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PHILPAPERS 

## RICHARD ZACH

Education    **PhD, University of California, Berkeley**, Logic and the Methodology of Science, 2001  
(Thesis: “Hilberts Finitism: Historical, Philosophical, and Metamathematical Perspectives.” Supervisors: Paolo Mancosu, Jack H. Silver)  
**MA, University of California, Berkeley**, Mathematics, 1997  
**CPhil, University of California, Berkeley**, Logic and the Methodology of Science, 1997  
**Diplom-Ingenieur, Technische Universität Wien**, Computational Logic, 1993

Areas of Specialization    Logic: Proof Theory, Non-classical Logics  
History of Logic: Hilbert, Gödel, Carnap  
Philosophy of Mathematics: Hilbert’s Program  
History of Analytic Philosophy: Carnap

Areas of Competence    Metaphysics, Philosophy of Language, Philosophy of Science

Appointments    *University of Calgary, Department of Philosophy*

Professor. 2009–.

Associate Professor. 2004–2009.

Assistant Professor. 2001–2004.

*McGill University, Department of Philosophy*

Visiting Professor. 2014–2015.

*University of California, Irvine, Department of Logic and Philosophy of Science*

Visiting Associate Researcher. 2004–2004.

*Stanford University, Department of Philosophy*

Lecturer. 2001–2001.

*University of California, Berkeley, Department of Philosophy*

Graduate Student Instructor. 1996–2000.

*Technische Universität Wien, Department of Computer Science*

Erasmus Mundus Scholar. 2009–2009.

Lecturer. 1995–2000.

Awards Annual Fellowship, Calgary Institute for the Humanities, 2013–2014.  
 Annual Fellowship, Calgary Institute for the Humanities, 2006–2007.  
 Visiting Fellowship, Department of Logic and Philosophy of Science, University of California, Irvine, 2004.  
 Canadian Hunter Young Innovator Award, University of Calgary, 2003.  
 Mabelle McLeod Lewis Memorial Fellowship, , 1999–2000.  
 The Berkeley Fellowship for Graduate Study, University of California, Berkeley, 1994–1999.  
 Kurt Gödel Fellowship for Study Abroad, Austrian Ministry of Science, 1994–1995.

Editor *Ergo*, Area Editor. 2019–.  
*Philosophia Mathematica*, Editor. 2019–.  
*Journal for the History of Analytic Philosophy*, Founding Editor. 2010–.  
*Open Logic Project*, Main Instigator. 2013–.  
*The Collected Works of Rudolf Carnap*, Editor. 2006–.  
*Studia Logica*, Associate Editor. 2006–.  
*Stanford Encyclopedia of Philosophy*, Subject Editor, History of Logic. 2005–.  
*Hilbert-Bernays Project*, Advisory Board Member. 2008–.  
*Paul Bernays Project*, Editorial Board Member. 2000–.  
*The Review of Symbolic Logic*, Founding Editor. 2007–2013.

Publications *Books*

5. Mancosu, Paolo, Sergio Galvan, and Richard Zach (2021). *An Introduction to Proof Theory: Normalization, Cut-Elimination, and Consistency Proofs*. Oxford: Oxford University Press.
4. Magnus, P. D., Tim Button, J. Robert Loftis, Aaron Thomas-Bolduc, Robert Trueman, and Richard Zach (2019). *Forall x: Calgary Remix. An Introduction to Formal Logic*. [LINK](#).
3. Zach, Richard (2019a). *Boxes and Diamonds. An Open Introduction to Modal Logic*. [LINK](#).
2. Zach, Richard (2019d). *Incompleteness and Computability. An Open Introduction to Gödel's Theorems*. [LINK](#).
1. Zach, Richard (2019g). *Sets, Logic, Computation: An Open Introduction to Metalogic*. [LINK](#).

*Editions*

1. Carnap, Rudolf (2019a). *Early Writings*. Ed. by A. W. Carus, Michael Friedman, Wolfgang Kienzler, Alan Richardson, and Sven Schlotter. The Collected Works of Rudolf Carnap 1. Oxford: Oxford University Press.

*Journal Articles*

23. Burns, Samara and Richard Zach (2020). “Cut-Free Completeness for Modular Hypersequent Calculi for Modal Logics K, T, and D”. *Review of Symbolic Logic*. DOI: [10.1017/S1755020320000180](https://doi.org/10.1017/S1755020320000180).
22. Zach, Richard (2020). “Cut Elimination and Normalization for Generalized Single and Multi-Conclusion Sequent and Natural Deduction Calculi”. *Review of Symbolic Logic*. DOI: [10.1017/S1755020320000015](https://doi.org/10.1017/S1755020320000015).
21. Zach, Richard (2018a). “Non-Analytic Tableaux for Chellas’s Conditional Logic CK and Lewis’s Logic of Counterfactuals VC”. *Australasian Journal of Logic* **15**(3), 609–628. DOI: [10.26686/ajl.v15i3.4780](https://doi.org/10.26686/ajl.v15i3.4780). PHILPAPERS: ZACNTF.
20. Zach, Richard (2018b). “Rumfitt on Truth-Grounds, Negation, and Vagueness”. *Philosophical Studies* **175**(8), 2079–2089. DOI: [10.1007/s11098-018-1114-7](https://doi.org/10.1007/s11098-018-1114-7). PHILPAPERS: ZACROT-3. [LINK](#).
19. Schiemer, Georg, Richard Zach, and Erich Reck (2017). “Carnap’s Early Metatheory: Scope and Limits”. *Synthese* **194**(1), 33–65. DOI: [10.1007/s11229-015-0877-z](https://doi.org/10.1007/s11229-015-0877-z). PHILPAPERS: SCHCEM-3. CITATIONS: 5
18. Zach, Richard (2016b). “Natural Deduction for the Sheffer Stroke and Peirce’s Arrow (and Any Other Truth-Functional Connective)”. *Journal of Philosophical Logic* **45**(2), 183–197. DOI: [10.1007/s10992-015-9370-x](https://doi.org/10.1007/s10992-015-9370-x). PHILPAPERS: ZACNDF. CITATIONS: 1
17. Mancosu, Paolo and Richard Zach (2015). “Heinrich Behmann’s 1921 Lecture on the Decision Problem and the Algebra of Logic”. *Bulletin of Symbolic Logic* **21**(2), 164–187. DOI: [10.1017/bsl.2015.10](https://doi.org/10.1017/bsl.2015.10). PHILPAPERS: ZACHB. CITATIONS: 4
16. Serchuk, Phil, Ian Hargreaves, and Richard Zach (2011). “Vagueness, Logic and Use: Four Experimental Studies on Vagueness”. *Mind and Language* **26**(5), 540–573. DOI: [10.1111/j.1468-0017.2011.01430.x](https://doi.org/10.1111/j.1468-0017.2011.01430.x). PHILPAPERS: SERVLA. CITATIONS: 48
15. Baaz, Matthias, Norbert Preining, and Richard Zach (2007). “First-Order Gödel Logics”. *Annals of Pure and Applied Logic* **147**(1-2), 23–47. DOI: [10.1016/j.apal.2007.03.001](https://doi.org/10.1016/j.apal.2007.03.001). PHILPAPERS: ZACFGL. CITATIONS: 66
14. Moser, Georg and Richard Zach (2006b). “The Epsilon Calculus and Herbrand Complexity”. *Studia Logica* **82**(1), 133–155. DOI: [10.1007/s11225-006-6610-7](https://doi.org/10.1007/s11225-006-6610-7). PHILPAPERS: MOSTEC-3. CITATIONS: 34
13. Zach, Richard (2004a). “Decidability of Quantified Propositional Intuitionistic Logic and  $S_4$  on Trees of Height and Arity  $\leq \omega$ ”. *Journal of Philosophical Logic* **33**(2), 155–164. DOI: [10.1023/B:LOGI.0000021744.10237.d0](https://doi.org/10.1023/B:LOGI.0000021744.10237.d0). PHILPAPERS: ZACDOQ. CITATIONS: 6

