

Richard Zach

Professor of Philosophy

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Education

Ph.D. **University of California, Berkeley**
Logic and the Methodology of Science, 2001
M.A. **University of California, Berkeley**, Mathematics, 1997
C.Phil. **University of California, Berkeley**,
Logic and the Methodology of Science, 1997
Diplom- **Technische Universität Wien**, Vienna
Ingenieur Computational Logic, 1993 (with highest honors)

Areas of Specialization

Logic (Proof Theory, Non-classical Logics), History and Philosophy of Logic,
Philosophy of Mathematics, History of Analytic Philosophy

Areas of Competence

Metaphysics, Philosophy of Language, Philosophy of Science

Dissertation

Hilbert's Finitism: Historical, Philosophical, and Metamathematical Perspectives. Dissertation Advisors: Paolo Mancosu, Jack Silver

Academic Appointments

Professor, **University of Calgary**, Department of Philosophy, 2009–
Visiting Professor, **McGill University**, Department of Philosophy, 2014–15
Erasmus Mundus Scholar, **Technische Universität Wien**, Logic Group, 2009
Associate Professor, **University of Calgary**, Department of Philosophy, 2004–2009
Visiting Associate Researcher, **University of California, Irvine**, Department of Logic
and Philosophy of Science, 2004
Assistant Professor, **University of Calgary**, Department of Philosophy, 2001–2004
Lecturer, **Stanford University**, Department of Philosophy, 2001
Graduate Student Instructor, **University of California, Berkeley**,
Department of Philosophy, 1996–2000
Lecturer, **Technische Universität Wien**, Department of Computer Science
(Logic and Theory Group), 1995–2000

Academic Honors, Fellowships, Competitive Grants

SSHRC Insight Grant, 2012–2017
 Calgary Institute for the Humanities Annual Fellowship, 2013–2014
 SSHRC Standard Research Grant, 2008–2011
 NSERC Discovery Grant, 2007–2012
 Calgary Institute for the Humanities Annual Fellowship, 2006–2007
 Visiting Fellowship, Department for Logic and Philosophy of Science
 (University of California, Irvine), 2004
 SSHRC Standard Research Grant, 2004–2007
 NSERC Discovery Grant, 2003–2007
 Canadian Hunter Young Innovator Award (University of Calgary), 2003
 University of Calgary Starter Grant, 2002
 Mabelle McLeod Lewis Memorial Fellowship, 1999–2000
 The Berkeley Fellowship for Graduate Study (University of California), 1994–1999
 Kurt Gödel Fellowship for Study Abroad (Austrian Ministry of Science), 1994–1995
 For full list of grants, please see attachment.

Teaching Honors and Activities

Grants and Awards

Scholarship of Teaching and Learning Grant, “Logic Courses for the 21st Century,” Taylor Institute for Teaching and Learning, 2016–2018
 Teaching Development Grant, “Open Logic Project,” Taylor Institute for Teaching and Learning, 2015–2016
 OER Development Grant, “Open Logic Project,” Alberta OER Initiative, Open Logic Project, 2015
 Inquiry through Blended Learning Grant, Development of Phil 409 “Evidence”, University of Calgary Learning Commons, 2005–2006
 Outstanding Graduate Student Instructor Award, University of California, Berkeley, 1997

Other Activities

Committee on Logic Education, Association for Symbolic Logic, 2002–2014
 Co-organizer (with Helmut Veith), Panel on the Place of Logic in Computer Science Education, 2014 Logic Colloquium 2014 (joint with FLoC). Panelists: Byron Cook, Alexander Leitsch, Prakash Panangaden, Nicole Schweikardt
 Organizer, Panel on Logic Instruction in Philosophy Graduate Training, 2005 Spring Meeting of the Association for Symbolic Logic (joint with Pacific APA). Panelists: Andrew Arana, Michael Glanzberg, Ted Sider, Brian Weatherson
 Open Educational Resources Working Group, Office of the Vice-Provost (Teaching and Learning), University of Calgary, 2016
 Graduate Program Director, Philosophy, University of Calgary, 2015–
 Graduate Studies Committee, Philosophy, University of Calgary, 2002–2004, 2005–2006, 2009–2013
Being a Philosophy TA, presentation at Graduate Student Orientation, Department of Philosophy, University of Calgary, 2002, 2003

Using Instructional Technology, Philosophy Teaching Workshop, University of California, Facilitator, 1999
 International Graduate Student Instructor Orientation, Panelist, 1999
 Advisory Committee to the Graduate Council on Graduate Student Instructor Affairs, University of California, Student Representative, 1997–98, 1998–99
 Advisory Committee to the Academic Senate on International Education, University of California, Student Representative, 1995–96

Courses Taught

University of Calgary

Proseminar (Phil 603), Fall 2015
 Proof Theory (Phil 579.3/679.4), Winter 2014
 Modal Logic (Phil 513/679), Winter 2003, Fall 2005, Fall 2007, Winter 2013
 19th and 20th Century Analytic Philosophy (Phil 307), Fall 2008, Winter 2011, Winter 2013
 Analytical Philosophy (Phil 307), Fall 2001, Fall 2003, Winter 2005
 Philosophy of Language (Phil 371), Winter 2007, Winter 2009
 Logical Positivism (Phil 407.03), Fall 2005, Fall 2007
 Evidence (Phil 409.02), Winter 2006
 Logic I (Phil 279), Fall 2001, Winter & Fall 2002, Winter 2004, Winter 2006, Winter & Fall 2009, Fall 2010, Fall 2011, Fall 2012, Fall 2013
 Logic II (Phil 379), Winter & Fall 2003, Winter 2016
 Logic III (Phil 479/679), Winter 2004, Winter 2007, Fall 2008, Winter 2010, Winter 2012
 Philosophy of Language (Phil 471), Winter 2011 Philosophy of Mathematics (Phil 567/667), Winter 2005
 Proof Theory (Phil 595/601), Fall 2002
 Modality and Modal Logic (Phil 595/601), Winter 2002
 Carnap (Phil 507/609), Winter 2010
 Paradoxes (Phil 579.01/679.02), Winter 2012
 (2xx/3xx are introductory, 4xx are intermediate, and 5xx/6xx are advanced undergraduate/graduate courses).

