Peter Koellner

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Employment

Professor of Philosophy, Harvard University, (2010–)

John L. Loeb Associate Professor of the Humanities, Harvard University, (2008–2010)

Assistant Professor of Philosophy, Harvard University, (2003–2008)

Education

Ph.D. in Philosophy (Minor: Mathematical Logic)	MASSACHUSETTS INSTITUTE OF TECHNOLOGY, 2003
Research in Logic	UNIVERSITY OF CALIFORNIA, BERKELEY Logic Group: 1998–2002
M.A. in Philosophy	UNIVERSITY OF WESTERN ONTARIO, 1996
B.A. in Philosophy	UNIVERSITY OF TORONTO, 1995

Research Interests

PRIMARY: Set Theory, Foundations of Mathematics, Philosophy of Mathematics

SECONDARY: Foundations of Physics, Early Analytic Philosophy, History of Philosophy and the Exact Sciences

Academic Awards and Honors

- John Templeton Foundation Research Grant: Exploring the Frontiers of Incompleteness; 2011-2013

  —$195,029

- Kurt Gödel Centenary Research Fellowship Prize; 2008–2011

  —$130,000

- John Templeton Foundation Research Grant: Exploring the Infinite (with W. Hugh Woodin); 2008–2009

  —$50,000

- Clarke-Cooke Fellowships; 2005–2006, 2006–2007

- Social Sciences and Humanities Research Council of Canada Scholarship, 1996–2000 (tenure 1998–2000: Berkeley)

Teaching Experience

Courses taught at Harvard:

Set Theory (Phil 143, Fall 2003)
Set Theory: Large Cardinals from Determinacy (Math 242, Fall 2004)
Set Theory: Inner Model Theory (Math 244, Spring 2008)
Set Theory: The Higher Infinite (Phil 142, Fall 2010)
Set Theory: Exploring the Frontiers of Incompleteness (Phil 142, Spring 2011 (part 1),
    Fall 2011 (part 2), Spring 2012 (part 3)
Foundational Aspects of Set Theory (Phil 243w, Spring 2007)
Deductive Logic (QR 22, Fall 2006, Fall 2007, Fall 2009)
Empirical and Mathematical Reasoning (EMR 17, Fall 2010
Logic and Philosophy (Phil 144, Spring 2004)
Logic and the Foundations of Mathematics (Phil 143Y, Spring 2004)
Intermediate Logic: Introduction to Model Theory—Proseminar (Phil 142z, Spring 2008)
Topics in the Philosophy of Mathematics—Seminar (Phil 248 , Fall 2009)
Foundations of Space-Time Theories (Phil 150, Fall 2003, Fall 2006)
Determinism and Quantum Mechanics (Phil 151, Fall 2004)
Realism (Tutorial, Spring 2007)
The Scientific Revolution (Tutorial, Spring 2006)
Philosophy and the Exact Sciences: Aristotle to Newton (Phil 149y, Spring 2010, Fall 2011)

Reading Courses and Workshops at Harvard:

Set Theory (Spring 2004)
Philosophy of Physics (Spring 2005)
Metaphysics and Epistemology Workshop (Spring 2004, Fall 2005)
Set Theory (Fall 2011)

Senior Theses Supervised

"Determinism in Physics" (Jennifer Graff, 2004)
"Extending the Universe of NFU" (Edward Dean, 2004)
"Borel Selections and Set-Theoretic Abstractions" (Mathematics) (Daniel Rosenbloom, 2005)
"The Gödelian Argument Against Artificial Intelligence" (Jonathan Matus, 2006)
"Independence Results for Peano Arithmetic" (Mathematics) (Lila Fontes, 2007)
"Characterizing Experience: Its Role in Empirical Thought" (Katya Botchkina, 2009)

Ph.D Advising

"In Defense of Phenomenalism: Why Berkeley is not all Wrong" (Melissa Frankel, 2008)
"Models with High Scott Rank" (Mathematics) (Cameron Freer, 2008)
"Nonsense, Truth, and Ineffability" (James Shaw, 2009)
"The Proof-Theoretic Justification of Logical Laws" (Jon Litland, –)
"A Naturalistic Account of A priori Knowledge" (Sharon Berry, –)

Invited Talks

- "The Search for New Axioms", University of Toronto, January 2003

- "The Search for New Axioms", Columbia University, January 2003

- "On Some Recent Developments in the Search for New Axioms", Logic and Philosophy of Science Colloquium, University of California at Irvine, February 2005