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11. Zach, Richard (2004c). “Le quantificateur effini, la descente infinie et les preuves de consistance de Gauthier”. *Philosophiques* **31**, 221–224. DOI: [10.7202/008942ar](https://doi.org/10.7202/008942ar). PHILPAPERS: [ZACLQE](#). CITATIONS: [1](#)
10. Zach, Richard (2003b). “The Practice of Finitism: Epsilon Calculus and Consistency Proofs in Hilbert’s Program”. *Synthese* **137**(1/2), 211–259. DOI: [10.1023/A:1026247421383](https://doi.org/10.1023/A:1026247421383). PHILPAPERS: [ZACTPO](#). CITATIONS: [63](#)
9. Zach, Richard (1999a). “Completeness before Post: Bernays, Hilbert, and the Development of Propositional Logic”. *Bulletin of Symbolic Logic* **5**(3), 331–366. DOI: [10.2307/421184](https://doi.org/10.2307/421184). PHILPAPERS: [ZACCBP](#). CITATIONS: [90](#)
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7. Baaz, Matthias and Richard Zach (1998b). “Note on Generalizing Theorems in Algebraically Closed Fields”. *Archive for Mathematical Logic* **37**(5–6), 297–307. DOI: [10.1007/s001530050100](https://doi.org/10.1007/s001530050100). PHILPAPERS: [BAANOG](#). CITATIONS: [2](#)
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5. Baaz, Matthias, Alexander Leitsch, and Richard Zach (1996a). “Completeness of a First-Order Temporal Logic with Time-Gaps”. *Theoretical Computer Science* **160**(1–2), 241–270. DOI: [10.1016/0304-3975\(95\)00107-7](https://doi.org/10.1016/0304-3975(95)00107-7). PHILPAPERS: [BAAC0A](#). CITATIONS: [34](#)
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3. Baaz, Matthias, Christian G. Fermüller, and Richard Zach (1994). “Elimination of Cuts in First-Order Finite-Valued Logics”. *Journal of Information Processing and Cybernetics EIK* **29**(6), 333–355. PHILPAPERS: [BAAE0C](#). [LINK](#).
2. Baaz, Matthias, Christian G. Fermüller, and Richard Zach (1993a). “Dual Systems of Sequents and Tableaux for Many-Valued Logics”. *Bulletin of the EATCS* **51**, 192–197. PHILPAPERS: [BAADSO](#). CITATIONS: [33](#)
1. Baaz, Matthias and Richard Zach (1992). “Note on Calculi for a Three-Valued Logic for Logic Programming”. *Bulletin of the EATCS* **48**, 157–164.

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24. Avigad, Jeremy and Richard Zach (2019). “The Epsilon Calculus”. In: *Stanford Encyclopedia of Philosophy*. Ed. by Edward N. Zalta. Summer 2019. PHILPAPERS: [AVITEC-2](#). [LINK](#). CITATIONS: [53](#)
23. Mancosu, Paolo and Richard Zach (2019). “Introduction to Heinrich Behmann’s “Problème de la décision et algèbre de la logique” (1921)”. In: *Anthologie de la calculabilité: Naissance et développements de la théorie de la calculabilité des années 1920 à 1970*. Ed. by Jean Mosconi and Michel Bourdeau. Paris: Cassini.
22. Zach, Richard (2019c). “Hilbert’s Program”. In: *Stanford Encyclopedia of Philosophy*. Ed. by Edward N. Zalta. Summer 2019. PHILPAPERS: [ZACHP-3](#). [LINK](#). CITATIONS: [164](#)
21. Zach, Richard (2019h). “The Significance of the Curry-Howard Isomorphism”. In: *Philosophy of Logic and Mathematics. Proceedings of the 41st International Ludwig Wittgenstein Symposium*. Ed. by Gabriele M. Mras, Paul Weingartner, and Bernhard Ritter. Publications of the Austrian Ludwig Wittgenstein Society, New Series 26. Berlin: De Gruyter, pp. 313–325. DOI: [10.1515/9783110657883-018](#). PHILPAPERS: [RICTSO-41](#).
20. Zach, Richard (2017b). “Semantics and Proof Theory of the Epsilon Calculus”. In: *Logic and Its Applications. ICLA 2017*. Ed. by Sujata Ghosh and Sanjiva Prasad. LNCS 10119. Berlin, Heidelberg: Springer, pp. 27–47. DOI: [10.1007/978-3-662-54069-5\\_4](#). PHILPAPERS: [ZACSAP](#). CITATIONS: [2](#)
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18. Baaz, Matthias and Richard Zach (2008). “Effective Finite-Valued Approximations of General Propositional Logics”. In: *Pillars of Computer Science: Essays Dedicated to Boris (Boaz) Trakhtenbrot on the Occasion of His 85th Birthday*. Ed. by Arnon Avron, Nachum Dershowitz, and Alexander Rabinovich. LNCS 4800. Berlin: Springer, pp. 107–129. DOI: [10.1007/978-3-540-78127-1\\_7](#). PHILPAPERS: [BAAEFA](#).
17. Zach, Richard (2007a). “Hilbert’s Program Then and Now”. In: *Philosophy of Logic*. Ed. by Dale Jacquette. Vol. 5. Handbook of the Philosophy of Science. Amsterdam: North-Holland, pp. 411–447. DOI: [10.1016/B978-044451541-4/50014-2](#). PHILPAPERS: [ZACHPT](#). [LINK](#). CITATIONS: [106](#)

16. Baaz, Matthias, Norbert Preining, and Richard Zach (2006). “Completeness of a Hypersequent Calculus for Some First-Order Gödel Logics with Delta”. In: *36th International Symposium on Multiple-Valued Logic. May 2006, Singapore. Proceedings*. Los Alamitos: IEEE Press, pp. 9–14. DOI: [10.1109/ISMVL.2006.16](https://doi.org/10.1109/ISMVL.2006.16). PHILPAPERS: [BAACOA-2](#). CITATIONS: [4](#)
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14. Zach, Richard (2006b). “Kurt Gödel and Computability Theory”. In: *Logical Approaches to Computational Barriers. Second Conference on Computability in Europe, CiE 2006, Swansea. Proceedings*. Ed. by Arnold Beckmann, Ulrich Berger, Benedikt Löwe, and John V. Tucker. LNCS 3988. Berlin: Springer, pp. 575–583. DOI: [10.1007/11780342\\_59](https://doi.org/10.1007/11780342_59). PHILPAPERS: [ZACKGA](#). CITATIONS: [5](#)
13. Zach, Richard (2005b). “Kurt Gödel, Paper on the Incompleteness Theorems (1931)”. In: *Landmark Writings in Mathematics*. Ed. by Ivor Grattan-Guinness. Amsterdam: Elsevier, pp. 917–925. DOI: [10.1016/B978-044450871-3/50152-2](https://doi.org/10.1016/B978-044450871-3/50152-2). PHILPAPERS: [ZACKGP](#). CITATIONS: [3](#)
12. Baaz, Matthias, Norbert Preining, and Richard Zach (2003). “Characterization of the Axiomatizable Prenex Fragments of First-Order Gödel Logics”. In: *33rd International Symposium on Multiple-Valued Logic. May 2003, Tokyo, Japan. Proceedings*. Los Alamitos: IEEE Press, pp. 175–180. DOI: [10.1109/ISMVL.2003.1201403](https://doi.org/10.1109/ISMVL.2003.1201403). CITATIONS: [17](#)
11. Baaz, Matthias and Richard Zach (2002). “Das Vollständigkeitsproblem und der Vollständigkeitsbeweis”. In: *Kurt Gödel: Wahrheit und Beweisbarkeit. Volume 2: Kompendium zum Werk*. Ed. by Bernd Buldt et al. Vienna: hpt, pp. 21–27.
10. Fermüller, Christian G., Georg Moser, and Richard Zach (2001). “Tableaux for Reasoning about Atomic Updates”. In: *Logic for Programming, Artificial Intelligence, and Reasoning*. Ed. by Robert Nieuwenhuis and Andrei Voronkov. LNCS 2250. Berlin: Springer, pp. 639–653. DOI: [10.1007/3-540-45653-8\\_44](https://doi.org/10.1007/3-540-45653-8_44). CITATIONS: [2](#)
9. Baaz, Matthias, Agata Ciabattoni, and Richard Zach (2000). “Quantified Propositional Gödel Logic”. In: *Logic for Programming and Automated Reasoning. 7th International Conference, LPAR 2000*. Ed. by Andrei Voronkov and Michel Parigot. LNCS 1955. Berlin: Springer, pp. 240–256. DOI: [10.1007/3-540-44404-1\\_16](https://doi.org/10.1007/3-540-44404-1_16). PHILPAPERS: [BAAQPG](#). CITATIONS: [21](#)
8. Baaz, Matthias and Richard Zach (2000). “Hypersequents and the Proof Theory of Intuitionistic Fuzzy Logic”. In: *Computer Science Logic. 14th International Workshop, CSL 2000*. Ed. by Peter G. Clote and Helmut Schwichtenberg. LNCS 1862. Berlin: Springer, pp. 187–201. DOI: [10.1007/3-540-44622-2\\_12](https://doi.org/10.1007/3-540-44622-2_12). PHILPAPERS: [BAAHAT](#). CITATIONS: [66](#)

