Curriculum Vitae

Stephen G. Simpson

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Stephen G. Simpson
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Education:

1962–1966	Lehigh University, Bethlehem PA B.A. (summa cum laude), M.S. in Mathematics
1966–1971	Massachusetts Institute of Technology, Cambridge MA Ph.D. in Mathematics, thesis advisor Gerald E. Sacks
1969–1970	University of Wisconsin, Madison WI (no degree)

Scholarships, Fellowships, Research Grants, Awards:

1962–1966	Modern Transfer scholarship (Lehigh)
1966–1971	NSF and NDEA fellowships (M.I.T.)
1972–1974	NSF research grants (Yale, Berkeley)
1974–1975	Science Research Council research fellowship (Oxford)
1975–1996	NSF individual research grants (Penn State)
1980–1982	Alfred P. Sloan research fellowship (Penn State)
June 1981	CNRS research grant (Paris)
1983–1984	Deutsche Forschungsgemeinschaft research fellowship (Munich)
1986	Faculty Scholar Medal and prize (Penn State)
1987–1992	Raymond N. Shibley professorship (Penn State)
2000–2004	NSF individual research grant (Penn State)
2006–2010	NSF individual research grant (Penn State)
2007–2008	Grove Award for Interdisciplinary Research (Penn State)
2007–2011	NSF grant for collaborative research (Penn State)
2008–2009	Templeton Foundation research grant (Penn State)
2013–2019	Simons Foundation Collaboration Grant (Penn State, Vanderbilt)

Academic Employment:

1971–1972	Yale University (Gibbs Instructor)
1972–1974	University of California, Berkeley (Lecturer)
1974–1975	University of Oxford, England (Visiting Lecturer)
1975–1977	Pennsylvania State University (Assistant Professor)
1977–1980	Pennsylvania State University (Associate Professor)
Oct. 1978	University of Chicago (Visiting Associate Professor)
1979–1980	University of Connecticut (Visiting Associate Professor)
1980–2012	Pennsylvania State University (Professor)
June 1981	University of Paris, France (Visiting Professor)
1983–1984	University of Munich, Germany (Visiting Professor)
Jan.–Jun. 1987	Stanford University (Visiting Professor)
Jan.–Jun. 1992	University of Illinois (Visiting Professor)
1997–2000	University of Tennessee (Adjunct Professor)
Jan.–Jun. 1999	University of Tennessee (Visiting Professor)
2012–present	Pennsylvania State University (Professor Emeritus)
2016–present	Vanderbilt University (Research Professor)

Professional Activities:

Member of Phi Beta Kappa, 1965–present

Member of Association for Symbolic Logic, 1970–present

Member of American Mathematical Society, 1971–1990

Refereeing for various mathematical journals, 1971–present

Reviewing for *Mathematical Reviews*, etc., 1972–present

Co-editor of volume: *Harvey Friedman's Research in the Foundations of Mathematics*, North-Holland Studies in Logic Series, 1985.

Organizer of AMS Summer Research Conference "Applications of Mathematical Logic to Finite Combinatorics," held August 4–10, 1985 at Humboldt State University, Arcata, California

Member of Council, Association for Symbolic Logic, 1986–1989

Editor of volume: *Logic and Combinatorics*, Contemporary Mathematics, American Mathematical Society, 1987

Member of AMS/INS/SIAM Committee on Summer Research Conferences, 1987–1990

Member of Organizing Committee, 4th S.E. Asian Logic Conference, Tokyo, 1990

Chairman of Organizing Committee, spring meeting of the Association for Symbolic Logic (Penn State, April 7–8, 1990)

Member of Committee on Conferences, Association for Symbolic Logic, 1990–1992.

Associate Editor, *Mathematical Logic Quarterly*, 1992–2013.

Program Committee, Fifth International Workshop on Termination, Utrecht, May 20–21, 2001.

Editor of volume: *Reverse Mathematics 2001*, Association for Symbolic Logic, 2005, X + 401 pages.

Member of Program Committee, Annual Meeting, Association for Symbolic Logic, Montreal, May 17–21, 2006.

Member of Program Committee, Gödel Centennial Celebration, Association for Symbolic Logic, Montreal, May 2006.

Organizer, Special Session on Logic and Dynamical Systems, sponsored by the American Mathematical Society and the Association for Symbolic Logic as part of the Joint Mathematics Meetings, January 5–8, 2009, in Washington DC.

Co-editor, *Kurt Gödel: Essays for his Centennial*, a volume of papers in honor of Gödel's 100th birthday, published by the Association for Symbolic Logic and Cambridge University Press, 2010, VIII + 373 pages.