McGill University

Intermediate Logic (Phil 310), Winter 2015

Stanford University

Logic, Reasoning, and Argumentation (Phil 57), Spring 2001
 Early Analytic Philosophy (Phil 124/224), Spring 2001
 Philosophy of Logic (Phil 158/258), Winter 2001
 (Phil 57 is introductory, Phil 2xx/3xx are senior undergraduate/ graduate courses)

University of California, Berkeley

Introduction to Logic (Phil 12A), Summer 1998

Technische Universität Wien, Vienna

Epsilon Calculus, Summer 2009
 Intuitionistic Logic, Summer 2000

Theories of Truth, Summer 1999
 Logics of Knowledge and Belief, Summer 1998
 Computability and Models of Arithmetic, Summer 1997
 Proof Theory for Computer Scientists, Summer 1995
 (all senior undergraduate/graduate courses)

Selected teaching materials are available online at
<http://www.ucalgary.ca/rzach/teaching/>

Supervision

Supervisor

Andre Curtis-Trudel, *Explication, Open-Texture, and Church's Thesis*, B.A. Honours, 2016
 Eamon Darnell, *Gödel vs. Mechanism*, B.A. Honours, 2013
 Gillman Payette, *A Study in the Logic of Institutions*, Ph.D., 2012
 Teresa Kouri, *Indiscernibility and Mathematical Structuralism*, M.A., 2010
 Taylor Scobbie, *Contrast and Contrastivism: The Logic of Contrastive Knowledge*, B.A. Honours, 2010
 Steve Coyne, *Belief-Theoretic Foundations for Conversation*, B.A. Honours, 2009
 Rafał Urbaniak, *Leśniewski's Systems of Logic and Mereology*, Ph.D., 2008
 Julianne Chung, *The Paradox of Knowability*, B.A. Honours, 2007
 Phil Serchuk, *Fuzzy Logic and Vagueness*, B.A. Honours, 2006

External Examiner

Hassan Massoud, *The Epistemology of Natural Deduction*, Ph.D., University of Alberta, 2015 (supervisors: Jeff Pelletier, Allen Hazen)
 Toby Meadows, *Modality without Metaphysics*, Ph.D., University of Melbourne, 2011 (supervisor: Greg Restall)

Committee Member/Examiner

Mohammad Jafari, *Modelling and Enforcing Purpose in Privacy Policies*, Ph.D. in Computer Science, 2013 (supervisor: Reyhaneh Safavi-Naini)
 Joseph Windsor, *When nothing exists: The role of zero in the prosodic hierarchy*, M.A. in Linguistics, 2012 (supervisor: Darin Flynn)
 Cheng Xu, *The specification and compilation of obligation policies for program monitoring*, M.Sc. in Computer Science, 2011 (supervisor: Philip Fong)
 Steven Yuen, *Formal Models and Implementations of Distributed Shared Memory*, M.Sc. in Computer Science, 2009 (supervisor: Lisa Higham)
 Jennifer Runke, *Towards an Adequate Theory of Scientific Metaphor*, Ph.D., 2008 (supervisor: Marc Ereshefsky)
 Jillian Hartman, *Scrabbalah*, M.A. in Creative Writing, 2005 (supervisors: Susan Rudy, Tom Wayman)
 Craig Pastro, $\Sigma\Pi$ -Polycategories, *Linear Logic, and Process Semantics*, M.Sc. in Computer Science, 2005 (supervisor: Robin Cockett)
 Min Zeng, *An Implementation of Charity*, M.Sc. in Computer Science, 2003 (supervisor: Robin Cockett)

Clement Loo, *The Role of Evolution in Behavior*, B.A. Honours, 2003
(supervisor: Marc Ereshefsky)

Funded Research Projects

The Collected Works of Rudolf Carnap (Phase II), 2012–2017
(Funded by the Social Sciences and Humanities Research Council of Canada)

The Collected Works of Rudolf Carnap, 2008–2011
(Funded by the Social Sciences and Humanities Research Council of Canada)

Computational Aspects of the Epsilon Calculus, 2007–2012
(Funded by the Natural Sciences and Engineering Research Council of Canada)

The History of Logical Metatheory, 1900–1940, 2004–2007
(Funded by the Social Sciences and Humanities Research Council of Canada)

Gödel Logics: Foundations and Applications to Computer Science, 2003–2007
(Funded by the Natural Sciences and Engineering Research Council of Canada)

The Golden Age of Logic: The Development of Logical Metatheory, 1900–1940, 2002–2004 (Funded by University of Calgary Starter Grant)

Paul Bernays and the Philosophy of Mathematics, 2000–2002
Project director: Wilfried Sieg, Carnegie-Mellon University
(Funded by the National Endowment for the Humanities)

Professional Activities

Editorial Responsibilities

Journal for the History of Analytic Philosophy, Founding Editor, 2010–

The Review of Symbolic Logic, Founding Editor, 2007–2013

Hilbert-Bernays Project, Advisory Board Member, 2008–

The Collected Works of Rudolf Carnap, Editorial Board Member, 2006–

Studia Logica, Associate Editor, 2006–

Stanford Encyclopedia of Philosophy, Subject Editor, History of Logic, 2005–

Paul Bernays Project, Editorial Board Member, 2000–

Service in Scientific Societies

Association for Symbolic Logic
Membership Committee, 2016–
Website Committee, 2014–
Council of the ASL, Member (elected), 2008–2010
Committee on Logic Education, Member, 2002–2008, Chair 2009–2011

Kurt Gödel Society: Executive Board, Member, 1992–94, 2005–

Philosophy of Mathematics Association
Executive Board Member, 2015–2016 Nominating Committee Member, 2014–

Society for the Study of the History of Analytic Philosophy
Secretary, 2015– Board Member, 2009–2015

Special Interest Group on Logic and Computation of the ACM: Education Committee, 2014–

Canadian Society for the History and Philosophy of Science
Advisory Board, Member, 2008–2011

Conference Organization

Spring Meeting of the Association for Symbolic Logic 2017, Program Committee Chair
 Annual Meeting of the Canadian Society for History and Philosophy of Mathematics
 2016, Local Organzier
 Annual Meeting of the Association for Symbolic Logic 2016, Special Session Organizer
 Epsilon 2015: Hilbert's Epsilon and Tau in Logic, Informatics and Linguistics, Program
 Committee Member
 Pacific Division of the America Philosophical Association 2012–2015, Program Com-
 mittee Member
 Vienna Summer of Logic 2014, Organizing Committee Member
 Logic, Algebra, and Truth Degrees LATD 2014, Program Committee Member
 European Summer Meeting of the Association for Symbolic Logic 2014, Program Com-
 mittee Member
 Logic, Algebra, and Truth Degrees LATD 2013, Program Committee Member
 Third International Congress on Tools for Teaching Logic, Program Committee Member,
 2011
 Carnap and the Legacy of Logical Empiricism, Institute Vienna Circle, Vienna, Orga-
 nizer, 2010
 Computability in Europe, Program Committee Member, 2009
 Logic Miniconference, University of Calgary
 (Aldo Antonelli, Nuel Belnap, Krister Segerberg), Organizer, 2009
 Mathematical Applications in Philosophy,
 Banff International Research Station, Organizer, 2007
 Uncertainty: Reasoning about Vagueness and Probability,
 Program Committee Member, 2006
 Logic Miniconference, University of Calgary
 (John Burgess, Kit Fine, Alasdair Urquhart), Organizer, 2005
 Annual Congress of the Canadian Philosophical Association,
 Program Committee Member, 2005
 2005 Spring Meeting of the Association for Symbolic Logic,
 Program Committee Member, 2004–05
 Stanford-Berkeley Graduate Philosophy Conference,
 Organizing Committee Member, 1996–1998
 Fifth Kurt Gödel Colloquium, Vienna, Organizing Committee Member, 1997
 Lecture Series “Collegium Logicum”, Organizing Committee Chair, 1992–94
 Workshop on Proof Theory, Complexity, Metamathematics,
 Vienna, Organizing Committee Chair, 1994
 Third Kurt Gödel Colloquium, Brno, Organizing Committee Member, 1993