7. Baaz, Matthias and Richard Zach (1998a). “Compact Propositional Gödel Logics”. In: *28th International Symposium on Multiple-Valued Logic. May 1998, Fukuoka, Japan. Proceedings*. Los Alamitos: IEEE Press, pp. 108–113. DOI: [10.1109/ISMVL.1998.679315](https://doi.org/10.1109/ISMVL.1998.679315). PHILPAPERS: [BAACPG](#). CITATIONS: [45](#)
6. Baaz, Matthias, Alexander Leitsch, and Richard Zach (1996b). “Incompleteness of an Infinite-Valued First-Order Gödel Logic and of Some Temporal Logics of Programs”. In: *Computer Science Logic. CSL 1995. Selected Papers*. Ed. by E. Börger. LNCS 1092. Berlin: Springer, pp. 1–15. DOI: [10.1007/3-540-61377-3\\_28](https://doi.org/10.1007/3-540-61377-3_28). PHILPAPERS: [BAA10A](#). CITATIONS: [35](#)
5. Baaz, Matthias and Richard Zach (1994a). “Approximating Propositional Calculi by Finite-Valued Logics”. In: *24th International Symposium on Multiple-Valued Logic, 1994. Proceedings*. Los Alamitos: IEEE Press, pp. 257–263. DOI: [10.1109/ISMVL.1994.302193](https://doi.org/10.1109/ISMVL.1994.302193). PHILPAPERS: [BAAAPC](#). CITATIONS: [11](#)
4. Baaz, Matthias and Richard Zach (1994b). “Short Proofs of Tautologies Using the Schema of Equivalence”. In: *Computer Science Logic. 7th Workshop, CSL '93, Swansea. Selected Papers*. Ed. by Egon Börger, Yuri Gurevich, and Karl Meinke. LNCS 832. Berlin: Springer, pp. 33–35. DOI: [10.1007/BFb0049322](https://doi.org/10.1007/BFb0049322). PHILPAPERS: [BAASPO](#). CITATIONS: [16](#)
3. Baaz, Matthias, Christian G. Fermüller, Arie Ovrutcki, and Richard Zach (1993). “MULTLOG: A System for Axiomatizing Many-Valued Logics”. In: *Logic Programming and Automated Reasoning. Proceedings LPAR'93*. Ed. by Andrei Voronkov. LNCS 698. Berlin: Springer, pp. 345–347. DOI: [10.1007/3-540-56944-8\\_66](https://doi.org/10.1007/3-540-56944-8_66). CITATIONS: [19](#)
2. Baaz, Matthias, Christian G. Fermüller, and Richard Zach (1993b). “Systematic Construction of Natural Deduction Systems for Many-Valued Logics”. In: *23rd International Symposium on Multiple-Valued Logic. Proceedings*. Los Alamitos: IEEE Press, pp. 208–213. DOI: [10.1109/ISMVL.1993.289558](https://doi.org/10.1109/ISMVL.1993.289558). PHILPAPERS: [FERSCO-3](#). CITATIONS: [58](#)
1. Baaz, Matthias and Richard Zach (1993). “Algorithmic Structuring of Cut-Free Proofs”. In: *Computer Science Logic. CSL'92, San Miniato, Italy. Selected Papers*. Ed. by Egon Börger, Gerhard Jäger, Hans Kleine Büning, Simone Martini, and Michael M. Richter. LNCS 702. Berlin: Springer, pp. 29–42. DOI: [10.1007/3-540-56992-8\\_4](https://doi.org/10.1007/3-540-56992-8_4). PHILPAPERS: [BAAASO](#).

#### Book Reviews

5. Zach, Richard (2005c). “Review of *Gödel's Theorem: Its Use and Abuse*, by Torkel Franzén (AK Peters, 2005)”. *History and Philosophy of Logic* **26**(4), 369–371. DOI: [10.1080/01445340500259388](https://doi.org/10.1080/01445340500259388). PHILPAPERS: [ZACTFG](#).



4. Zach, Richard (2005d). “Review of *Reason’s Nearest Kin. Philosophies of Arithmetic From Kant to Carnap* by Michael Potter (Oxford University Press, 2000)”. *Notre Dame Journal of Formal Logic* **46**(4), 503–513. DOI: [10.1305/ndjfl/1134397665](https://doi.org/10.1305/ndjfl/1134397665). PHILPAPERS: [RICBRM-2](#).
3. Zach, Richard (2003a). “Review of *Computability and Logic*, 4th Edition, by George Boolos, John Burgess, and Richard Jeffrey (Cambridge, 2002)”. *Bulletin of Symbolic Logic* **9**(4), 520–521. DOI: [10.1017/S1079898600004340](https://doi.org/10.1017/S1079898600004340). [LINK](#).
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1. Hájek, Petr and Richard Zach (1994). “Review of *Many-Valued Logics: 1. Theoretical Foundations*, by Leonard Bolc and Piotr Borowik (Springer, Berlin, 1991)”. *Journal of Applied Non-Classical Logics* **4**, 215–220. DOI: [10.1080/11663081.1994.10510833](https://doi.org/10.1080/11663081.1994.10510833).

#### Translations

4. Carnap, Rudolf (2019b). “On the Task of Physics and the Application of the Principle of Maximal Simplicity”. In: *Rudolf Carnap: Early Writings*. Ed. by A. W. Carus, Michael Friedman, Wolfgang Kienzler, Alan Richardson, and Sven Schlotter. Trans. by Johannes Hafner, Paolo Mancosu, Christopher Pincock, Henning Treuper, Herbert Wilson, Richard Zach, A. W. Carus, and Michael Friedman. The Collected Works of Rudolf Carnap 1. Oxford: Oxford University Press, pp. 209–245.
3. Eiter, Thomas (2016). “Helmut Veith (1971–2016)”. Trans. by Richard Zach. *Bulletin of the EATCS* **119**. [LINK](#).
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1. Carnap, Rudolf, Hans Hahn, and Otto Neurath (2012). “The Scientific World-Conception: The Vienna Circle”. In: *Wissenschaftliche Weltauffassung: Der Wiener Kreis*. Ed. by Friedrich Stadler and Thomas Uebel. Trans. by Thomas Uebel and Richard Zach. Vienna and New York: Springer, pp. 75–116.

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16. Wyatt, Nicole and Richard Zach (2018). “The Open Logic Project”. *Bulletin of Symbolic Logic* **24**(2), 205.