Member of organizing committee, Computability Theory and Foundations of Mathematics, Tokyo, February 17–20, 2014.

Co-chair of program committee, Computability Theory and Foundations of Mathematics, Tokyo, February 7–11, 2015.

Member of program committee, New Challenges in Reverse Mathematics, Singapore, January 3–16, 2016.

Attended 1-day conference for Simpson's 70th birthday, University of Connecticut, May 22, 2016.

Member of program committee, Computability Theory and Foundations of Mathematics, Singapore, September 8–12, 2017.

Invited Hour Addresses at International Meetings:

European Summer Meeting, Association for Symbolic Logic, Cambridge, England, 1971

Generalized Recursion Theory Symposium, Oslo, June 1972

Symposium in Mathematical Logic, Oslo, December 1974

European Summer Meeting, Association for Symbolic Logic, Clermont-Ferrand, France, July 1975

Spring Meeting, Association for Symbolic Logic, Chicago, April 1977

Symposium on Definability in Set Theory, Oberwolfach, West Germany, April 1977

Second Symposium on Generalized Recursion Theory, Oslo, June 1977 (short course of three lectures)

Spring Meeting, Association for Symbolic Logic, Houston, April 1978

Kleene Symposium, Madison, Wisconsin, June 1978

European Summer Meeting, Association for Symbolic Logic, Leeds, England, August 1979 (short course of two lectures)

Sixth International Congress for Logic, Methodology and Philosophy of Science, Hannover, West Germany, August 1979

Annual Meeting, Association for Symbolic Logic, New York, December 1979

European Summer Meeting, Association for Symbolic Logic, Prague, Czechoslovakia, August 1980

Logic Symposium, Patras, Greece, August 1980

Logic Meeting, M.I.T., April 1981

AMS Symposium on Recursion Theory, Cornell University, Ithaca, June–July 1972

Sixth Latin American Logic Symposium, Caracas, Venezuela (course of 10 lectures)

Mathematical Logic Week, Oberwolfach, January 1984

Recursion Theory Week, Oberwolfach, April 1984

European Summer Meeting, Association for Symbolic Logic, Manchester, England, July 1984

Spring Meeting, Association for Symbolic Logic, Chicago, April 1985

Symposium on Hilbert's Program Sixty Years Later, American Philosophical Association and Association for Symbolic Logic, Washington DC, December 1985

Symposium in Honor of Robin Gandy, Gregynog, Wales, September 1986

Workshop on Logic and Computer Science, Turin, Italy, October 1986

Logic Colloquium '87, Granada, Spain, July 1987

Mathematical Society of Japan, Kyoto, October 1987

Third Southeast Asian Logic Conference, Beijing, China, October 1987

Interdisciplinary Conference on Axiomatic Systems, Columbus, Ohio, December 15–18, 1988

Logic Colloquium '89, Berlin, July 1989

Conference on Set Theory and the Continuum Hypothesis, MSRI, Berkeley, October 1989.

Fourth Southeast Asian Logic Conference, Tokyo, September 1990.

Recursion Theory Conference, Oberwolfach, January 1996.

Feferman Symposium, Stanford University, December 1998.

Computability Theory and Applications, AMS Summer Conference, Boulder CO, June 1999.

New York City Logic Conference, November 1999.

Philosophy of Mathematics Workshop, CMU, December 8–9, 2000.

Conference on Berechenbarkeitstheorie ("Computability Theory"), Oberwolfach, Germany, January 21–27, 2001.

Special Session on Reverse Mathematics, ASL Annual Meeting, Philadelphia, March 10–13, 2001.

Conference on Hilbert's Problems Today, Pisa, Italy, April 5–7, 2001

Symposium on Reverse Mathematics and Computability Theory, ASL/APA Meeting, Minneapolis, May 3–5, 2001.

Special Session on Proof Theory, AMS Meeting, Columbus, September 21–23, 2001.

Annual Meeting, Association for Symbolic Logic, Las Vegas, June 1–4, 2002.

Special Session on Computability and Models, American Mathematical Society, Baltimore, January 15–18, 2003.

Summer School and Workshop on Proof Theory, Computation and Complexity, 5 lectures, Technical University of Dresden, June 23–27, 2003.

Mid-Atlantic Mathematical Logic Society, Long Island, NY, March 6, 2004.

Special Session on Computability Theory and Applications, American Mathematical Society, Evanston, October 24, 2004.

Special Session on Reverse Mathematics, AMS/ASL/MAA Joint Mathematics Meetings, Atlanta, January 7, 2005.

Computational Prospects of Infinity, Institute of Mathematical Sciences, National University of Singapore, June 20 – August 15, 2005, two invited 1-hour talks.