Peer Reviewer

Journals and Presses: Blackwell, Cambridge University Press, Oxford University
 Press, Princeton University Press, *Archive for Mathematical Logic*, *American Philo-
 sophical Quarterly*, *Bulletin of Symbolic Logic*, *Dialectica*, *Ergo*, *Erkenntnis*, *Histo-
 ria Mathematica*, *History and Philosophy of Logic*, *Journal of Philosophical Logic*,

Journal of Symbolic Logic, Journal of Applied Non-Classical Logics, Journal of Logic and Computation, Journal of Logic, Language, and Information, Logic Journal of the IGPL, Mathematical Logic Quarterly, Mind, Notre Dame Journal of Formal Logic, Philosopher's Imprint, Philosophia Mathematica, Review of Symbolic Logic, Studia Logica, Studies in History and Philosophy of Science, Synthese, Theoretical Computer Science.

Conferences: Canadian Philosophical Association 2003, 2006, 2008; Computability in Europe 2008; Logic for Programming and Automated Reasoning 1992, 2005, 2007; World Congress on Universal Logic 2005; Society for Exact Philosophy 2005; International Joint Conference on Automated Reasoning 2004; Western Canadian Philosophy Association 2002, 2004; International Symposia on Multiple Valued Logic 1994, 1998; Kurt Gödel Colloquia 1993, 1997; Workshops on Computer Science Logic 1994, 1995, 2002; International Conference on Automated Deduction 1994, 2004; European Conference on Artificial Intelligence 1994; Workshop on Tableau-based Deduction, 1993

Granting Agencies: Austrian Science Fund, Fonds Québécois de Recherche sur la Société et Culture, Natural Sciences and Engineering Research Council of Canada NSERC, Research Foundation Flanders, Social Sciences and Humanities Research Council of Canada SSHRC, Deutsche Forschungsgemeinschaft, Canada Council for the Arts, Nederlands Organization for Scientific Research

University Service

University of Calgary: Service to Department

Graduate Program Director, 2015–
 Committee on Climate and Diversity, 2015–
 Head's Advisory Committee, Member, 2013–2014, 2015–
 Graduate Studies Committee, Member, 2002–2004, 2005–2006, 2009–2013
 Hiring Committee (Logic and Philosophy of Science), Member, 2012
 Speaker's Committee, Member, 2005, Chair, 2008–2011
 Hiring Committee (Logic and Philosophy of Science Postdoc), Member, 2010
 Chair, Preliminary Exam Standing Committee (Logic and Language), 2003–2004 (drafted new reading lists), 2008–
 Hiring Committee (Logic), Member, 2005–2006
 Placement Director, 2002–2004, 2005, 2009
 Co-Director, History and Philosophy of Science Programs, 2003–2004, 2005–2006
 Hiring Committee (Epistemology), Member, 2005–2006
 Webmaster, 2001–2008
 Hiring Committee (Philosophy of Science), Member, 2004
 Chair, Ad Hoc Committee on History and Philosophy of Science Undergraduate Programs, 2002–2003 (created new undergraduate programs, approved by University of Calgary Board of Governors in June 2003)
 Ad Hoc Committee on Department Self-Assessment Exercise, 2002

University of Calgary: Service to University

Calgary Peripatetic Research Group on Logic and Category Theory

Co-organizer, 2001–
 Institute for Quantum Science and Technology, Council Member, 2010–
 Executive Committee of the Faculty of Arts, Member, 2011–2013
 Sabbatical Fellowship Committee, Faculty of Humanities, 2008–2009
 Graduate Scholarships Committee, Member, 2004–2005
 Headship Selection Committee (Religious Studies), Member, 2004
 Humanities Representative to Faculty of Science, 2003–2005
 Promotions Committee, Faculty of Humanities, Observer (Dean's Appointee), 2004
 Executive Committee of the Faculty of Humanities, Member, 2001–2004

University of California, Berkeley

History and Philosophy of Logic, Mathematics, and Science

Townsend Center Working Group, Organizer, 1998–2001

Advisory Committee to the Graduate Council on Graduate Student Instructor Affairs,
 Student Representative, 1997–1999

Graduate Assembly Committee on the Educational Improvement Grant
 Program, Member, 1997–98

Logic and Methodology of Science Graduate Student Association
 President, 1995–1998

Graduate Assembly Delegate, 1995–1998

Advisory Committee to the Academic Senate on International Education,
 Student Representative, 1995–96

Languages

Bilingual in English and German; reading knowledge of French

Open Textbook Project

The Open Logic Project, <http://openlogicproject.org/>

Editions under Contract

- 3p. *The Collected Works of Rudolf Carnap. Volume IV: Anti-Metaphysical Writings 1928–1934*, edited with Richard Creath and Thomas Uebel (Oxford University Press)
 - 2p. *The Collected Works of Rudolf Carnap. Volume VI: Logic and Epistemology 1932–1942*, edited with Richard Creath (Oxford University Press)
 - 1p. *The Collected Works of Rudolf Carnap. Volume VIII: Late Writings 1944–1972*, edited with Pierre Wagner (Oxford University Press)
- (See the Carnap Edition Project website, <http://rudolfcarnap.org>)

List of Publications

Edited Collection

- 41. Aldo Antonelli, Alasdair Urquhart, and Richard Zach (eds.), *Mathematical Applications in Philosophy*, special issue of *The Review of Symbolic Logic* 1 (September 2008).

Peer-reviewed Journals Articles

- 40. Georg Schiemer, Richard Zach, and Erich Reck, Carnap's early metatheory: scope and limits, *Synthese* (2016), forthcoming.
- 39. Richard Zach, Natural Deduction for the Sheffer Stroke and Peirce's Arrow (and any Other Truth-Functional Connective), *Journal of Philosophical Logic* 45(2) (2016), 183–197.
- 38. Paolo Mancosu and Richard Zach, Heinrich Behmann's 1921 lecture on the decision problem and the algebra of logic, *Bulletin of Symbolic Logic* 21 (2015), 164–187.
- 37. Phil Serchuk, Ian Hargreaves, and Richard Zach, Vagueness, logic and use: Four experimental studies on vagueness, *Mind and Language* 26 (2011) 540–573.
- 36. Matthias Baaz, Norbert Preining, and Richard Zach, First-order Gödel logics, *Annals of Pure and Applied Logic* 147 (2007) 23–47.
- 35. Georg Moser and Richard Zach, The epsilon calculus and Herbrand complexity, *Studia Logica* 82 (2006) 133–155.
- 34. Richard Zach, Essay review of *Reason's Nearest Kin: Philosophies of Arithmetic from Kant to Carnap*, by Michael Potter (Oxford, 2000). *Notre Dame Journal of Formal Logic* 46 (2005) 503–513.
- 33. Richard Zach, Decidability of quantified propositional intuitionistic logic and S4 on trees of height and arity $\leq \omega$, *Journal of Philosophical Logic* 33 (2004) 155–164.