15. Zach, Richard (2017a). “General Natural Deduction Rules and General Lambda Calculi”. *Bulletin of Symbolic Logic* **23**(3), 371.
14. Baaz, Matthias and Richard Zach (2014). “The Epsilon Calculus and Non-Classical Logics”. *Bulletin of Symbolic Logic* **19**, 513.
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12. Zach, Richard (2007b). “The Decision Problem and Metalogic”. *Bulletin of Symbolic Logic* **13**, 319.
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10. Arana, Andrew, Michael Glanzberg, Ted Sider, Brian Weatherson, and Richard Zach (2005). “Panel Discussion: Logic Instruction and Philosophy Graduate Training”. *Bulletin of Symbolic Logic* **11**, 549–550.
9. Baaz, Matthias, Norbert Preining, and Richard Zach (2005). “Axiomatizability of First-Order Gödel Logics”. *Bulletin of Symbolic Logic* **11**, 267.
8. Zach, Richard (2005a). “Gödel’s First Incompleteness Theorem and Detlefsen’s Hilbertian Instrumentalism”. *Bulletin of Symbolic Logic* **11**, 301.
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6. Zach, Richard (2002a). “Hilbert’s ‘Verunglückter Beweis’ and the Epsilon Theorem”. *Bulletin of Symbolic Logic* **8**, 449–450.
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### Other

10. Zach, Richard (2019b). *Bussproofs-Extra: Extra Commands for Bussproofs.Sty*. CTAN Comprehensive TeX Archive Network. [LINK](#).
9. Zach, Richard (2019e). *Keyindex: Index Entries by Key Lookup*. CTAN Comprehensive TeX Archive Network. [LINK](#).
8. Zach, Richard (2019f). *Ptolemaicastronomy: Diagrams of Sphere Models for Variably Strict Conditionals (Lewis Counterfactuals)*. CTAN Comprehensive TeX Archive Network. [LINK](#).
7. Zach, Richard (2019i). *Ucalgmthesis: LaTeX Thesis Class for University of Calgary Faculty of Graduate Studies*. CTAN Comprehensive TeX Archive Network. [LINK](#).
6. Hosni, Hykel and Richard Zach (2018). “Interview with Richard Zach”. *The Reasoner* **12**(4), 26–28. [LINK](#).
5. Thomas-Bolduc, Aaron and Richard Zach (2018). *OER: What, Why, When and How*. Calgary. [LINK](#).
4. Thomas-Bolduc, Aaron and Richard Zach (2017). “Logic Courses for the 21st Century”. In: *International Society for the Study of Teaching and Learning 2017 Annual Meeting*. PHILPAPERS: [THOEOA-7](#). [LINK](#).
3. Zach, Richard (2016a). “Helmut Veith (1971–2016)”. *Bulletin of the EATCS* **119**. [LINK](#).

2. Etchemendy, John, Dave Barker-Plummer, and Richard Zach (2013). *The Lplfitch Package*. CTAN Comprehensive TeX Archive Network. [LINK](#).
1. Antonelli, Aldo, Alasdair Urquhart, and Richard Zach (2008). "Editors' Introduction: Mathematical Methods in Philosophy". *Review of Symbolic Logic* **1**(2), 143–145. DOI: [10.1017/S1755020308080131](https://doi.org/10.1017/S1755020308080131).

## Presentations

*Invited Departmental Presentations*

- "The Origins of Modern First-order Logic." Philosophy Colloquium, Carnegie Mellon University, 2017.
- "The Decision Problem and Logical Metatheory." SoMLaFS Colloquium, The Ohio State University, 2017.
- "Substitution, Consequence, and Proof, or: How Many Consequence Relations Can One Logic Have?." Department of Philosophy, University of British Columbia, Okanagan, 2016.
- "Derivation and Consequence." Philosophy Workshop, McGill University, 2015.
- "The Decision Problem and Logical Metatheory." Townsend Center Working Group in History and Philosophy of Logic, Mathematics, and Science, University of California, Berkeley, 2014.
- "Carnap and Logic in the 1920s and 1930s." Minnesota Center for Philosophy of Science, University of Minnesota, 2014.
- "The Decision Problem and Logical Metatheory." Foundations Interest Group, Department of Philosophy, University of Minnesota, 2014.
- "The Decision Problem and the Development of Metalogic." Logic and Philosophy of Science Group, University of Toronto, 2012.
- "Gödel's First Incompleteness Theorem and Mathematical Instrumentalism." Keio University, Tokyo, 2011.
- "Proof Interpretations and the Constructive Content of Mathematical Theories." Kyoto University, 2011.
- "The Epsilon Calculus." Keio University, Tokyo, 2011.
- "The Decision Problem and the Development of Metalogic." Department of Philosophy, McGill University, 2009.
- "Proof Interpretations and the Constructive Content of Mathematical Theories." Wissenschaftstheoretisches Kolloquium, University of Vienna, Austria, 2009.
- "The Decision Problem and the Development of Metalogic." Department of Philosophy, Utrecht University, 2008.
- "Proof Construction, and Computation: Interactions between Philosophy of Mathematics and Mathematical Foundations." Scuola Normale Superiore, Pisa, 2008.
- "The Epsilon Calculus." Logic Group, University of Melbourne, 2006.
- "Logic and Cagueness." Department of Philosophy, University of Melbourne, 2006.

- “Gödel’s First Incompleteness Theorem and Mathematical Instrumentalism.” Gödel Seminar, University of Notre Dame, 2006.
- “Algebraic Semantics for Logics of Vagueness.” Kurt Gödel Society, University of Technology, Vienna, 2005.
- “What Should a Logic of Vagueness Be and Do?.” Philosophy Department, Stanford University, 2005.
- “How to Argue for and against a Logic of Vagueness.” Logic and Philosophy of Science Colloquium, University of California, Irvine, 2004.
- “Gödel’s First Incompleteness Theorem and Mathematical Instrumentalism.” Department of Philosophy, University of Lethbridge, 2004.
- “Completeness and Decidability in the Context of Hilbert’s Philosophy.” Department of Philosophy, University of Alberta, 2003.
- “The Early History of the Epsilon Calculus.” Townsend Center Working Group in History and Philosophy of Logic, Mathematics, and Science, University of California, Berkeley, 2002.
- “Logic and Metalogic in Hilbert’s School.” Seminari de Lògica, Universitat de Barcelona, 2002.
- “Finitism and Mathematical Intuition.” Department of Philosophy, Oxford University, 2000.
- “Finitism and Mathematical Intuition.” Department of Philosophy, University of Chicago, 2000.
- “Finitism and Mathematical Intuition.” Department of Philosophy, Stanford University, 2000.
- “Completeness before Post: Hilbert and Bernays on Propositional Logic, 1917–18.” Logic Lunch, Stanford University, 1999.
- “The Debate between Kreisel and Tait on Finitism.” Colloquium Logico-Philosophicum, Universität Erlangen-Nürnberg, 1998.
- “Finitism.” Kurt Gödel Society, Vienna, 1997.
- “Generalization of Theorems and Proofs: Kreisel’s Conjecture for Algebraic Theories.” Logic Lunch, Stanford University, 1997.
- “Axiomatizability Issues in Temporal and Infinite-Valued First-Order Logics.” Equipe de Logique, Université Paris 7 Denis Diderot, 1995.
- “Adventures in Many-Valued Logic.” Kurt Gödel Society, Vienna, 1995.

#### *Conference Keynotes*

- “The Significance of the Curry-Howard Isomorphism.” *Eastern Division Meeting of the American Philosophical Association*, New York, 2019.
- “Semantics and Proof Theory of the Epsilon Calculus.” *Indian Conference on Logic and its Applications*, Indian Institute of Technology, Kanpur, 2017.
- “Carnap on Models.” *Spring Meeting of the Association for Symbolic Logic, Symposium on Metalogic and Early Analytic Philosophy*, San Diego, 2014.

