

# *Abbreviated Curriculum Vitae*

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## **Addresses & Numbers**

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## **Education**

1976 Ph.D, Johns Hopkins

## **Current Positions**

McMahon-Hank Professor of Philosophy, University of Notre Dame  
Senior chaire d'excellence, Agence Nationale de la Recherche, France  
Distinguished Invited Professor, University of Paris–Diderot (2008–2009, 2009–2010)  
Distinguished Invited Professor, University of Nancy 2 (2007–08, 2010–2011)

## **Special Research Interests**

History and Philosophy of Mathematics  
Logic and its History  
Gödel's Theorems and their implications

## **Select Recent Publications**

“Discovery, Invention and Realism: Gödel and others on the Reality of Concepts”, to appear in *Mathematics & Its Significance*, John Polkinghorne (ed.), Cambridge University Press

“Sensing Objectivity”, comment on Mary Leng's “Creation and Discovery in Mathematics”, to appear in *Mathematics & Its Significance*, John Polkinghorne (ed.), Cambridge University Press

“Gödel's Theorems and Platonism”, comment on Roger Penrose's “Mathematics, the Mind, and the Physical World”, to appear in *Mathematics & Its Significance*, John Polkinghorne (ed.), Cambridge University Press

“Proof: Its Nature and Significance”, *Proof and Other Dilemmas: Mathematics and Philosophy*, Bonnie Gold and Roger Simons (eds.), 3–32, Cambridge University Press, 2009

“Purity as an Ideal of Proof”, *The Philosophy of Mathematical Practice*, Paolo Mancosu (ed.), 179–197, Oxford University Press, 2008

*Interview*, in *Philosophy of Mathematics: 5 Questions*, H. Leitgeb and V. Hendricks (eds.), 87–99, Automatic Press/VIP, 2007

“Formalism”, *Oxford Handbook of the Philosophy of Mathematics and Logic*, in *The Oxford Handbook of Philosophy of Mathematics and Logic*, 236–317, Oxford University Press, 2005. (Errata: p. 297, n. 98: line 3, ‘refer’ should be ‘refers’; p. 297, n. 98, line -1 of quote from Frege: ‘whose square is 1’ should be ‘whose square is  $-1$ ’.)

“Löb’s Theorem as a Limitation on Mechanism”, *Minds and Machines* 12 (2002): 353–381. (Errata: p. 370, line 14, ‘unjustified’ should be ‘justified’; p. 375, line -7, ‘is are’ should be ‘are’.)

“What Does Gödel’s Second Theorem Say?”, *Philosophia Mathematica* 9 (2001): 37–71

“Peace, Justice and Computation”, in *Logic, Language, and Computation: Essays in honor of Alonzo Church*, (C. Anthony Anderson and Michael Zelény, eds.), 447–470. Kluwer Academic Publishers, 2001

## Select Editorial Positions

Editor-in-chief, *Notre Dame Journal of Formal Logic*, 1984–present

Editor, *Philosophia Mathematica*, New Series, 1993–present

## Select Awards, Grants & Fellowships

Senior chaire d’excellence, Agence Nationale de la Recherche, France, \$1.2 million (800,000 euros). Additional matching support from the U of Paris, U of Nancy and the Collège de France (2007–2011)

Alexander von Humboldt Stiftung, TransCoop Program, 2006–2009, \$120,000

Henkels Distinguished Lecture Series, ISLA, University of Notre Dame, 1998, \$10,000

National Endowment for the Humanities Fellowship for University Teachers, 1995–96, \$30,000

Alexander von Humboldt Research Fellowship, summer, 1994, \$10,000

Alexander von Humboldt Research Fellowship, 1987–88, \$30,000

IREX Grant for Collaborative Activities and New Exchanges (to bring Dr. Kosta Došen of the Mathematics Institute of the University of Belgrade to Notre Dame for one semester), spring 1985, \$2500

Fulbright Senior Research Professorship, Yugoslavia, 1981–82, \$20,000

National Endowment for the Humanities Summer Seminar Stipends 1977, 1980

## Select Recent Invited Lectures

“Freedom & Consistency: Gentzen on Constructive Consistency Proofs”, *Gentzen Centenary: The Quest of Consistency*, Sept 12, 2009, U. of Coimbra, Portugal. Workshop of the congress for *Computer Science Logic 2009*.

“Proof, Creation & Freedom”. A series of four lectures, Collège de France, June 3, 10, 17, 24, 2009. Subject to publication in the *Collège de France Collection*.