32. Richard Zach, Hilbert's 'Verunglückter Beweis,' the first epsilon theorem, and consistency proofs. *History and Philosophy of Logic* 25 (2004) 79–94.
31. Richard Zach, The practice of finitism. Epsilon calculus and consistency proofs in Hilbert's Program, *Synthese* 137 (2003) 121–159.
30. Richard Zach, Completeness before Post: Bernays, Hilbert, and the development of propositional logic, *Bulletin of Symbolic Logic* 5 (1999) 331–366.
29. Richard Zach, Numbers and functions in Hilbert's finitism, *Taiwanese Journal for Philosophy and History of Science* 10 (1998) 33–60. (Special issue on philosophy of mathematics, edited by Charles Chihara)
28. Matthias Baaz, Christian G. Fermüller, Gernot Salzer, and Richard Zach, Labeled calculi and finite-valued logics, *Studia Logica* 61 (1998) 7–33.
27. Matthias Baaz and Richard Zach, Note on generalizing theorems in algebraically closed fields, *Archive for Mathematical Logic* 37 (1997) 297–307.
26. Matthias Baaz, Alexander Leitsch, and Richard Zach, A complete first-order temporal logic of time with gaps, *Theoretical Computer Science* 160 (1996) 241–270.
25. Matthias Baaz and Richard Zach, Generalizing theorems in real closed fields, *Annals of Pure and Applied Logic* 75 (1995) 3–23.
24. Matthias Baaz, Christian G. Fermüller, and Richard Zach, Elimination of cuts in first-order many-valued logics, *Journal of Information Processing and Cybernetics* 29 (1994) 333–355.

Peer-Reviewed Articles in Collections

23. Paolo Mancosu and Richard Zach, Introduction to Heinrich Behmann's "Problème de la décision et algebre de la logique"(1921), in: Jean Mosconi and Michel Bourdeau, *Anthologie de la calculabilité, 1920–1970*, Paris, Cassini, to appear 2014.
22. Paolo Mancosu, Richard Zach, and Calixto Badesa, The development of mathematical logic from Russell to Tarski: 1900–1935, in: Leila Haaparanta, ed., *The History of Modern Logic* (Oxford University Press, Oxford, 2009), pp. 324–478. Reprinted in Paolo Mancosu, *The Adventure of Reason. Interplay Between Philosophy of Mathematics and Mathematical Logic, 1900–1940*. Oxford: Oxford University Press, 2010
21. Matthias Baaz and Richard Zach, Effective finite-valued approximations of general propositional logics, Arnon Avron et al. (eds.), *Pillars of Computer Science: Essays Dedicated to Boris (Boaz) Trakhtenbrot on the Occasion of His 85th Birthday* (Springer, Berlin, 2008), 107–129.
20. Richard Zach, Hilbert's program then and now, in: Dale Jacquette, ed., *Philosophy of Logic*. Handbook of the Philosophy of Science, vol. 5. (Elsevier, Amsterdam, 2006), 411–447.
19. Richard Zach, Kurt Gödel, paper on the incompleteness theorems (1931), in: Ivor Grattan-Guinness, ed., *Landmark Writings in Mathematics* (North-Holland, Amsterdam, 2004), 917–925.
18. Richard Zach, Hilbert, Programma di. *Enciclopedia Filosofica di Gallarate*. (Bompiani, Milan, 2006), 5285–5291.
17. Richard Zach, Hilbert's Program. *Stanford Encyclopedia of Philosophy*, <http://plato.stanford.edu/entries/hilbert-program/>, 2003 (peer-reviewed; 16 pp.).

16. Matthias Baaz and Richard Zach, Das Vollständigkeitsproblem und der Vollständigkeitsbeweis, in: Bernd Buldt, et al. (eds.), *Kurt Gödel: Wahrheit und Beweisbarkeit. Volume 2: Kompendium zum Werk*. (Vienna: hpt, 2002), 21–27.
15. Jeremy Avigad and Richard Zach, “The epsilon calculus.” *Stanford Encyclopedia of Philosophy*, <http://plato.stanford.edu/entries/epsilon-calculus/>, 2002 (revised 2007) (18 pp.).

Peer-reviewed Proceedings Papers

Note: Much of my logical work is on topics in logic with applications in computer science, and was carried out in collaboration with computer scientists. The disciplinary standard for publication venues in computer science is the conference proceedings volume. These conferences are all peer-reviewed with 2–3 anonymous referees per paper, ensuring quality comparable to peer-reviewed journals in other disciplines.

14. Richard Zach, Kurt Gödel and computability theory, *Logical Approaches to Computational Barriers Second Conference on Computability in Europe, CiE 2006, Swansea. Proceedings* LNCS 3988 (Springer, Berlin, 2006) 575–583.
13. Matthias Baaz, Norbert Preining, and Richard Zach, Completeness of a hypersequent calculus for some first-order Gödel logics with delta, *36th International Symposium on Multiple Valued Logic. May 2007, Singapore. Proceedings* (IEEE Computer Society, Los Alamitos, 2006) 6 pp.
12. Matthias Baaz, Norbert Preining, and Richard Zach, Characterization of the axiomatizable prenex fragments of first-order Gödel logics, *33rd International Symposium on Multiple Valued Logic. May 2003, Tokyo, Japan. Proceedings* (IEEE Computer Society Press, Los Alamitos, 2003) 175–180.
11. Christian G. Fermüller, Georg Moser, and Richard Zach, Tableaux for reasoning about atomic updates, *Logic for Programming, Artificial Intelligence, and Reasoning. LPAR 2001. Proceedings*, LNAI 2250. (Springer, Berlin, 2001) 639–653.
10. Matthias Baaz, Agata Ciabattoni, and Richard Zach, Quantified propositional Gödel logics, *Logic for Programming and Automated Reasoning. LPAR 2000. Proceedings*, LNCS 1955. (Springer, Berlin, 2000) 240–256.
9. Matthias Baaz and Richard Zach, Hypersequents and cut elimination for intuitionistic fuzzy logic, *Computer Science Logic. CSL 2000. Proceedings*, LNCS 1862. (Springer, Berlin, 2000) 187–201.
8. Matthias Baaz and Richard Zach, Compact propositional Gödel logics, *28th International Symposium on Multiple Valued Logic. May 1998, Fukuoka, Japan. Proceedings* (IEEE Computer Society Press, Los Alamitos, 1998) 108–113.
7. Matthias Baaz, Alexander Leitsch, and Richard Zach, Incompleteness of an infinite-valued first-order Gödel logic and of some temporal logics of programs, *Computer Science Logic. 9th Workshop, CSL’95. Paderborn. Selected Papers*. LNCS 1092 (Springer, Berlin, 1996) 1–15.
6. Matthias Baaz and Richard Zach, Approximating propositional calculi by finite-valued logics, *24th International Symposium on Multiple Valued Logic. May 1994, Boston. Proceedings* (IEEE Press, Los Alamitos, 1994) 257–263.
5. Matthias Baaz and Richard Zach, Short proofs of tautologies using the schema of