- “The Epsilon Calculus: An Undervalued Logical Formalism.” *Annual Meeting of the Society for Exact Philosophy*, Montréal, 2013.
- “Carnap, Logic, and Analytic Philosophy.” *200 Years of Analytic Philosophy*, University of Latvia, Rīga, 2008.
- “The decision problem and the development of metalogic.” *Annual Meeting of the Association for Symbolic Logic*, University of Florida, Gainesville, FL, 2007.
- “Kurt Gödel and computability theory.” *Computability in Europe CiE 2006: Logical Approaches to Computational Barriers*, Swansea, Wales, 2006.
- “The Epsilon Calculus.” *Kurt Gödel Colloquium/Conference on Computer Science Logic CSL'03*, University of Technology Vienna, 2003.

*Invited Conference and Workshop Talks*

- “The Philosophical Significance of the Curry-Howard Isomorphism.” *41st International Wittgenstein Symposium*, Kirchberg am Wechsel, Austria, 2018.
- “The Open Logic Project.” *Spring Meeting of the Association for Symbolic Logic, Special Session on Diversity in Logic Education*, Seattle, 2017.
- “General Rules for Sequent Calculus and Natural Deduction.” *OSU/UConn Workshop on Truth*, The Ohio State University, 2017.
- “The Fruitfulness of Philosophy of Mathematics.” *Workshop on Mathematics and Culture*, Indian Institute of Engineering Science and Technology, Shibpur, 2017.
- “Carnap as a Logician.” *Carnap on Logic Conference*, Munich Center for Mathematical Philosophy, 2013.
- “Carnap and Logic.” *Workshop on Formal Epistemology and the Legacy of Logical Empiricism*, University of Texas, Austin, 2013.
- “‘Principia Mathematica’ and the development of logic.” *PM@100*, McMaster University, Hamilton, 2010.
- “Bernays and the Decision Problem in Hilbert’s School.” *Bernaysfest*, Carnegie Mellon University, 2008.
- “Carnap’s Logic in the 1930s.” *Annual Meeting of the Association for Symbolic Logic, Special Session on Logic and Logical Empiricism*, University of California, Irvine, 2008.
- “Analytic Systems for the  $\varepsilon$ -Calculus.” *Analytic Systems/LPAR 2007*, Yerevan, Armenia, 2007.
- “The Decision Problem in the 1920s.” *Moscow-Vienna Workshop on Logic and Computation*, Technical University Vienna, Vienna, Austria, 2007.
- “Algorithms and decision problems in Hilbert’s school.” *Hilbert Workshop*, Kyoto University, 2006.
- “Vagueness and Fuzzy Logics.” *Uncertainty: Reasoning about Probability and Vagueness*, Prague, 2006.
- “Gödel’s First Incompleteness Theorem and Mathematical Instrumentalism.” *Truth and Proof: Kurt Gödel and the Foundations of Mathematics*, University of Edinburgh, 2006.
- “Semantics for Vagueness vs. Logics for Vagueness: The Case of Fuzzy Logics.” *The Challenge of Semantics (European Science Foundation Exploratory Workshop)*, Vienna, 2004.

- “Hilbert’s Epsilon Calculus and Epsilon-Substitution Method.” *Hilbert Workshop, Japanese Society for the Philosophy of Science*, Keio University, Tokyo, 2002.
- “Hilbert’s Project of Consistency Proofs in the 1920s.” *Logic and the Foundations of the Exact Sciences: Hilbert’s Heritage*, Berne, Switzerland, 2001.
- “The Practice of Finitism.” *Hilbert Workshop*, Institut d’Histoire et Philosophie des Sciences et Techniques, CNRS/Université Paris I, 2000.
- “The Practice of Finitism.” *History of Logic*, University of Helsinki, 2000.
- “The Reach of Finitism.” *Collegium Logicum: Proof Theory*, Vienna, 1999.
- “The Historical Significance of Consistency Proofs.” *The Development of the Foundations of Mathematics in the 1920s and 30s*, Institute Vienna Circle, Vienna, 1999.
- “Bernays’ Early Contributions to Logic.” *The Development of Modern Logic*, University of Helsinki, 1998.
- “Uniform Deduction Systems for Finite-valued First-Order Logics.” *Eighth European Summer School in Language, Logic, and Information*, Prague, 1996.
- “A Software Package for Axiomatizing Finite-Valued First-Order Logics.” *Seventh European Summer School in Language, Logic, and Information*, Barcelona, 1995.

#### *Conference Presentations*

- “Steinhardt on Variables.” *Society for the Study of the History of Analytic Philosophy Annual Meeting*, Denver, 2016.
- “General Natural Deduction Rules and General Lambda Calculi.” *Annual Meeting of the Association for Symbolic Logic*, University of Connecticut, Storrs, 2016.
- “Substitution, Consequence, and Proof.” *Society for Exact Philosophy*, Hamilton, ON, 2015.
- “The Epsilon Calculus and Non-Classical Logics.” *Nonclassical Proofs: Theory, Applications, and Tools*, Vienna, 2014.
- “The Place of Logic in Computer Science Education.” *Logic Colloquium*, Vienna, 2014.
- “Carnap and Logic in the 1920s and 1930s.” Montréal, 2014.
- “The Epsilon Calculus and Non-Classical Logics.” *Winter Meeting of the Association for Symbolic Logic*, New Orleans, 2013.
- “Carnap, Tolerance, and the Foundational Debate in Mathematics.” *International Congress on Logic, Philosophy, and Methodology of Science*, Nancy, France, 2011.
- “Ayer and the Vienna Circle.” *Western Canadian Philosophy Association*, University of Calgary, 2010.
- “Carnap between Logicism and Formalism.” *History of Philosophy of Science 2006*, Paris, 2006.
- “Complexity of Elimination Procedures in the Epsilon Calculus.” *Logic Colloquium*, Athens, Greece, 2005.
- “Algebraic Semantics for Logics of Vagueness.” *Society for Exact Philosophy*, University of Toronto, 2005.
- “Logic Instruction and Philosophy Graduate Training.” *Spring Meeting of the Association for Symbolic Logic*, San Francisco, 2005.

- “Gödel’s First Incompleteness Theorem and Detlefsen’s Hilbertian Instrumentalism.” *Logic Colloquium*, Turin, Italy, 2004.
- “Axiomatizability of First-Order Gödel Logics.” *Logic Colloquium*, Turin, Italy, 2004.
- “Finite-Valued Approximations of Propositional Logics.” *Foundational Methods in Computer Science*, Kananaskis Field Station, University of Calgary, 2004.
- “Gödel’s First Incompleteness Theorem and Mathematical Instrumentalism.” *Midwest Philosophy of Mathematics Workshop*, University of Notre Dame, 2003.
- “Characterization of the Axiomatizable Prenex Fragments of First-Order Gödel Logics.” *33rd International Symposium on Multiple Valued Logic*, Tokyo, 2003.
- “Hilbert’s ‘Verunglückter Beweis’ and the Epsilon Theorem.” *Spring Meeting of the Association for Symbolic Logic*, Seattle, 2002.
- “Quantified Propositional Intuitionistic Logic on Trees is Decidable.” *Logic Colloquium*, Vienna, 2001.
- “The Syntax-Semantics Distinction and Hilbert’s ‘No Ignorabimus’.” *History of Philosophy of Science*, Vienna, 2000.
- “Hilbert, Bernays, and some Fundamental Advances in Logic, 1918–1923.” *New Orleans*, , 1999.
- “Infinite-valued Gödel Logics.” *Annual Meeting of the Association for Symbolic Logic*, University of California, San Diego, 1999.
- “Hilbert’s Finitist Numbers.” *1997 Stanford–Berkeley Philosophy Conference*, Stanford University, 1997.
- “Generalizing Theorems in Real Closed Fields.” *Winter Meeting of the Association for Symbolic Logic*, San Francisco, 1995.
- “Approximating Propositional Calculi by Finite-Valued Logics.” *24th International Symposium on Multiple-Valued Logic*, Boston, 1994.
- “Systematic Construction of Natural Deduction Systems for Many-Valued Logics.” *23rd International Symposium on Multiple-Valued Logic*, Sacramento, 1993.