- "On the Question of Absolute Undecidability", UC Berkeley (Logic Colloquium), October 2005

- "On the Question of Absolute Undecidability", North Carolina State University, November 2005

- "The Inextricable Tangle", UC Berkeley, November 2005

- "On the Question of Absolute Undecidability", Stanford, December 2005

- "Foundational Aspects of Modern Set Theory", Eastern APA (ASL Session), December 2005

- "Incompatible Ω-Complete Theories", MIT, October 2007

- "Incompatible Ω-Complete Theories", University of Pennsylvania (Mathematics Department), December 2007

- "On the Question of Realism in Mathematics", Eastern APA, December 2007 (Session on Logic in Philosophy, with Harvey Friedman)

- "On the Prospect of Bifurcation in Set Theory", Notre Dame, April 2008

- "Absolute Undecidability and Bifurcation", New Waves in Philosophy of Mathematics Conference, University of Miami, April 2008

- "Absolute Undecidability and Bifurcation", Acceptance speech for Kurt Gödel Centenary Research Prize Fellowship, Vienna, April 2008

- "Truth in Mathematics: The Question of Pluralism", UC Berkeley (Logic Colloquium), October 2008

- "Intrinsic Justifications and Reflection Principles", Stanford, April 2009

- "Truth in Mathematics: The Question of Pluralism", NYU Conference in Philosophy of Mathematics, April 2009

- "On Reflection Principles", Eleventh Asian Logic Conference, National University of Singapore, June 2009

- "Proof and Truth", (keynote speaker), Conference on Computation and Truth, Bristol, January 2010

- "Indeterminateness in Set Theory", Workshop on Set Theory and the Philosophy of Mathematics, October 2010

- "Absolute Undecidability and Bifurcation Revisited", Awards ceremony speech for Kurt Gödel Centenary Research Prize Fellowship, Vienna, April 2011

Publications

RESEARCH ARTICLES

- "On the Question of Absolute Undecidability", *Philosophia Mathematica*, Vol. 14, No. 2, 2006, pp. 153–188. [Revised and reprinted with a new postscript in *Kurt Gödel: Essays for his Centennial*, edited by Solomon Feferman, Charles Parsons, and Stephen G. Simpson. Lecture Notes in Logic, 33. Association of Symbolic Logic, 2009.]

- "On Reflection Principles", *Annals of Pure and Applied Logic*, Vol. 157, Nos. 2–3, 2009, pp. 206–219. [Special volume containing the winning essays for the Kurt Gödel Centenary Research Prize Fellowships.]

- "Incompatible Ω-Complete Theories" (with W. Hugh Woodin), *Journal of Symbolic Logic*, Vol. 74, No. 4, December 2009, pp. 1155–1170.

- "Large Cardinals from Determinacy" (with W. Hugh Woodin), *Handbook of Set Theory*, edited by Matthew Foreman and Akihiro Kanamori, 2010

- "Truth in Mathematics: The Question of Pluralism", *New Waves in Philosophy of Mathematics*, Edited by Otávio Bueno and Øystein Linnebo, 2009, pp. 80-116.

- "Strong Logics of First and Second Order", *Bulletin of Symbolic Logic*, Vol. 16, Issue 1, March 2010, pp. 1–36.

ENCYCLOPEDIA ARTICLES

- "Independence and Large Cardinals", *Stanford Encyclopedia of Philosophy*, 2010

- "Large Cardinals and Determinacy", *Stanford Encyclopedia of Philosophy*. [To appear]

- "The Continuum Hypothesis", *Stanford Encyclopedia of Philosophy*. [In preparation]

PREPRINTS AND BOOK DRAFTS

- "Carnap on the Foundations of Mathematics".

- "Independence in Arithmetic and Set Theory".

- "Incompleteness and the Limits of Mechanism".

- *Russell on the Foundations of Logic and Mathematics.*

- *Foundations of Set Theory: The Search for New Axioms* (with W. Hugh Woodin).

REVIEWS

- Review of *The Cambridge Companion to Bertrand Russell*, in *Bulletin of Symbolic Logic*, January 2005.

EDITORIAL WORK

- (with John G. Slater) *Collected Papers of Bertrand Russell, Volume 10*: *A Fresh Look at Empiricism.* London and New York: Routledge, 1996. Pages: xxxvii, 886.

- (with John G. Slater) *Collected Papers of Bertrand Russell, Volume 11*: *Last Philosophical Testament: 1943–1968.* London and New York: Routledge, 1997. Pages: xxx, 859.