- equivalence, *Computer Science Logic. 7th Workshop, CSL '93. Swansea. Selected papers*. LNCS 832 (Springer, Berlin, 1994) 33–35
4. Matthias Baaz, Christian G. Fermüller, Arie Ovtrucki, and Richard Zach, MULTLOG: A system for axiomatizing many-valued logics, *Logic Programming and Automated Reasoning LPAR '93. St. Petersburg. Proceedings* (Springer, Berlin, 1993) 345–347
 3. Matthias Baaz, Christian G. Fermüller, and Richard Zach Systematic construction of natural deduction systems for many-valued logics, *23rd International Symposium on Multiple Valued Logic. May 1993, Sacramento. Proceedings* (IEEE Press, Los Alamitos, 1993) 208–213.
 2. Matthias Baaz, Christian G. Fermüller, and Richard Zach, Dual systems of sequents and tableaux, *Workshop on Tableau-based Deduction, Marseille, 1993. Bulletin of the EATCS* **51** (1993) 192–197.
 1. Matthias Baaz and Richard Zach, Algorithmic structuring of cut-free proofs, *Computer Science Logic. 6th Workshop, CSL '92. San Miniato. Selected Papers* (Springer, Berlin, 1993) 29–42.

Translations

- 2t. Paul Bernays, Axiomatic Investigations of the Propositional Calculus of *Principia Mathematica*, in Jean-Yves Béziau, *Universal Logic: An Anthology*, New York and Basel: Springer, 2012, pp. 43–58.
- 1t. Rudolf Carnap, Hans Hahn, and Otto Neurath, The Scientific World-Conception: The Vienna Circle, in Friedrich Stadler and Thomas Uebel, *Wissenschaftliche Weltauffassung. Der Wiener Kreis. Hrsg. vom Verein Ernst Mach (1929): Reprint of the first edition on behalf of the Institute Vienna Circle on the Occasion of its 20th Anniversary, with Translations into English, French, Spanish and Italian*, Vienna and New York: Springer, 2012, pp. 75–116 (with Thomas Uebel, based in part on a translation by Paul Foulkes and Marie Neurath).

Book Reviews

- 5r. Richard Zach, Review of *Gödel's Theorem: Its Use and Abuse*, by Torkel Franzén (AK Peters, 2005). *History and Philosophy of Logic* 26 (2005) 369–371.
- 4r. Richard Zach, Le quantificateur effini, la descente infinie et les preuves de consistance de Gauthier, *Philosophiques* 31 (2004) 221–224 (with a response by Yvon Gauthier on pp. 233–236).
- 3r. Richard Zach, Review of *Computability and Logic*, 4th Edition, by George Boolos, John Burgess, and Richard Jeffrey (Cambridge, 2002). *Bulletin of Symbolic Logic* 9 (2003) 520–521.
- 2r. Richard Zach, Review of *Computability. Computable Functions, Logic, and the Foundations of Mathematics*, 2nd Edition, by Richard L. Epstein and Walter A. Carnielli (Wadsworth, 2000). *History and Philosophy of Logic* 23 (2002) 67–70.
- 1r. Petr Hájek and Richard Zach, Review of *Many-valued Logics: 1. Theoretical Foundations*, by Leonard Bolc and Piotr Borowik (Springer, Berlin, 1991), *Journal of Applied Non-Classical Logics* 4 (1994) 215–220.

Published Abstracts

- 14a. Matthias Baaz and Richard Zach, The epsilon calculus and non-classical logics, *Bulletin of Symbolic Logic* 19 (2014) 513.
- 13a. Richard Zach, Carnap's logic in the 1930s, *Bulletin of Symbolic Logic* 14 (2008) 426.
- 12a. Richard Zach, The decision problem and metalogic, *Bulletin of Symbolic Logic* 13 (2007) 319.
- 11a. Georg Moser and Richard Zach, Complexity of elimination procedures in the epsilon calculus, *Bulletin of Symbolic Logic* 12 (2006) 341–342.
- 10a. Andrew Arana, Michael Glanzberg, Ted Sider, Brian Weatherson, Richard Zach, Panel discussion: logic instruction and philosophy graduate training, *Bulletin of Symbolic Logic* 11 (2005) 549–550.
- 9a. Richard Zach, Gödel's first incompleteness theorem and Detlefsen's Hilbertian instrumentalism, *Bulletin of Symbolic Logic* 11 (2005) 301.
- 8a. Matthias Baaz, Norbert Preining, and Richard Zach, Axiomatizability of first-order Gödel logics, *Bulletin of Symbolic Logic* 11 (2005) 267.
- 7a. Georg Moser and Richard Zach, The epsilon calculus, *Kurt Gödel Colloquium. Computer Science Logic 2003. Proceedings.* (Springer, Berlin, 2003) 455.
- 6a. Richard Zach, Hilberts 'Verunglückter Beweis' and the epsilon theorem, *Bulletin of Symbolic Logic* 8 (2002) 449–450.
- 5a. Richard Zach, Quantified propositional intuitionistic logic on trees is decidable, *Bulletin of Symbolic Logic* 8 (2002) 163.
- 4a. Richard Zach, Hilbert's 'Ansatz' for the ε -substitution method and Ackermann's dissertation, *Bulletin of Symbolic Logic* 7 (2001) 417.
- 3a. Richard Zach, Hilbert, Bernays, and some fundamental advances in logic, 1918–1923, *Bulletin of Symbolic Logic* 5 (1999) 481.
- 2a. Matthias Baaz and Richard Zach, Generalizing theorems in real closed fields, *Bulletin of Symbolic Logic* 1 (1995) 361.
- 1a. Matthias Baaz, Christian G. Fermüller, and Richard Zach, Proof theory of finite-valued logics, *Bulletin of Symbolic Logic* 1 (1995) 221–222.