#### *Commentaries*

- “Comments on Patricia Blanchette: Models from Geometry to Logic.” *50th Chapel Hill Philosophy Colloquium*, University of North Carolina, Chapel Hill, 2016.
- “Comments on Bryson Brown and Andrew Tedder: Multiple Conclusions.” *Annual Meeting of the Western Canadian Philosophy Association*, University of Lethbridge, 2012.
- “Comments on Victor Rodych: Who is Wittgenstein’s Worst Enemy?.” *Annual Meeting of the Western Canadian Philosophy Association*, University of Lethbridge, 2003.
- “Comments on Jonathan Seldin: On Normalizing Disjunctive Intermediate Logics.” *Annual Meeting of the Western Canadian Philosophy Association*, University of Calgary, 2002.
- “Comments on Thomas Hofweber: Proof-Theoretic Reduction as a Philosopher’s Tool.” *Stanford-Berkeley Philosophy Conference*, Stanford University, 1999.



*Local Presentations*

- “OER: What, Why, When and How.” Taylor Institute for Teaching and Learning, Calgary, 2018.
- “Rudolf Carnap and the Logic of Tolerance.” Calgary Institute for the Humanities, University of Calgary, 2016.
- “Hilbert’s Program and the Foundations of Mathematics.” Department of Mathematics, University of Calgary, 2002.
- “Rudolf Carnap and the Logic of Tolerance.” Calgary Institute for the Humanities Public Lecture, University of Calgary, 2016.
- “Alan Turing and the Decision Problem.” Alan Turing Centenary Lecture Series, University of Calgary, 2012.
- “The Decision Problem and the Development of Metalogic.” Calgary Peripatetic Research Group in Logic and Category Theory, University of Calgary, 2008.
- “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, University of Calgary, 2007.
- “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.
- “Mathematical Instrumentalism and Gödel’s Incompleteness Theorems.” History and Philosophy of Science Research Group, University of Calgary, 2004.
- “Introduction to the Epsilon Calculus II.” Calgary Peripatetic Research Group on Logic and Category Theory, University of Calgary, 2003.
- “Introduction to the Epsilon Calculus I.” Calgary Peripatetic Research Group on Logic and Category Theory, University of Calgary, 2003.
- “Hilbert, Bernays, and the History of Logic.” History and Philosophy of Science Research Group, University of Calgary, 2002.
- “Intuitionistic Fuzzy Logic and other Gödel Logics.” Calgary Peripatetic Research Group on Logic and Category Theory, University of Calgary, 2002.
- “Instrumentalism in Mathematics.” Philosophy Colloquium, University of California, Berkeley, 1999.
- “Finitistic Consistency Proofs.” Working Group on History and Philosophy of Mathematics and Logic, University of California, Berkeley, 1998.
- “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.

*Classes Taught**University of Calgary*

Logic I (Phil 279), Fall 2001, Winter 2002, Fall 2002, Winter 2004, Winter 2006, Winter 2009, Fall 2009, Fall 2010, Fall 2011, Fall 2012, Fall, 2013, Fall 2019, Winter 2020, Fall 2020. (undergrad).

Philosophy of Logic (Phil 473/671), Fall 2020. (grad).

Philosophy of Mathematics (Phil 567/667), Winter 2005, Winter 2020. (grad).

Logic II (Phil 379), Winter 2003, Fall 2003, Winter 2016, Fall 2016, Fall 2019, Winter 2020. (undergrad).

Logic III: Gödel's Incompleteness Theorems (Phil 479/679.01), Winter 2004, Winter 2007, Fall 2008, Winter 2010, Winter 2012, Winter 2017, Fall 2018. (grad).

How Do We Know? (Phil 274), Fall 2018. (undergrad).

Advanced Topics in Logic: Modal Logic (Phil 579.02/679.02), Winter 2014, Winter 2018. (grad).

Graduate Proseminar (Phil 603), Fall 2015, Fall 2016, Fall 2017. (grad).

Advanced Topics in Logic: Proof Theory (Phil 579.3/679.4), Winter 2014. (grad).

Modal Logic (Phil 513/679.05), Winter 2003, Fall 2005, Fall 2007, Winter 2013. (grad).

19th and 20th Century Analytic Philosophy (Phil 307), Fall 2001, Fall 2003, Winter 2005, Fall 2008, Winter 2011, Winter 2013. (undergrad).

Paradoxes (Phil 579.01/679.02), Winter 2012. (grad).

Philosophy of Language (Phil 471), Winter 2011. (undergrad).

Carnap (Phil 507/609), Winter 2010. (grad).

Philosophy of Language (Phil 371), Winter 2007, Winter 2009. (undergrad).

Logical Positivism (Phil 407.03), Fall 2005, Fall 2007. (undergrad).

Evidence (Phil 409.02), Winter 2006. (undergrad).

*McGill University*

Intermediate Logic (Phil 310), Winter 2015. (undergrad).

*Stanford University*

Logic, Reasoning, and Argumentation (Phil 57), Spring 2001. (undergrad).

Early Analytic Philosophy (Phil 124/224), Spring 2001. (grad).

Philosophy of Logic (Phil 158/258), Winter 2001. (grad).

*University of California, Berkeley*

Introduction to Logic (Phil 12A), Summer 1998. (undergrad).

*Technische Universität Wien, Vienna*

Epsilon Calculus, Summer 2009. (grad).

Intuitionistic Logic, Summer 2000. (grad).

Theories of Truth, Summer 1999. (grad).  
 Logics of Knowledge and Belief, Summer 1998. (grad).  
 Computability and Models of Arithmetic, Summer 1997. (grad).  
 Proof Theory for Computer Scientists, Summer 1995. (grad).

### *Students*

#### *Supervisor*

Joseph McDonald (MA), “A Categorical Extension of the Curry-Howard Isomorphism,” 2019  
 Aaron Thomas-Bolduc (PhD), “New Directions for Neologicism,” 2018  
 Samara Burns (MA), “Hypersequent Calculi for Modal Logics,” 2018  
 Teppei Hayashi (PhD), “The Continuum: History, Mathematics, and Philosophy,” 2017  
 Zahra Ahmadianhosseini (MA), “Logical Models of Fallible Knowledge,” 2017  
 Zezen Qian (Mitacs Summer Intern), “The Open Logic Project,” 2016  
 Andre Curtis-Trudel (BA Honours), “Explication, Open-Texture, and Church’s Thesis,” 2016  
 Eamon Darnell (BA Honours), “Gödel vs. Mechanism,” 2013  
 Gillman Payette (PhD), “A Study in the Logic of Institutions,” 2012  
 Teresa Kouri Kissel (MA), “Indiscernibility and Mathematical Structuralism,” 2010  
 Taylor Scobbie (BA Honours), “Contrast and Contrastivism: The Logic of Contrastive Knowledge,” 2010  
 Steve Coyne (BA Honours), “Belief-Theoretic Foundations for Conversation,” 2009  
 Rafał Urbaniak (PhD), “Leśniewski’s Systems of Logic and Mereology,” 2008  
 Julianne Chung (BA Honours), “The Paradox of Knowability,” 2007  
 Phil Serchuk (BA Honours), “Fuzzy Logic and Vagueness,” 2006

#### *External Examiner*

Nicola Bonatti (MPhil in Philosophy, University of St. Andrews), “The Meaning of Quantifiers and the Epsilon Calculus,” 2020  
 Long Chen (PhD in Philosophy, King’s College London), “Interpreting Gödel: Historical and Philosophical Perspectives,” 2017  
 Hassan Massoud (PhD in Philosophy, University of Alberta), “The Epistemology of Natural Deduction,” 2015  
 Toby Meadows (PhD in Philosophy, University of Melbourne), “Modality without Metaphysics,” 2011