Workshop on Algorithmic Randomness, American Institute of Mathematics, Palo Alto, California, August 7–11, 2006.

Special Session on Computability Theory (in honor of Manuel Lerman's retirement), American Mathematical Society, Storrs, Connecticut, October 28–29, 2006.

Topics in Computability (in honor of Richard Shore's 60th birthday), Massachusetts Institute of Technology, January 21–22, 2007.

Special Session on Computability Theory, Association for Symbolic Logic, Gainesville, Florida, March 10–13, 2007.

Special Program in Proof Theory, Max Planck Institute for Mathematics, Bonn, Germany, March 1 – June 10, 2007.

Workshop on Algorithmic Randomness, University of Chicago, September 15–19, 2007.

Dynamical Systems Workshop, Pennsylvania State University, October 18–21, 2007.

Workshop in Mathematical Logic, Mathematical Institute, Tohoku University, Sendai, Japan, February 20–23, 2008.

Conference on Algorithmic Randomness, Nanjing University, Nanjing, China, May 19–23, 2008.

Conference on Proof Theory and Constructive Mathematics, Mathematical Research Institute, Oberwolfach, Germany, April 6–12, 2008.

Logic Colloquium 2008, Annual Summer Meeting, Association for Symbolic Logic, Bern, Switzerland, July 3–8, 2008.

Conference on Reverse Mathematics, Banff International Research Station for Mathematical Innovation and Discovery, Banff, Canada, December 7–12, 2008.

Special Session on Logic and Dynamical Systems, Washington DC, January 5–6, 2009.

15th Very Informal Gathering of Logicians (in honor of John Steel's 60th birthday), UCLA, January 30 – February 1, 2009.

Conference on Philosophy of Mathematics, New York University, April 3–5, 2009.

Workshop on Algorithmic Randomness, University of Wisconsin, May 27–31, 2009.

11th Asian Logic Conference (in honor of C.-T. Chong), National University of Singapore, June 22–29, 2009.

Reverse Mathematics: Foundations and Applications, University of Chicago, November 6–8, 2009.

Workshop on Algorithmic Randomness, University of Hawaii, January 4–8, 2010.

Conference on Dynamics and Computation, Centre International de Rencontres Mathématiques (CIRM), France, February 8–12, 2010.

Fifth International Conference on Logic, Computability and Randomness, held at Notre Dame University, May 24–28, 2010.

Workshop on Infinity and Truth, Institute of Mathematical Sciences, National University of Singapore, July 25–29, 2011.

Reverse Mathematics Workshop, University of Chicago, September 16–18, 2011.

Seventh International Conference on Computability, Complexity and Randomness, Isaac Newton Institute for Mathematical Sciences in Cambridge, England, July 2–6, 2012.

Computability Theory and Foundations of Mathematics, Tokyo Institute of Technology, February 18–20, 2013.

Sendai Logic School, Tohoku University, Japan, February 22–23, 2013.

Computability and Complexity in Discrete and Continuous Worlds, American Mathematical Society at Iowa State University, April 27–28, 2013.

Royal Society International Scientific Seminar, Computational Interpretations of Mathematical Theorems, Kavli Royal Society Centre, Milton Keynes, UK, November 25–26, 2013.

Computability Theory and Foundations of Mathematics, Tokyo Institute of Technology, February 17–20, 2014.

Computability, Complexity, and Randomness, Institute for Mathematical Sciences, National University of Singapore, June 9–13, 2014.

Online Logic Seminar, Moscow State University, October 29, 2014 (via Skype).

Conference on Proof Theory, Modal Logic and Reflection Principles, Instituto Tecnológico Autónomo de México (ITAM), Mexico City, September 29 – October 2, 2014.

Scholar of Consequence, Annual Logic Lecture, University of Connecticut Group in Philosophical and Mathematical Logic, April 1–4, 2015.

Workshop on Computability Theory, Bucharest, June 27–28, 2015.

Computability in Europe, Bucharest, June 29 - July 3, 2015 (3-hour tutorial).

Workshop on Reverse Mathematics, National University of Singapore, January 3–16, 2016.

Public Lecture, National University of Singapore, January 6, 2016.

Ordered Algebras and Logic, Vanderbilt University, February 6–7, 2016.

Algorithmic Randomness Interacts with Analysis and Ergodic Theory, Banff International Research Station, Casa Matemática Oaxaca, Mexico, December 4–9, 2016.

PhilMath Intersem 8, University of Paris 7, June 2–29, 2017.

Keynote address, Conference on Reverse Mathematics, University of Munich, October 9–13, 2017.

Conference on Axiomatic Thought, University of Lisbon, October 11–14, 2017.