Lecture 1: Creation & Freedom to Introduce Concepts (June 3, 2009)

Lecture 2: Freedom & Consistency (June 10, 2009)

Lecture 3: Freedom & Fruitfulness (June 17, 2009)

Lecture 4: The End of Freedom (June 24, 2009)

“Construction, Figure & Proof”, *The Ontological Shift in Geometry*, U of Paris-Diderot, June 5, 2009

“Freedom & its Ends”, Conference in Honor of Harvey Friedman’s 60th Birthday, The Ohio State U, May 15, 2009

“Freedom in Mathematics”, Institut d’histoire et de philosophie des sciences et des techniques (IHPST), Seminar, Paris, May 4, 2009

“Dedekind & the Search for Proof”, Faculty of Philosophy, U of Oxford, Feb 23, 2009

“Creation and Construction”, Dept of Philosophy, U of Bielefeld, Jan 28, 2009

“In Search of Formalism”, series of four lectures at the *École normale supérieure*, October 10th, 17th, 24th, 31st, 2008.

Lecture 1: Background & Basic Distinctions

Lecture 2: Formal Thinking, Abstraction & the Axiomatic Method

Lecture 3: Forms and their Value: Economy of Thought

Lecture 4: Conductive Use of Formulae: Efficiency, Rigor & Reliability

“The Creative Ideal in Mathematics”, invited lecture for the workshop *Mathematics Between Natural Sciences & the Humanities* at the *Lichtenberg Kolleg*, Georg-August Universität, Göttingen, Oct 5–8, 2008

“Discovery, Invention and Realism”, paper for the second meeting of the *Mathematics and Its Significance* group, King’s College, Cambridge University, Sep 15–16, 2008

“The Ideal of Creativity in Mathematics”, plenary lecture, *Congres du Société Française d’Histoire des Sciences et des Techniques*, Paris, Sep 4–6, 2008

“Purity of Proof & Understanding”, international workshop on *Mathematical Understanding*, Département Histoire et Philosophie des Sciences, Université Denis Diderot–Paris 7, with Andrew Arana, June 9–13, 2008

“On the Nature and Value of Construction”, Institut d’histoire et de philosophie des sciences et des techniques (IHPST), Paris, April 24, 2008

“Varieties of Completeness”, inaugural lecture, *ANR senior chaire d’excellence*, University of Paris–Diderot, February 8, 2008

“Ideals of Proof”, inaugural lecture, *ANR senior chaire d’excellence*, University of Nancy 2, January 30, 2008

“Discovery vs. Invention in the History of Mathematics”, invited paper, *Mathematics & Its Significance*, Templeton Foundation Symposium, Castel Gandolfo, Italy, June 21–23, 2007

“Some Questions Concerning Proof”, invited discussant in *Workshop in the History and Philosophy of Mathematics*, University of Paris 7 & REHSEIS, June 13–14, 2007

“Construction and Exhibition”, invited lecture to the Indiana University-Bloomington Logic Colloquium, Bloomington, IN, April 25, 2007

“Construction, Computation & Exhibition”, invited lecture, joint session of the *Congrès de l’Union Internationale d’Histoire et de Philosophie des Sciences* (Division of Logic, Methodology and Philosophy of Science) on *Calculabilité et Constructivité: Perspectives Historiques et Philosophiques*, November 17–19, 2006. Also sponsored by the University of Paris 1 and the *École Normale Supérieure*.

“Ideals of Proof and the Arithmetization of Analysis”, inaugural meeting of the annual *Thoughts & Things* conference, hosted by the mathematics and philosophy departments of Bogazici University and Bilkent University, Istanbul, Turkey, October 20, 2006

“The Virtues of Hilbert’s Program”, joint colloquium of the philosophy and mathematics departments, Bogazici University, October 18, 2006

“Reflections on Proof”, 4th Bucharest Colloquium in Analytic Philosophy, University of Bucharest & New Europe College, May 19th–May 21st, 2006

‘Purity of Proof’, *International Symposium LOGICA 2005*, Academy of Sciences of the Czech Republic, Hejnice, Czech Republic, June 20–24, 2005

‘Purity as an Ideal of Proof’, international conference, *Proof in Mathematics: Logical, Historical and Philosophical Approaches*, University of Lille III (Lille, France), May 24–28, 2005

‘Traces of Formalism’, Philosophy Department Colloquium, University of Illinois–Urbana/Champaign, October 1, 2004

Invited Session, Association of Symbolic Logic, Chicago (joint meeting with the American Philosophical Association), April 22–23, 2004. Lecture was entitled “Proof: Discovery vs. Verification”