#### *Committee Member*

Zain Rizvi (PhD in Computer Science, supervisor: Philip Fong), “The SUDO Framework for Data Organization And Efficient Query Authorization For NoSQL Databases,” 2020

- Brent Odland (MA), “Peirce’s Triadic Logic: Continuity, Modality, and L,” 2020
- Prashant Kumar (MSc in Computer Science, supervisor: Robin Cockett), “Implementation of Message Passing Language,” 2018
- Chad Mitchell Nester (MSc in Computer Science, supervisor: Robin Cockett), “Turing Categories and Realizability,” 2017
- Mohammad Jafari (PhD in Computer Science, supervisor: Reyhaneh Safavi-Naini), “Modelling and Enforcing Purpose in Privacy Policies,” 2013
- Jayalakshmi Balasubramaniam (MSc in Computer Science, supervisor: Philip Fong), “A Novel Approach to White-Box Policy Analysis,” 2013
- Joseph Windsor (MA in Linguistics, supervisor: Darin Flynn), “When Nothing Exists: The Role of Zero in the Prosodic Hierarchy,” 2012
- Cheng Xu (MSc in Computer Science, supervisor: Philip Fong), “The Specification and Compilation of Obligation Policies for Program Monitoring,” 2011
- Julia Zochodne (BA Honours, supervisor: Nicole Wyatt), “What do We do with a Logic that is Formal?,” 2009
- Steven Yuen (MSc in Computer Science, supervisor: Lisa Higham), “Formal Models and Implementations of Distributed Shared Memory,” 2009
- Jennifer Runke (PhD in Philosophy, supervisor: Marc Ereshefsky), “Towards an Adequate Theory of Scientific Metaphor,” 2008
- Jillian Hartman (MA in Creative Writing, supervisors: Susan Rudy, Tom Wayman), “Scrabbalah,” 2005
- Craig Pastro (MSc in Computer Science, supervisor: Robin Cockett), “ $\Sigma\Pi$ -Polycategories, Linear Logic, and Process Semantics,” 2005
- Min Zeng (MSc in Computer Science, supervisor: Robin Cockett), “An Implementation of Charity,” 2003
- Clement Loo (BA Honours, supervisor: Marc Ereshefsky), “The Role of Evolution in Behavior,” 2003

### *Teaching Awards*

- Nominated for Teaching Excellence Award, Student’s Union, University of Calgary, 2020.  
Great Supervisor Award, Faculty of Graduate Studies, University of Calgary, 2019.

- Grants Insight Development Grant, Social Sciences and Humanities Research Council of Canada (SSHRC), “Toward a Philosophy of Programming Languages,” CAD 45,378, 2020–2022.
- Teaching Activity Grant, Faculty of Arts, University of Calgary, “How Do We Know?,” CAD 1,000, 2018 (Co-applicant: Megan Delehanty).
- Scholarship of Teaching and Learning Grant, University of Calgary, “Logic for the 21st Century,” CAD 36,820, 2016–2017 (Co-applicants: Nicole Wyatt and Aaron Thomas-Bolduc).

- Teaching and Learning Practice Grant, University of Calgary, “The Open Logic Project,” CAD 7,500, 2015–2016 (Co-applicant: Nicole Wyatt).
- Alberta Open Educational Resources Initiative, “The Open Logic Project,” CAD 43,000, 2015.
- Annual Fellowship, “Calgary Institute for the Humanities,” , 2013–2014.
- Insight Grant, Social Sciences and Humanities Research Council of Canada (SSHRC), “The Collected Works of Rudolf Carnap (Phase 2),” CAD 133,680, 2012–2017 (Co-applicant: Dirk Schlimm, McGill University).
- Visiting Scholar Grant, University of Calgary Research Grants Committee, “Nuel Belnap, University of Pittsburgh,” CAD 1,275, 2009.
- Standard Research Grant, Social Sciences and Humanities Research Council of Canada (SSHRC), “The Collected Works of Rudolf Carnap,” CAD 64,900, 2008–2011 (Co-applicant: Dirk Schlimm, McGill University).
- Discovery Grant, Natural Sciences and Engineering Research Council of Canada (NSERC), “Computational Aspects of the Epsilon Calculus,” CAD 70,000, 2007–2012.
- Conference Grant, University of Calgary Research Grants Committee, “Mathematical Methods in Philosophy,” CAD 6,000, 2006.
- Calgary Institute for the Humanities Annual Fellowship, teaching release, 2006–2007.
- Short Term Project Grant, University of Calgary Research Grants Committee, “The Essential Carnap,” CAD 5,940, 2006.
- Travel Grant, University of Calgary Research Grants Committee, “International Symposium on Multiple Valued Logic, Singapore,” CAD 1,500, 2006.
- Visiting Scholar Grant, University of Calgary Research Grants Committee, “John P. Burgess, Princeton University,” CAD 1,300, 2004.
- Visiting Scholar Grant, University of Calgary Research Grants Committee, “William W. Tait, University of Chicago,” CAD 1,150, 2004.
- Standard Research Grant, Social Sciences and Humanities Research Council of Canada (SSHRC), “The History of Logical Metatheory, 1900–1940,” CAD 68,200, 2004–2007.
- Discovery Grant, Natural Sciences and Engineering Research Council of Canada (NSERC), “Gödel Logics: Foundations and Applications in Computer Science,” CAD 38,000, 2003–2007.
- Canadian Hunter Young Innovator Award, University of Calgary, “Gödel Logics: Foundations and Applications in Computer Science,” CAD 20,000, 2003.
- Travel Grant, University of Calgary Research Grants Committee, “International Symposium on Multiple Valued Logic, Tokyo, May 2003,” CAD 1,500, 2003.
- Professional Development Grant, Faculty of Humanities, CAD 2,000, 2003.
- Visiting Scholar Grant, University of Calgary Research Grants Committee, “Matthias Baaz, Technische Universität Wien,” CAD 1,850, 2002.
- Professional Development Grant, Faculty of Humanities, CAD 2,000, 2002.

Starter Grant, University of Calgary Research Grants Committee, “The Golden Age of Logic: The Development of Logical Metatheory,” CAD 10,000, 2002–2003.  
 Professional Development Grant, Faculty of Humanities, CAD 2,000, 2001.  
 Research Excellence Envelope Grant, University of Calgary, CAD 15,000, 2001–2002.

Service *Department of Philosophy, University of Calgary*

Committee on Diversity and Climate, Chair. 2020–.  
 Ad-hoc Committee on Online Learning, Member. 2020–.  
 Undergraduate Program Committee, Member. 2019–.  
 Graduate Program Director. 2015–2018.  
 Committee on Diversity and Climate, Member. 2015–2018.  
 Head’s Advisory Committee, Member. 2013–2014, 2015–2018.  
 Graduate Program Committee, Chair. 2015–2018.  
 Field of Study Exam Standing Committee (Logic and Language), Member. 2015–2018.  
 Preliminary Exam Standing Committee (Logic and Language), Chair. 2003–2004, 2008–2014.  
 Graduate Program Committee, Member. 2002–2004, 2005–2006, 2009–2013.  
 Hiring Committee (Logic and Philosophy of Science), Member. 2012.  
 Speaker’s Committee, Chair. 2008–2011.  
 Hiring Committee (Logic and Philosophy of Science Postdoc), Member. 2010.  
 Speaker’s Committee, Member. 2005.  
 Hiring Committee (Logic), Member. 2005–2006.  
 Placement Director. 2002–2004, 2005, 2009.  
 History and Philosophy of Science Programs, Co-Director. 2003–2004, 2005–2006.  
 Hiring Committee (Epistemology), Member. 2005–2006.  
 Webmaster. 2001–2008.  
 Hiring Committee (Philosophy of Science), Member. 2004.  
 Ad Hoc Committee on History and Philosophy of Science Undergraduate Programs, Chair. 2002–2003.  
 Ad Hoc Committee on Department Self-Assessment Exercise, Member. 2002.