Conference on Hermann Weyl's monograph *Das Kontinuum*, University of Leeds, September 11–14, 2018.

Workshop on Higher Recursion Theory, National University of Singapore, May 19–31, 2019.

Workshop on Reverse Mathematics and its Philosophy, University of Chicago Center in Paris, June 13–17, 2022.

AMS Special Session, Joint Mathematics Meetings, Boston MA, January 4–5, 2023.

Invited Talks at University Mathematics Departments:

Maryland, Berkeley, UCLA, Stanford, Texas, Penn State, Buffalo, Toronto, Manchester (England), Leeds (England), Cambridge (England), Oxford (England), Bedford College (U. of London, England), Cornell, Boston, Rockefeller, Connecticut, Chicago, M.I.T., Wisconsin, Paris (France), Lehigh, Bryn Mawr, McGill, Ohio State, Illinois at Champaign-Urbana, Yale, C.U.N.Y. Graduate Center, C.U.N.Y., Bowling Green, Duke, University of Florida, Florida State, I.V.I.C. (Caracas, Venezuela), Tübingen (Germany), Bielefeld (Germany), Munich (Germany), Utrecht (Netherlands), Münster (Germany), Hannover (Germany), Heidelberg (Germany), Berkeley, UCLA, Kobe (Japan), Nagoya (Japan), Kawai Institute (Japan), Tsukuba (Japan), Academia Sinica (Taiwan), Dickinson, Swarthmore, Torino (Italy), Notre Dame, Tennessee, National University of Singapore, University of Lisbon, Carnegie-Mellon, Notre Dame, University of Florida, University of Chicago, Maryland, Cornell, Moscow State (Russia, via Skype), Waseda (Japan), Vanderbilt, Louisiana State.

Invited Talks at Other University Departments:

Carnegie-Mellon (Computer Science, Philosophy), Columbia (Philosophy), University of Connecticut (Philosophy), Louisiana State (Philosophy). In addition Simpson has been active and given talks in the Mid-Atlantic Mathematical Logic Seminar (MAMLS), in the Logic Seminar, Computer Science Theory Seminar, and Mathematics Colloquium of the Pennsylvania State University, and in the Geometric Group Theory Seminar and the Universal Algebra and Logic Seminar at Vanderbilt University.

Publications:

(Abstracts and technical reports are not included.)

[1] Gerald E. Sacks and Stephen G. Simpson, The α-finite injury method, *Annals of Mathematical Logic*, **4**, 1972, pp. 343–367.

[2] Stephen G. Simpson, *Admissible Ordinals and Recursion Theory*, Ph. D. Thesis, Massachusetts Institute of Technology, 1971, 107 pages.

[3] Manuel Lerman and Stephen G. Simpson, Maximal sets in α-recursion theory, *Israel Journal of Mathematics*, **4**, 1973, pp. 236–247.

[4] Stephen G. Simpson, Degree theory on admissible ordinals, in: *Generalized Recursion Theory*, edited by J.-E. Fenstad and P. G. Hinman, North-Holland, Amsterdam, 1974, pp. 165–194.

[5] Stephen G. Simpson, Post's problem for admissible sets, in: *Generalized Recursion Theory*, edited by J.-E. Fenstad and P. G. Hinman, North-Holland, Amsterdam, 1974, pp. 437–441.

[6] Stephen G. Simpson, Minimal covers and hyperdegrees, *Transactions of the American Mathematical Society*, **209**, 1975, pp. 45–64.

[7] Carl G. Jockusch, Jr., and Stephen G. Simpson, A degree theoretic definition of the ramified analytical hierarchy, *Annals of Mathematical Logic*, **10**, 1976, pp. 1–32.

[8] Stephen G. Simpson, Forcing and models of arithmetic, *Proceedings of the American Mathematical Society*, **43**, 1974, pp. 193–194.

[9] Stephen G. Simpson, Notes on subsystems of analysis (informally distributed lecture notes), typewritten and mimeographed, Berkeley, 1973, 38 pages.

[10] Stephen G. Simpson, Degrees of unsolvability: a survey of results, in: *Handbook of Mathematical Logic*, edited by J. Barwise, North-Holland, Amsterdam, 1977, pp. 631–652.

[11] Stephen G. Simpson, Sets which do not have subsets of every higher degree, *Journal of Symbolic Logic*, **43**, l978, pp. 135–138.

[12] Stephen G. Simpson, Basis theorems and countable admissible ordinals, *Actes du Colloque de Logique de Clermont-Ferrand (July 1975)*, 1978, pp. 161–165.

[13] Stephen G. Simpson, First order theory of the degrees of recursive unsolvability, *Annals of Mathematics*, **105**, 1977, pp. 121–139.