Reports and Theses

- 4t. Richard Zach, *Hilbert's Finitism: Historical, Philosophical, and Metamathematical Perspectives*, Ph.D. Thesis, University of California, Berkeley, 2001.
- 3t. Richard Zach, *Proof Theory of Finite-Valued Logics*, Diploma Thesis, Technische Universität Wien, Vienna, 1993
- 2t. Matthias Baaz and Richard Zach, Note on calculi for a three-valued logic for logic programming, *Bulletin of the EATCS* 48, 1992
- 1t. Gerhard Widmer, Robert Trappl, and Richard Zach, *Artificial Intelligence. A Short Bibliography on AI and the Arts*, ÖFAI Report TR-90-14, Austrian Research Institute for Artificial Intelligence, 1990

Selected papers with abstracts are available in preprint online at
<http://www.ucalgary.ca/rzach/papers/>

List of Presentations

Invited Talks

- 66i. Derivation and consequence, McGill University, Philosophy Workshop, 2015
- 65i. The decision problem and logical metatheory, University of California, Berkeley, Townsend Center Working Group in History and Philosophy of Logic, Mathematics, and Science, 2014
- 64i. Carnap and logic in the 1920s and 1930s, Minnesota Center for Philosophy of Science, 2014
- 63i. The decision problem and logical metatheory, Foundations Interest Group, Department of Philosophy, University of Minnesota, 2014
- 62i. Carnap on models, Symposium on Metalogic and Early Analytic Philosophy, Spring Meeting of the ASL, San Diego, 2014
- 61i. Carnap as a logician, *Carnap on Logic* conference, Munich Center for Mathematical Philosophy, 2013
- 60i. The epsilon calculus: An undervalued logical formalism, *Annual Meeting of the Society for Exact Philosophy*, Montréal, 2013
- 59i. Carnap and logic, Workshop on Formal Epistemology and the Legacy of Logical Empiricism, University of Texas, Austin, dApril272013
- 58i. The decision problem and the development of metalogic, Logic and Philosophy of Science Group, University of Toronto, 2012
- 57i. Gödel's First Incompleteness Theorem and mathematical instrumentalism, Keio University, Tokyo, 2011
- 56i. Proof Interpretations and the constructive content of mathematical theories, Kyoto University, 2011
- 55i. The Epsilon Calculus, Keio University, Tokyo, 2011
- 54i. *Principia Mathematica* and the development of logic, PM@100, McMaster University, 2010
- 53i. The decision problem and the development of metalogic, Department of Philosophy, McGill University, 2009
- 52i. Proof interpretations and the constructive content of mathematical theories, Wissenschaftstheoretisches Kolloquium, University of Vienna, Austria, 2009
- 51i. Bernays and the decision problem in Hilbert's school, Bernaysfest, Carnegie Mellon University, 2008
- 50i. Carnap, logic, and analytic philosophy, *200 Years of Analytic Philosophy*, University of Latvia, Rīga, 2008
- 49i. The decision problem and the development of metalogic, Department of Philosophy, Utrecht University, 2008
- 48i. Carnap's logic in the 1930s, *Annual Meeting of the Association for Symbolic Logic*, Special Session on Logic and Logical Empiricism, Irvine, 2008
- 47i. Proof, Construction, and Computation. Interactions between Philosophy of Mathematics and Mathematical Foundations, Scuola Normale Superiore, Pisa, Italy, 2008
- 46i. Analytic systems for the ε -calculus, *Analytic Systems/LPAR 2007*, Yerevan, 2007

- 45i. The decision problem in the 1920s, *Moscow-Vienna Workshop on Logic and Computation*, Technical University Vienna, 2007
- 44i. The decision problem and the development of metalogic, *Annual Meeting of the Association for Symbolic Logic*, University of Florida, Gainesville, 2007.
- 43i. Algorithms and decision problems in Hilbert's school, *Hilbert Workshop*, Kyoto University, 2006.
- 42i. Vagueness and fuzzy logics, *Uncertainty: Reasoning about Probability and Vagueness*, Prague, 2006.
- 41i. Kurt Gödel and computability theory, *Computability in Europe CiE 2006: Logical Approaches to Computational Barriers*, Swansea, Wales, 2006.
- 40i. The epsilon calculus, Logic Group, University of Melbourne, 2006.
- 39i. Logic and vagueness, Department of Philosophy, University of Melbourne, 2006.
- 38i. Gödel's first incompleteness theorem and mathematical instrumentalism, Gödel Seminar, University of Notre Dame, 2006.
- 37i. Gödel's first incompleteness theorem and mathematical instrumentalism, *Truth and Proof: Kurt Gödel and the Foundations of Mathematics*, University of Edinburgh, 2006.
- 36i. Algebraic semantics for logics of vagueness, Kurt Gödel Society, Vienna, 2005.
- 35i. What should a logic of vagueness be and do?, Philosophy Department, Stanford University, 2005.
- 34i. How to argue for and against a logic of vagueness, Logic and Philosophy of Science Colloquium, University of California, Irvine, 2004.
- 33i. Vagueness and infinitely many truth values, University of California, Berkeley, Townsend Center Working Group in History and Philosophy of Logic, Mathematics, and Science, 2004.
- 32i. Semantics for vagueness vs. logics for vagueness: The case of fuzzy logics, *The Challenge of Semantics* (European Science Foundation Exploratory Workshop), Vienna, 2004.
- 31i. Gödel's first incompleteness theorem and mathematical instrumentalism, University of Lethbridge, Department of Philosophy, 2004.
- 30i. The epsilon calculus (Tutorial), *Kurt Gödel Colloquium/Conference on Computer Science Logic CSL'03*, Vienna, 2003 (with Georg Moser).
- 29i. Completeness and decidability in the context of Hilbert's philosophy, University of Alberta, Department of Philosophy, 2003.
- 28i. The early history of the epsilon calculus, University of California, Berkeley, Townsend Center Working Group in History and Philosophy of Logic, Mathematics, and Science, 2002.
- 27i. Logic and metalogic in Hilbert's school, Universitat de Barcelona, Seminari de Lògica, 2002.
- 26i. Hilbert's program and the foundations of mathematics, University of Calgary, Department of Mathematics, 2002.
- 25i. Hilbert's epsilon-calculus and epsilon-substitution method, *Hilbert Workshop*, Japanese Society for the Philosophy of Science, Keio University, Tokyo, 2002.
- 24i. Hilbert's project of consistency proofs in the 1920s, *Logic and the Foundations of the*

