilistic Measures of Coherence
ILLC, Defended August 2015
7. Amirhossein Sharafi (co-supervised with Sonja Smets)
Topic: Effect Algebras and Quantum Logic
Visiting PhD Student, ILLC, Jan 2017- May 2017
8. Elaheh Shirinkalam, (co-supervised with Sonja Smets)
Topic: Verification of Quantum Voting Protocols
Visiting PhD Student, ILLC, Sep 2015- March 2016
9. Andres Occhipinti Liberman, Master of Logic Individual Project
Topic: Principles of Uncertain Reasoning,
ILLC, June-November 2016
10. Melina Mendoza, Master of Logic individual Project,
Topic: Interpretations of Quantum Mechanics
ILLC, March-August 2016
11. Anna Franchini, Master of Logic Individual Project
Topic: Introduction to Category Theory
ILLC, January- July 2016

Undergraduate Supervision

1. Koen Leijnse, BSc Thesis (co-supervised with Dora Achourioti)
Topic: Conditional Statements in Quantum Logic
Amsterdam University College, May 2018.
2. Nicolò Maresca di Serracapriola, BSc Thesis (co-supervised with Dora Achourioti)
Topic: Reassessing the Empirical Status of Logic
Amsterdam University College, May 2018.

Thesis Committee

1. Illiana Gioulatou, MSc Thesis: Yablo's Absoluteness, Fine Truthmaking Semantics and Hyperintentionality, ILLC 2016
2. Benjamin Sparkes, MSc Thesis: Completeness Results for an Inquisitive Doxastic Logic, ILLC 2016
3. Roosmarijn Goldbach, MSc Thesis: Modeling Democratic Deliberation, ILLC 2015

Teaching

1. Mathematical Proof Methods for Logic (Msc level), UvA 2021 and 2022
 2. Emergence in Social Contexts (part of course on Emergence), UvA 2021
 3. Logic and Theory of Argumentation, Bayreuth 2019
 4. Philosophy of Probability, Bayreuth 2019 (MSc level)
 5. Decision Making and Collective Rationality, Bayreuth 2019
 6. Logic and theory of Argumentation, Bayreuth 2018 (with Olivier Roy)
 7. Epistemic Logic, Bayreuth 2018 (with Marcel Kiel)
 8. Decision Theory and Collective Rationality, Bayreuth 2018
 9. Probabilistic Reasoning, ILLC 2016 (MSc level)
 10. Quantum Logic, ILLC 2016 (MSc level)
 11. Uncertain Reasoning, ILLC 2015 (MSc level)
 12. Introduction to Political Philosophy, MCMP, Munich 2014
 13. Rationality, Tilburg University, 2010, 2011 (with Stephan Hartmann)
 14. Philosophy of Science, Tilburg University, 2011 (with Stephan Hartmann)
 15. Experts in Complex Society, Tilburg University, 2010 (with Stephan Hartmann)
 16. Teaching Assistant, Discrete Mathematics, University of Manchester 2006-2007
 17. Teaching computer-programming languages, Computing Centre, Sharif University of Technology 2002-2005 (C, C++, JAVA, PHP, SQL)
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References

1. Professor Sonja Smets

Institute for Logic, Language and Computation,
University of Amsterdam
s.j.l.smets@uva.nl

2. Professor Olivier Roy

Department of Philosophy,
Bayreuth University
olivier.roy@uni-bayreuth.de