[14] Stephen G. Simpson, Short course on admissible recursion theory, in: *Generalized Recursion Theory II*, edited by J.-E. Fenstad, R. O. Gandy and G. E. Sacks, North-Holland, Amsterdam, 1978, pp. 355–390.

[15] Karel Hrbaček and Stephen G. Simpson, On Kleene degrees of analytic sets, in: *Kleene Symposium*, edited by J. Barwise, H. J. Keisler and K. Kunen, North-Holland, Amsterdam, 1980, pp. 347–352.

[16] Stephen G. Simpson, The hierarchy based on the jump operator, in: *Kleene Symposium*, edited by J. Barwise, H. J. Keisler and K. Kunen, North-Holland, Amsterdam, 1980, pp. 267–276.

[17] Stephen G. Simpson, BQO theory and Fraïsse's Conjecture, Chapter 9 of: *Recursive Aspects of Descriptive Set Theory*, by R. B. Mansfield and G. Weitkamp, Oxford University Press, New York, 1985, pp. 124–138.

[18] Stephen G. Simpson, Four test problems in generalized recursion theory, in: *Proceedings of the Sixth International Congress on Logic, Methodology and Philosophy of Science*, North-Holland, Amsterdam, 1982, pp. 263–270.

[19] James Schmerl and Stephen G. Simpson, On the role of Ramsey quantifiers in first order arithmetic, *Journal of Symbolic Logic*, **47**, 1982, pp. 15–27.

[20] Harvey Friedman, Kenneth McAloon and Stephen G. Simpson, A finite combinatorial principle which is equivalent to the 1-consistency of predicative analysis, in: *Patras Logic Symposion*, edited by G. Metakides, North-Holland, Amsterdam, 1982, pp. 197–220.

[21] Alain Louveau and Stephen G. Simpson, A separable image theorem for Ramsey mappings, *Bulletin de la Académie Polonaise des Sciences, Série Mathematique*, **20**, 1982, pp. 105–108.

[22] Stephen G. Simpson and Galen Weitkamp, High and low Kleene degrees of coanalytic sets, *Journal of Symbolic Logic*, **47**, 1982, pp. 356–368.

[23] Stephen G. Simpson, Σ^1_1 and Π^1_1 transfinite induction, in: *Logic Colloquium '80*, edited by D. van Dalen, D. Lascar and J. Smiley, North-Holland, Amsterdam, 1982, pp. 239–253.

[24] Stephen G. Simpson, Set theoretic aspects of ATR_0, in: *Logic Colloquium '80*, edited by D. van Dalen, D. Lascar and J. Smiley, North-Holland, Amsterdam, 1982, pp. 255–271.

[25] Stephen G. Simpson, Which set existence axioms are needed to prove the Cauchy/Peano theorem of ordinary differential equations?, *Journal of Symbolic Logic*, **49**, 1984, pp. 783–802.

[26] Timothy J. Carlson and Stephen G. Simpson, A dual form of Ramsey's Theorem, *Advances in Mathematics*, **53**, 1984, pp. 265–290.

[27] Harvey Friedman, Stephen G. Simpson, and Rick Smith, Countable algebra and set existence axioms, *Annals of Pure and Applied Logic*, **25**, 1983, pp. 141–181; Addendum, **28**, 1985, pp. 320–321.

[28] Stephen G. Simpson, Reverse Mathematics, in: *Recursion Theory*, edited by A. Nerode and R. A. Shore, Proceedings of Symposia in Pure Mathematics, American Mathematical Society, Number 42, 1985, pp. 461–471.

[29] Stephen G. Simpson and Rick Smith, Factorization of polynomials and Σ^0_1 induction, *Annals of Pure and Applied Logic*, **31**, 1986, pp. 289–306.

[30] Stephen G. Simpson, Nichtbeweisbarkeit von gewissen kombinatorischen Eigenschaften endlicher Bäume, *Archiv für mathematische Logik und Grundlagen der Mathematik*, **25**, 1985, pp. 45–65.

[31] Stephen G. Simpson, Recursion theoretic aspects of the dual Ramsey theorem, in: *Recursion Theory Week, Oberwolfach, 1984, Proceedings*, edited by H.-D. Ebbinghaus, G. H. Müller and G. E. Sacks, Lecture Notes in Mathematics, Number 1141, Springer-Verlag, Heidelberg, 1986, pp. 356–371.

[32] Kurt Schütte and Stephen G. Simpson, Ein in der reinen Zahlentheorie unbeweisbarer Satz über endlichen Folgen von natürlichen Zahlen, *Archiv für mathematische Logik und Grundlagen der Mathematik*, **25**, 1985, pp. 75–89.