- Exact Sciences—Hilbert’s Heritage*, Berne, Switzerland, 2001.
- 23i. Hilbert’s ‘Ansatz’ for the epsilon-substitution method and Ackermann’s dissertation, *Spring Meeting of the Association for Symbolic Logic*, Minneapolis, 2001.
 - 22i. The epistemology of mathematics and Hilbert’s finitism, University of Calgary, Department of Philosophy, 2001.
 - 21i. Epsilon calculus and consistency proofs in Hilbert’s program, Mathematical Logic Seminar, Stanford University, 2001.
 - 20i. Epsilon calculus and consistency proofs in Hilbert’s program, Philosophy of Mathematics Workshop, UCLA, 2001.
 - 19i. Instrumentalism in mathematics, University of South Florida, Tampa, Department of Philosophy, 2001
 - 18i. Epsilon calculus and consistency proofs in Hilbert’s program, University of California, Irvine, Department of Logic and Philosophy of Science, 2001
 - 17i. The practice of finitism, *Hilbert Workshop*, Institut d’Histoire et Philosophie des Sciences et Techniques, CNRS/Université Paris I, 2000
 - 16i. The practice of finitism, *History of Logic. International Conference*, University of Helsinki, 2000
 - 15i. Finitism and mathematical intuition, Oxford University, Department of Philosophy, 2000
 - 14i. Finitism and mathematical intuition, University of Chicago, Department of Philosophy, 2000
 - 13i. Finitism and mathematical intuition, Stanford University, Department of Philosophy, 2000
 - 12i. The reach of finitism, *Collegium Logicum: Proof Theory*, Vienna, 1999
 - 11i. The historical significance of consistency proofs, *The Development of the Foundations of Mathematics in the 1920s and 30s*, Institute Vienna Circle, Vienna, 1999
 - 10i. Completeness before Post: Hilbert and Bernays on propositional logic, 1917–18, Stanford University, Logic Lunch, 1999
 - 9i. Bernays’ early contributions to logic, *The Development of Modern Logic. International Symposium*, University of Helsinki, 1998
 - 8i. The debate between Kreisel and Tait on finitism, Universität Erlangen-Nürnberg, Colloquium Logico-Philosophicum, 1998
 - 7i. Finitism, Kurt Gödel Society, Vienna, 1997
 - 6i. Generalization of theorems and proofs: Kreisel’s Conjecture for algebraic theories, Stanford University, Logic Lunch, 1997
 - 5i. *Uniform deduction systems for finite-valued first-order logics*, *Eighth European Summer School in Language, Logic, and Information*, Prague, 1996
 - 4i. A software package for axiomatizing finite-valued first order logics, *Seventh European Summer School in Language, Logic, and Information*, Barcelona, 1995
 - 3i. Axiomatizability issues in temporal and infinite-valued first-order logics, Université Paris 7 Denis Diderot, Equipe de Logique, 1995
 - 2i. Adventures in many-valued logic, Kurt Gödel Society, Vienna, 1995
 - 1i. Proof theory of finite-valued first-order logics, Academy of Sciences of the Czech Republic, Prague, Institute of Computer Science, 1994

Conference Talks

- 25c. Substitution, consequence, and proof, Society for Exact Philosophy, Hamilton, Ontario, 2015
- 24c. The epsilon calculus and non-classical logics, *Nonclassical Proofs: Theory, Applications, and Tools*, Vienna, 2014
- 23c. The place of logic in computer science education, Panel discussion with Byron Cook, Alexander Leitsch, Prakash Panangaden, Nicole Schweikardt, and Helmut Veith, *Logic Colloquium*, Vienna, 2014.
- 22c. Carnap and logic in the 1920s and 1930s, Society for the Study of the History of Analytic Philosophy Annual Meeting, Montréal, 2014
- 21c. The epsilon calculus and non-classical logics, *Winter Meeting of the Association for Symbolic Logic*, New Orleans, 2013.
- 20c. Carnap, tolerance, and the foundational debate in mathematics, *International Congress on Logic, Philosophy, and Methodology of Science*, Nancy, 222011
- 19c. Ayer and the Vienna Circle, *Western Canadian Philosophy Association*, Calgary, 2010
- 18c. Carnap between logicism and formalism, *History of Philosophy of Science HOPOS 2006*, Paris, 2006.
- 17c. Complexity of elimination procedures in the epsilon calculus, *Logic Colloquium*, Athens, Greece, 2005.
- 16c. Algebraic semantics for logics of vagueness, *Society for Exact Philosophy*, Toronto, 2005.
- 15c. Logic instruction and philosophy graduate training, Panel discussion with Andrew Arana, Michael Glanzberg, Brian Weatherson, and Ted Sider, *ASL Spring Meeting*, San Francisco, 2005.
- 14c. Gödel's first incompleteness theorem and Detlefsen's Hilbertian instrumentalism, *Logic Colloquium*, Turin, Italy, 2004.
- 13c. Axiomatizability of first-order Gödel logics, *Logic Colloquium*, Turin, Italy, 2004.
- 12c. Finite-valued approximations of propositional logics, *Foundational Methods in Computer Science*. Kananaskis, 2004.
- 11c. Gödel's first incompleteness theorem and mathematical instrumentalism, *Midwest Philosophy of Mathematics Workshop*, University of Notre Dame, 2003.
- 10c. Characterization of the axiomatizable prenex fragments of first-order Gödel logics, *33rd International Symposium on Multiple Valued Logic*. Tokyo, Japan, 2003.
- 9c. Hilbert's 'Verunglückter Beweis' and the Epsilon-theorem, *Spring Meeting of the Association for Symbolic Logic*, Seattle, 2002.
- 8c. Quantified propositional intuitionistic logic on trees is decidable, *European Summer Meeting of the Association for Symbolic Logic (Logic Colloquium)*, Vienna, 2001.
- 7c. The syntax-semantics distinction and Hilbert's 'no ignorabimus' *History of Philosophy of Science (HOPOS)*, Vienna, 2000.
- 6c. Hilbert, Bernays, and some fundamental advances in logic, 1918–1923, *Spring Meeting of the Association for Symbolic Logic*, New Orleans, 1999.
- 5c. Infinite-valued Gödel logics, *Annual Meeting of the Association for Symbolic Logic*, San Diego, 1999.

- 4c. Hilbert's finitist numbers, *1997 Stanford–Berkeley Philosophy Conference*, Stanford, 1997.
- 3c. Generalizing theorems in real closed fields, *Winter Meeting of the Association for Symbolic Logic*, San Francisco, 1995.
- 2c. Approximating propositional calculi by finite-valued logics, *24th International Symposium on Multiple Valued Logic*, Boston, 1994.
- 1c. Systematic construction of natural deduction systems for many-valued logics, *23rd International Symposium on Multiple Valued Logic*, Sacramento, 1993.

Commentaries

- 4m. Comments on Bryson Brown and Andrew Tedder's "Multiple Conclusions," *Annual Meeting of the Western Canadian Philosophy Association*, Lethbridge, Alberta, 2012
- 3m. Comments on Victor Rodych's "Who is Wittgenstein's worst enemy?" *40th Annual Meeting of the Western Canadian Philosophy Association*, Lethbridge, Alberta, 2003
- 2m. Comments on Jonathan Seldin's "On normalizing disjunctive intermediate logics" *39th Annual Meeting of the Western Canadian Philosophy Association*, Calgary, Alberta, 2002
- 1m. Comments on Thomas Hofweber's "Proof-theoretic reduction as a philosopher's tool" *1999 Stanford-Berkeley Philosophy Conference*, Stanford, 1999.

Talks to Local Research Groups

- 13ℓ. Rudolf Carnap and the Logic of Tolerance, Calgary Institute for the Humanities Public Lecture, 2016
- 12ℓ. Alan Turing and the Decision Problem, Alan Turing Centenary Lecture Series, University of Calgary, 2012
- 11ℓ. The decision problem and the development of metalogic, Calgary Peripatetic Research Group in Logic and Category Theory, 2008
- 10ℓ. Logic, paradox, and misplaced optimism: How early 20th century philosophy of mathematics paved the way for modern computer science, Calgary Institute for the Humanities Public Lecture, 2007
- 9ℓ. What is a logic of vagueness? And how do we figure out which one is right?, Vendler Research Group in Logic and Language, University of Calgary, 2005
- 8ℓ. Mathematical instrumentalism and Gödel's incompleteness theorems, History and Philosophy of Science Research Group, University of Calgary, 2004.
- 7ℓ. Introduction to the epsilon calculus II, Calgary Peripatetic Research Group on Logic and Category Theory, 2003.
- 6ℓ. Introduction to the epsilon calculus I, Calgary Peripatetic Research Group on Logic and Category Theory, 2003.
- 5ℓ. Hilbert, Bernays, and the history of logic, History and Philosophy of Science Research Group, University of Calgary, 2002.
- 4ℓ. Intuitionistic fuzzy logic and other Gödel logics, Calgary Peripatetic Research Group on Logic and Category Theory, 2002.