*University of Calgary*

Calgary Institute for the Humanities, Executive Council. 2016–.  
 Pacific Institute for the Mathematical Sciences, Calgary Site Steering Committee. 2016–.  
 Calgary Mathematics and Philosophy Lecture Series, Department of Philosophy and Pacific Institute for the Mathematical Sciences, Organizer. 2015–.  
 Institute for Quantum Science and Technology, Council. 2010–.  
 Calgary Peripatetic Research Group on Logic and Category Theory, Co-organizer. 2001–.  
 Faculty of Graduate Studies, Awards Oversight Committee. 2016–2018.  
 Faculty of Arts, Graduate Academic Review Committee, Vice Chair. 2015–2018.

Faculty of Arts, Faculty Merit Committee. 2017.  
 VP Teaching and Learning, Open Educational Resources Working Group. 2016–2018.  
 Taylor Institute for Teaching and Learning, Advisory Board to the Academic Director.  
 2016–2017.  
 Faculty of Arts, Tenure and Promotion Committee, Dean’s Appointee. 2016.  
 Faculty of Arts, Executive Committee. 2011–2013.  
 Faculty of Humanities, Sabbatical Fellowship Committee. 2008–2009.  
 Faculty of Graduate Studies, Graduate Scholarships Committee. 2004–2005.  
 Department of Religious Studies, Headship Selection Committee. 2004.  
 Faculty of Humanities, Representative to Faculty of Science. 2003–2005.  
 Faculty of Humanities, Promotions Committee, Observer (Dean’s Appointee). 2004.  
 Faculty of Humanities, Executive Committee, Member. 2001–2004.

*University of California, Berkeley*

History and Philosophy of Logic, Mathematics, and Science Townsend Center Working  
 Group, Organizer. 1998–2001.  
 Graduate Council, Advisory Committee on Graduate Student Instructor Affairs, Student  
 Representative. 1997–1999.  
 Graduate Assembly, Committee on the Educational Improvement Grant Program, Member.  
 1997–1998.  
 Logic and Methodology of Science Graduate Student Association, President. 1995–1998.  
 Logic and Methodology of Science Graduate Student Association, Graduate Assembly  
 Delegate. 1995–1998.  
 Academic Senate, Advisory Committee on International Education, Student  
 Representative. 1995–1996.

*Professional Organizations*

Philosophy of Mathematics Association, President. 2019–.  
 Canadian Society for History and Philosophy of Mathematics, Council Member. 2018–.  
 Association for Symbolic Logic, Membership Committee, Member. 2016–.  
 Special Interest Group on Logic and Computation of the ACM, Education Committee,  
 Member. 2014–.  
 Kurt Gödel Society, Executive Board, Member. 1992–94, 2005–.  
 Society for the Study of the History of Analytic Philosophy, Secretary. 2015–2019.  
 Association for Symbolic Logic, Website Committee, Member. 2014–2018.  
 Association for Symbolic Logic, Nominating Committee, Member. 2015–2016.  
 Philosophy of Mathematics Association, Executive Board, Member. 2015–2016.  
 Philosophy of Mathematics Association, Nominating Committee, Member. 2014–2016.  
 Society for the Study of the History of Analytic Philosophy, Board Member. 2009–2015.  
 Association for Symbolic Logic, Committee on Logic Education, Chair. 2009–2011.



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

Association for Symbolic Logic, Council, Elected Member. 2008–2010.

Association for Symbolic Logic, Committee on Logic Education, Member. 2002–2008.

### *Conferences*

Indian Conference on Logic and its Applications ICLA 2019, Program Committee Member.  
2019.

Western Canadian Philosophical Association WCPA, University of Calgary, Organizer.  
2018.

Second-Order Quantifier Elimination SOQE 2017, ESSLLI, Program Committee Member.  
2017.

Quantifiers and Determiners QUAD 2017, ESSLLI, Program Committee Member. 2017.

Annual Meeting of the Society for the History of Analytic Philosophy SSHAP, University of  
Calgary, Organizer. 2017.

Spring Meeting of the Association for Symbolic Logic, Seattle, Program Committee Chair.  
2017.

Annual Meeting of the Canadian Society for History and Philosophy of Mathematics  
CSHPM, University of Calgary, Local Organizer. 2016.

Annual Meeting of the Association for Symbolic Logic, University of Connecticut, Special  
Session Organizer. 2016.

Summer Program for Diversity in Logic, University of Massachusetts, Dartmouth,  
Advisory Board Member.

Epsilon 2015: Hilbert's Epsilon and Tau in Logic, Informatics and Linguistics, Program  
Committee Member. 2015.

Pacific Division of the American Philosophical Association, Program Committee Member.  
2012–2015.

Vienna Summer of Logic, Organizing Committee Member. 2014.

Logic, Algebra, and Truth Degrees LATD 2014, Program Committee Member. 2014.

Logic Colloquium: European Summer Meeting of the Association for Symbolic Logic,  
Vienna, Program Committee Member. 2014.

Logic, Algebra, and Truth Degrees LATD 2013, Program Committee Member. 2013.

Third International Congress on Tools for Teaching Logic, Program Committee Member.  
2011.

Carnap and the Legacy of Logical Empiricism, Institute Vienna Circle, Vienna, Organizer.  
2010.

Computability in Europe CiE, Program Committee Member. 2009.

Logic Miniconference (Aldo Antonelli, Nuel Belnap, Krister Segerberg), University of  
Calgary, Organizer. 2009.

Mathematical Applications in Philosophy, Banff International Research Station, Organizer.  
2007.

Uncertainty: Reasoning about Vagueness and Probability, Program Committee, Member. 2006.

Logic Miniconference (John Burgess, Kit Fine, Alasdair Urquhart), University of Calgary, Organizer. 2005.

Annual Congress of the Canadian Philosophical Association, Program Committee Member. 2005.

Spring Meeting of the Association for Symbolic Logic, Program Committee Member. 2005.

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. 1992–1994.

Workshop on Proof Theory, Complexity, Metamathematics, Vienna, Organizing Committee Chair. 1994.

Third Kurt Gödel Colloquium, Brno, Organizing Committee Member. 1993.

#### *Reviewer*

Presses: Blackwell, Cambridge University Press, Oxford University Press, Princeton University Press, Springer.

Journals: *Archive for Mathematical Logic*, *American Philosophical Quarterly*, *Bulletin of Symbolic Logic*, *Dialectica*, *Ergo*, *Erkenntnis*, *European Journal for Philosophy of Science*, *Historia Mathematica*, *History and Philosophy of Logic*, *Journal of Applied Logic*, *Journal of Philosophical Logic*, *Journal of Symbolic Logic*, *Journal of Applied Non-Classical Logics*, *Journal of Humanistic Mathematics*, *Journal of Logic and Computation*, *Journal of Logic, Language, and Information*, *Logic Journal of the IGPL*, *Logic and Logical Philosophy*, *Journal for the History of Analytic Philosophy*, *Mathematical Logic Quarterly*, *Mind*, *Notre Dame Journal of Formal Logic*, *Philosopher’s Imprint*, *Philosophia Mathematica*, *Philosophical Transactions of the Royal Society A*, *Review of Symbolic Logic*, *Studia Logica*, *Studies in History and Philosophy of Science*, *Synthese*, *Theoretical Computer Science*.

Conferences: Indian Conference on Logic and its Applications 2019; Logica 2018; Western Canadian Philosophy Association 2002, 2004, 2016, 2018; Canadian Philosophical Association 2003, 2006, 2008, 2017; Workshops on Computer Science Logic 1994, 1995, 2002, 2017; Logic in Computer Science 2015; 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; International Symposia on Multiple Valued Logic 1994, 1998; Kurt Gödel Colloquia 1993, 1997; 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, Israel Science Foundation, Nederlands Organization for Scientific Research, Swiss National Science Foundation.