[33] Heinz-Jürgen Prömel, Stephen G. Simpson, and Bernd Voigt, A dual form of Erdős-Radó's canonization lemma, *Journal of Combinatorial Theory*, Series A, **42**, 1986, pp. 159–178.

[34] Stephen G. Simpson, Friedman's research on subsystems of second order arithmetic, in: [42], 1985, pp. 137–159.

[35] Stephen G. Simpson, Subsystems of Z_2 and Reverse Mathematics, appendix to: *Proof Theory*, second edition, by G. Takeuti, North-Holland, Amsterdam, 1987, pp. 432–446.

[36] Stephen G. Simpson, Nonprovability of certain combinatorial properties of finite trees (English translation of [30]), in: [42], 1985, pp. 87–117.

[37] Timothy J. Carlson and Stephen G. Simpson, Topological Ramsey Theory, in: *Mathematics of Ramsey Theory*, edited by J. Nesetřil and V. Rödl, Springer-Verlag, 1990, pp. 172–183.

[38] Douglas K. Brown and Stephen G. Simpson, Which set existence axioms are needed to prove the separable Hahn-Banach Theorem?, *Annals of Pure and Applied Logic*, **31**, 1986, pp. 123–144.

[39] Stephen G. Simpson, Partial realizations of Hilbert's Program, *Journal of Symbolic Logic*, **53**, 1988, pp. 349–363.

[40] Andreas Blass, Jeffry L. Hirst, and Stephen G. Simpson, Logical analysis of some theorems of combinatorics and topological dynamics, in: [43], pp. 125–156.

[41] Stephen G. Simpson, Unprovable theorems and fast-growing functions, in: [43], pp. 359–394.

[42] Leo Harrington, Michael Morley, Andre Ščedrov and Stephen G. Simpson (editors), *Harvey Friedman's Research in the Foundations of Mathematics*, North-Holland, Amsterdam, 1985, XVI + 408 pages.

[43] Stephen G. Simpson (editor), *Logic and Combinatorics*, Contemporary Mathematics, Number 65, American Mathematical Society, 1987, XI + 394 pages.

[44] Stephen G. Simpson, Ordinal numbers and the Hilbert Basis Theorem, *Journal of Symbolic Logic*, **53**, 1988, pp. 961–974.

[45] Kostas Hatzikiriakou and Stephen G. Simpson, Countable valued fields in weak subsystems of second order arithmetic, *Annals of Pure and Applied Logic*, **41**, 1989, pp. 27–32.

[46] Kostas Hatzikiriakou and Stephen G. Simpson, WKL_0 and orderings of countable Abelian groups, in: *Logic and Computation*, edited by W. Sieg, Contemporary Mathematics, Number 106, American Mathematical Society, 1990, pp. 177–180.

[47] Xiaokang Yu and Stephen G. Simpson, Measure theory and weak König's lemma, *Archive for Mathematical Logic*, **30**, 1990, pp. 171–180.

[48] Harvey Friedman, Stephen G. Simpson and Xiaokang Yu, Periodic points in subsystems of second order arithmetic, *Annals of Pure and Applied Logic*, **62**, 1993, pp. 51–64.

[49] Douglas K. Brown and Stephen G. Simpson, The Baire category theorem in weak subsytems of second order arithmetic, *Journal of Symbolic Logic*, **58**, 1993, pp. 557–578.

[50] Stephen G. Simpson, On the strength of König's duality theorem for countable bipartite graphs, *Journal of Symbolic Logic*, **59**, 1994, pp. 113–123.

[51] Ju Rao and Stephen G. Simpson, Reverse algebra, in: *Handbook of Recursive Mathematics*, edited by Yu. L. Ershov, S. S. Goncharov, A. Nerode, and J. B. Remmel, associate editor V. Marek, volume 2, *Recursive Algebra, Analysis, and Combinatorics*, Elsevier, 1998, pp. 1355–1372.

[52] A. James Humphreys and Stephen G. Simpson, Separable Banach space theory needs strong set existence axioms, *Transactions of the American Mathematical Society*, **348**, 1996, pp. 4231–4255.

[53] Douglas K. Brown, Mariagnese Giusto, Stephen G. Simpson, Vitali's theorem and WWKL, *Archive for Mathematical Logic*, **41**, 2002, pp. 191–206.

[54] Stephen G. Simpson, Finite and countable additivity, 8 pages, draft, November 1996; in preparation.

[55] A. James Humphreys and Stephen G. Simpson, Separation and weak König's lemma, *Journal of Symbolic Logic*, **64**, 1999, pp. 268–278.

[56] Mariagnese Giusto and Stephen G. Simpson, Located sets and reverse mathematics, *Journal of Symbolic Logic*, **65**, 2000, pp. 1451–1480.