‘Mathematical Sources of Formalism’, Department of Philosophy, Stanford University, March 12, 2004

‘Proof: Confirmation and Discovery’, Logic Group, Stanford University, March 11, 2004

‘Traces of Formalism’, History and Philosophy of Logic, Mathematics and Science Group, University of California–Berkeley, March 10, 2004

‘Creation and Completeness’, Department of Logic & Philosophy of Science, University of California–Irvine, June 7, 2002. Inaugural lecture of the Graduate Speakers Series

Series of three lectures sponsored by the departments of philosophy and mathematics at the University of Helsinki, May 15–24, 2002. Lecture titles: ‘Classical Intuitionism’, ‘The Retreat from Intuition’, ‘Creation, Completeness and the Axiomatic Method’

‘Creation, Necessity and the Axiomatic Method’, a series of five lectures sponsored by Senshu University, Keio University, Tokyo Metropolitan University, and the Japanese Association for the Philosophy of Science, January 5–15th, 2002, Tokyo, Japan

‘Hilbert’s Justification of the Completeness Requirement’, *Hilbert Workshop*, Keio University, January 2002

‘The Axiomatic Method and the Ideal of Completeness’, invited lecture to the First Seminar in the Philosophy of Mathematics, Shahid Beheshti University (formerly the Iranian National University), October 2001, Tehran, Iran

‘Axiomatization, creative freedom and the ideal of completeness’, invited talk at conference on the history of logic and mathematics, June 10–13, 2000. Sponsored by the departments of mathematics and philosophy of the University of Helsinki, the Academy of Finland and the Association for Symbolic Logic

## Select Professional Service

External evaluator and consultant for tenure and promotion decisions and appointments to chaired professorships at more than thirty (30) universities around the world

Designer and organizer (with Prof. Julia Knight, Dept of Mathematics, U of Notre Dame) of Notre Dame’s joint PhD in logic and foundational studies between the department of philosophy and the department of mathematics

Planner and director of annual *Midwest PhilMath Workshops* since 1999, University of Notre Dame  
 Organizer, planner and director (with Prof. Jean-Jacques Szczeciniarz, U of Paris–Diderot) annual

Paris-Notre Dame Seminar in the History & Philosophy of Mathematics, to commence, spring 2010  
Planner and organizer (with Pr. Gerhard Heinzmann, U of Nancy 2 and Prof. Jean-Jacques Szczeciniarz, U of Paris–Diderot) of the first annual Paris-Nancy PhilMath Workshop, Oct 21–22, 2009, Université de Nancy 2

Member of external evaluation committee for various departments and institutes around the world  
Member and chair of various program and other professional committees (e.g. APA, ASL, LMPS, etc.)

Member, Journal Oversight Committee (with Anil Gupta, Pen Maddy, Terry Parsons and Vann McGee), Association of Symbolic Logic, 1995–2001

Referee for various professional journals (e.g. *Noûs*, *Synthese*, *Mind*, *Philosophy & Phenomenological Research*, *Journal of Symbolic Logic*, *Journal of Philosophical Logic*, *Bulletin of Symbolic Logic*, *American Philosophical Quarterly*, *History and Philosophy of Logic*, *Erkenntnis*, *British Journal for the Philosophy of Science*, *Philosophia Mathematica*, *Minds and Machines*, et al.)

Referee for various presses (e.g. Oxford University Press, Cambridge University Press, Cornell University Press, Princeton University Press, Blackwell Publishers, North–Holland Publ. Co., Kluwer Academic Press, Routledge, Birkhäuser, Macmillan, McGraw-Hill, et al.)

Consultant many times to the National Science Foundation, National Endowment for the Humanities, Alexander von Humboldt Stiftung, DAAD, American Council for Learned Societies, Institute for Advanced Studies (Princeton), Templeton Foundation, Agence Nationale de la Recherche, Canadian Research Council. Includes several projects requesting more than \$1 million in funding

Consultant to Oxford University Press regarding new book series, new projects in logic and the philosophy of mathematics and new journals

Consultant to the *Encyclopedia Britannica* on entries in logic and foundations of mathematics

## **Select Administrative & University Service**

Director of Graduate Studies, Department of Philosophy, 1990–93

Elected member of search committee for the Dean of the College of Arts & Letters, summer/fall 2007, spring 2008

Provost’s Advisory Committee, 2002–2005

Executive Committee of the Faculty Senate, 1994-96, 1997–2000

Chair (= President), University Faculty Senate, University of Notre Dame, 1997–99