- 3*l.* Instrumentalism in mathematics Philosophy Colloquium, University of California, Berkeley, 1999
- 2*l.* Finitistic consistency proofs, Working Group on History and Philosophy of Mathematics and Logic, University of California, Berkeley, 1998.
- 1*l.* Completeness before Post: Hilbert and Bernays on propositional logic, 1917–18, Working Group on History and Philosophy of Mathematics and Logic, University of California, Berkeley, 1998.

List of Grants and Fellowships

- 36g. Scholarship of Teaching and Learning Grant, University of Calgary, 2016–2017 (joint with Nicole Wyatt and Aaron Thomas-Bolduc)
- 35g. Teaching and Learning Grant, University of Calgary, 2015. CAD 7,500.00 (joint with Nicole Wyatt)
- 34g. Alberta Open Educational Resources Initiative, 2015, CAD 43,000.00.
- 33g. Research and Study Leave, University of Calgary, 2014–15
- 32g. Annual Fellowship, Calgary Institute for the Humanities, 2013–14 (Teaching release)
- 31g. Insight Grant, Social Sciences and Humanities Research Council of Canada (SSHRC), “The Collected Works of Rudolf Carnap (Phase 2),” 2012–2017. CAD 133,680.00. (Principal applicant; co-applicant: Dirk Schlimm, McGill University)
- 30g. Visiting Scholar Grant, University of Calgary Research Grants Committee, Nuel Belnap, University of Pittsburgh, March 2009. CAD 1,275.
- 29g. Standard Research Grant, Social Sciences and Humanities Research Council of Canada (SSHRC), “The Collected Works of Rudolf Carnap,” 2008–2011. CAD 64,900. (Principal applicant; co-applicant: Dirk Schlimm, McGill University)
- 28g. Sabbatical Fellowship, University of Calgary, Winter 2008
- 27g. Discovery Grant, Natural Sciences and Engineering Research Council of Canada (NSERC), “Computational Aspects of the Epsilon Calculus,” 2007–2012. CAD 70,000.
- 26g. Conference Grant, University of Calgary Research Grants Committee, “Mathematical Methods in Philosophy,” 2006. CAD 6,000.00.
- 25g. Calgary Institute for the Humanities Annual Fellowship, 2006–2007. (teaching release)
- 24g. Short Term Project Grant, University of Calgary Research Grants Committee, “The Essential Carnap,” 2006. CAD 5,940.00.
- 23g. Travel Grant, University of Calgary Research Grants Committee, Conference travel to *International Symposium on Multiple Valued Logic*, Singapore, May 2006. CAD 1,500.
- 22g. Visiting Scholar Grant, University of Calgary Research Grants Committee, John P. Burgess, Princeton University, September 2004. CAD 1,300.
- 21g. Visiting Fellowship, Department of Logic and Philosophy of Science, University of California, Irvine, Fall 2004. USD 8,000.00.
- 20g. Sabbatical Fellowship, University of Calgary, Fall 2004
- 19g. Visiting Scholar Grant, University of Calgary Research Grants Committee, William W. Tait, University of Chicago, September 2004. CAD 1,150.
- 18g. Standard Research Grant, Social Sciences and Humanities Research Council of Canada (SSHRC), “The History of Logical Metatheory, 1900–1940,” 2004–2007. CAD 68,200. (Highest grant for a philosophy proposal in the “new researcher” category in the 2004 competition. Success rate 29%)
- 17g. Discovery Grant, Natural Sciences and Engineering Research Council of Canada (NSERC), “Gödel Logics: Foundations and Applications in Computer Science,”

- 2003–2007. CAD 38,000.
- 16g. Canadian Hunter Young Innovator Award, University of Calgary, “Gödel Logics: Foundations and Applications in Computer Science,” 2003. CAD 20,000 (Open to all junior appointees within first two years at University of Calgary, one nomination per faculty, 5 awards total.)
 - 15g. Travel Grant, University of Calgary Research Grants Committee, Conference travel to *International Symposium on Multiple Valued Logic*, Tokyo, May 2003. CAD 1,500.
 - 14g. Professional Development Grant, Faculty of Humanities, 2003. CAD 2,000.
 - 13g. Visiting Scholar Grant, University of Calgary Research Grants Committee, Matthias Baaz, Technische Universität Wien, Austria, November 2002. CAD 1,850.
 - 12g. Professional Development Grant, Faculty of Humanities, 2002. CAD 2,000.
 - 11g. Starter Grant, University of Calgary Research Grants Committee, “The Golden Age of Logic: The Development of Logical Metatheory,” 2002–2003. CAD 10,000.
 - 10g. Professional Development Grant, Faculty of Humanities, 2001. CAD 2,000.
 - 9g. Research Excellence Envelope Grant, University of Calgary, 2001–2002. CAD 15,000.
 - 8g. Collaborative Research Grant, National Endowment for the Humanities, “Paul Bernays and the Philosophy of Mathematics,” 2000–2002. USD 47,000 (Co-applicant; project director: Wilfried Sieg, Carnegie-Mellon University).
 - 7g. Graduate Student Travel Grant, University of California, 2000–2001. USD 500.
 - 6g. Grant-in-Aid, Mabelle McLeod Lewis Memorial Fund, “Hilbert’s Finitism: Historical, Philosophical, and Methodological Perspectives,” 1999–2000. USD 15,000. (Open to advanced doctoral students in humanities at Northern California universities.)
 - 5g. Austrian Science Fund, “First-order Gödel Logics,” 1998–2000. (Research collaborator; project director: Matthias Baaz, Technische Universität Wien.)
 - 4g. The Berkeley Fellowship for Graduate Study, University of California, 1994–1998. USD 71,473.50 (The Berkeley Fellowship is Berkeley’s most prestigious and competitive graduate award, open to all entering and continuing graduate students.)
 - 3g. Kurt Gödel Fellowship for Study Abroad, Austrian Ministry of Science, 1994–1995.
 - 2g. Research Grant, European Union COST Action 15, “Proof Theory and Automated Theorem Proving for Many-valued Logics,” 1994–1996 (Research collaborator; project director: Matthias Baaz, Technische Universität Wien.)
 - 1g. Research Grant, Projet Concerte de Cooperation Scientifique entre la France et l’Autriche, “New Methods in Program Synthesis and Automated Theorem Proving”, 1994–1996 (Research collaborator; project director: Alexander Leitsch, Technische Universität Wien.)