[57] Stephen G. Simpson, *Subsystems of Second Order Arithmetic*, Perspectives in Mathematical Logic, Springer-Verlag, 1999, XIV + 445 pages.

[58] Stephen G. Simpson, Logic and mathematics, in: *The Examined Life, Readings from Western Philosophy from Plato to Kant*, edited by S. Rosen, Random House, 2000, XXVIII + 628 pages, pp. 577–605.

[59] Harvey Friedman and Stephen G. Simpson, Issues and problems in Reverse Mathematics, in: *Computability Theory and Its Applications: Current Trends and Open Problems*, edited by P. A. Cholak, S. Lempp, M. Lerman and R. A. Shore, Contemporary Mathematics, Number 257, American Mathematical Society, 2000, pp. 127–144.

[60] Stephen G. Simpson, Predicativity: the outer limits, in *Reflections on the Foundations of Mathematics: Essays in Honor of Solomon Feferman*, edited by W. Sieg, R. Sommer, and C. Talcott, Lecture Notes in Logic, Number 15, Association for Symbolic Logic, 2001, pp. 134–140.

[61] Stephen G. Simpson, Kazuyuki Tanaka, and Takeshi Yamazaki, Some conservation results on weak König's lemma, *Annals of Pure and Applied Logic*, **118**, 2002, pp. 87–114.

[62] Stephen G. Simpson, Π^0_1 sets and models of WKL_0, in: [64], 2005, pp. 352–378.

[63] Stephen G. Simpson, A symmetric β-model, 7 pages, preprint, May 2000, submitted for publication. See also http://arxiv.org/abs/1803.02336.

[64] Stephen G. Simpson (editor), *Reverse Mathematics 2001*, Lecture Notes in Logic, Number 21, Association for Symbolic Logic, 2005, X + 401 pages.

[65] Stephen Binns and Stephen G. Simpson, Embeddings into the Medvedev and Muchnik lattices of Π^0_1 classes, *Archive for Mathematical Logic*, **43**, 2004, pp. 399–414.

[66] Stephen G. Simpson, Mass problems and randomness, *Bulletin of Symbolic Logic*, **11**, 2005, pp. 1–27.

[67] Stephen G. Simpson and Theodore A. Slaman, Medvedev degrees of Π^0_1 subsets of 2^ω, 4 pages, draft, July 2001; in preparation.

[68] Carl Mummert and Stephen G. Simpson, An incompleteness theorem for β_n-models, *Journal of Symbolic Logic*, **69**, 2004, pp. 612–616.

[69] Natasha L. Dobrinen and Stephen G. Simpson, Almost everywhere domination, *Journal of Symbolic Logic*, **69**, 2004, pp. 914–922.

[70] Stephen G. Simpson, Mass problems, lecture notes from the Summer School and Workshop on Proof Theory, Computation and Complexity, held at the Technical University of Dresden, June 23 – July 4, 2003; preprint, 24 pages, 24 May 2004; submitted for publication.

[71] Stephen G. Simpson, An extension of the recursively enumerable Turing degrees, *Journal of the London Mathematical Society*, **75**, 2007, pp. 287–297.

[72] Carl Mummert and Stephen G. Simpson, Reverse mathematics and Π^1_2 comprehension, *Bulletin of Symbolic Logic*, **11**, 2005, pp. 526–533.

[73] Stephen G. Simpson, *Subsystems of Second Order Arithmetic, Second Edition*, Perspectives in Logic, Association for Symbolic Logic, 2009, XVI + 444 pages.

[74] Stephen G. Simpson, Some fundamental issues concerning degrees of unsolvability, in: *Computational Prospects of Infinity, Part II: Presented Talks*, edited by C.-T. Chong, Q. Feng, T. Slaman, H. Woodin, and Y. Yang, Number 15 in Lecture Notes Series, Institute for Mathematical Sciences, National University of Singapore, World Scientific, 2008, pp. 313–332.

[75] Stephen G. Simpson, Almost everywhere domination and superhighness, *Mathematical Logic Quarterly*, **53**, 2007, pp. 462–482.

[76] Stephen G. Simpson, Mass problems and almost everywhere domination, *Mathematical Logic Quarterly*, **53**, 2007, pp. 483–492.

[77] Joshua A. Cole and Stephen G. Simpson, Mass problems and hyperarithmeticity, *Journal of Mathematical Logic*, **7**, 2008, pp. 125–143.

[78] Stephen G. Simpson, Medvedev degrees of 2-dimensional subshifts of finite type, *Ergodic Theory and Dynamical Systems*, **34**, 2014, pp. 665–674, http://dx.doi.org/10.1017/etds.2012.152.

[79] Stephen G. Simpson, Mass problems and intuitionism, *Notre Dame Journal of Formal Logic*, **49**, 2008, pp. 127–136.

[80] Stephen G. Simpson, The Gödel hierarchy and reverse mathematics, in [81], 2010, pages 109–127.

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Ph.D. Theses Supervised:

1. John Steel, *Determinateness and Subsystems of Analysis*, Berkeley, 1977. (Steel is a tenured full professor at the University of California, Berkeley.)

   [Although Steel's official thesis advisor was Professor John Addison of Berkeley, the following is a quotation from the acknowledgements page of Steel's thesis. "I owe a great debt to Stephen Simpson, who guided me expertly in the perilous transition from study to research. The results of Chapters 1 and 2, together with less tangible aspects of my research, are a product of Simpson's influence." The thesis consists of three chapters.]

2. Rick L. Smith, *Theory of Profinite Groups with Effective Presentations*, Pennsylvania State University, 1979. (Smith is a tenured associate professor at the University of Florida.)

3. Galen Weitkamp, *Kleene Recursion over the Continuum*, Pennsylvania State University, 1980. (Weitkamp is a tenured full professor at Western Illinois University.)

4. Peter Pappas, *The Model Theoretic Structure of Group Rings*, Pennsylvania State University, 1982. (Pappas is a tenured full professor and former department head at Vassar College.)

5. Stephen H. Brackin, *On Ramsey-type Theorems and their Provability in Weak Formal Systems*, Pennsylvania State University, 1984. (Brackin is a mathematician at Odyssey Research Associates.)

6. Mark Stephen Legrand, *Coanalytic Sets in the Absence of Analytic Determinacy*, Pennsylvania State University, 1985. (Legrand is an assistant professor at Auburn University.)

7. Douglas K. Brown, *Functional Analysis in Weak Subsystems of Second Order Arithmetic*, Pennsylvania State University, 1987. (Brown is a tenured professor at Livingstone College in North Carolina.)

8. Jeffry L. Hirst, *Combinatorics in Subsystems of Second Order Arithmetic*, Pennsylvania State University, 1987. (Hirst is a tenured professor at Appalachian State University in North Carolina.)

9. Xiaokang Yu, *Measure Theory in Weak Subsystems of Second Order Arithmetic*, Pennsylvania State University, 1987. (Connie Yu is a tenured professor at the New Jersey City University.)

10. Fernando Ferreira, *Polynomial Time Computable Arithmetic and Conservative Extensions*, Pennsylvania State University, 1988. (Ferreira is a tenured professor at the University of Lisbon.)

11. Kostas Hatzikiriakou, *Commutative Algebra in Subsystems of Second Order Arithmetic*, Pennsylvania State University, 1989. (Hatzikiriakou is a tenured instructor at the University of Thessalia, Greece.)

12. Alberto Marcone, *Foundations of BQO Theory and Subsystems of Second Order Arithmetic*, Pennsylvania State University, 1992. (Marcone is a tenured professor at the University of Udine, Italy.)

13. A. James Humphreys, *On the Necessary Use of Strong Set Existence Axioms in Analysis and Functional Analysis*, Pennsylvania State University, 1996. (Humphreys is a tenured instructor at Seattle University.)

14. Mariagnese Giusto, *Topology, Analysis, and Reverse Mathematics*, University of Torino, 1998. (Giusto did a postdoc at Notre Dame University.)

15. Stephen Binns, *The Medvedev and Muchnik Lattices of* Π^0_1 *Classes*, Pennsylvania State University, 2003. (Binns is a professor at the University of Qatar.)

16. Carl Mummert, *On the Reverse Mathematics of General Topology*, Pennsylvania State University, 2005. (Mummert is a tenured professor at Marshall University.)

17. W. M. Phillip Hudelson, *Scaled Randomness and Kolmogorov Complexity*, Pennsylvania State University, 2013. (Hudelson is an associate at McKinsey Associates, Inc.)

18. Noopur Pathak, *Computable Aspects of Measure Theory*, Pennsylvania State University, 2013. (Pathak is employed by Ab Initio Software.)

19. Sankha S. Basu, *A Model of Intuitionistic Higher-Order Logic Based on the Turing Degrees*, Pennsylvania State University, 2013. (Basu is a professor at IIIT-Delhi, in India.)

20. Adrian Maler, *Effective Theory of Lévy and Feller Processes*, Pennsylvania State University, December 2015.

21. Hayden Jananthan, *Complexity and Avoidance*, Vanderbilt University, June 2021. (Jananthan is employed at the Lincoln Laboratories at MIT.)