Biography | Bernd Sturmfels

Bernd Sturmfels received doctoral degrees in 1987 from the University of Washington and the Technical University Darmstadt, and honorary doctorates from the universities of Frankfurt (2015) and Bern (2023). After postdoctoral years in Minneapolis and Linz, he taught at Cornell University, before joining UC Berkeley in 1995, where he served as Professor of Mathematics, Statistics and Computer Science. Since 2017 he is a director at the Max-Planck Institute for Mathematics in the Sciences, Leipzig. In 2018 he became Honarary Professor at Technical University Berlin and University of Leipzig. His awards include a David and Lucile Packard Fellowship, a Humboldt Senior Research Prize, the SIAM von Neumann Lecturership, the Sarlo Distinguished Mentoring Award, and the George David Birkhoff Prize in Applied Mathematics. He is a fellow of the AMS and SIAM, and a member of the Berlin-Brandenburg Academy of Sciences. In 2022 he spoke at the International Congress of Mathematicians. Sturmfels mentored 65 doctoral students and countless postdocs, and he authored 12 books and 310 research articles, in combinatorics, commutative algebra, algebraic geometry, and their applications to fields like statistics, optimization, computational biology, and fundamental physics.

Curriculum Vitae | Bernd Sturmfels

Personal Information:
Born: March 28, 1962, Kassel, Germany

Education:
Diplom TU Darmstadt, Germany, Mathematics and Computer Science, 1985
Dr.rer.nat. TU Darmstadt, Germany, Mathematics, 1987
Ph.D. University of Washington, Seattle, Mathematics, 1987

Positions Held:
1987-1988: Postdoctoral Fellow, IMA, University of Minnesota, Minneapolis
1988-1989: Assistant Professor, Research Institute for Symbolic Computation, Linz, Austria
1989-1991: Assistant Professor, Department of Mathematics, Cornell University
1992-1996: Associate Professor, Department of Mathematics, Cornell University
1994-1995: Visiting Scholar, Courant Institute, New York University
1995-2001: Professor, Department of Mathematics, University of California, Berkeley
1997-1998: Visiting Professor, RIMS, Kyoto University, Japan
2001-2008: Professor of Mathematics and Computer Science, UC Berkeley
2008-: Professor of Mathematics, Statistics and Computer Science, UC Berkeley
2017-: Director, Max-Planck Institute for Mathematics in the Sciences, Leipzig, Germany
2018-: Honorary Professor, Technical University Berlin
2018-: Honorary Professor, University of Leipzig

Academic Honors:
1983-1985: German National Scholarship Foundation Fellow [Studienstiftung]

1985-1986: German Academic Exchange Service Fellowship [DAAD]
1986-1987: Alfred P. Sloan Doctoral Dissertation Fellowship
1991-1993: Alfred P. Sloan Research Fellow
1992-1997: National Young Investigator (NSF)
1992-1997: David and Lucile Packard Fellowship
1999: Lester R. Ford Prize for Expository Writing (MAA)
2000-2001: Miller Research Professorship, UC Berkeley
Summer 2003: John von Neumann Professor, Technical University Munich
2003-2004: Hewlett-Packard Research Professor at MSRI Berkeley
July 2004: Clay Mathematics Institute Senior Scholar
2005-2007: MAA Polya Lecturer
2007-2008: Alexander von Humboldt Research Prize, TU Berlin.
2008-2010: Vice President of the American Mathematical Society (AMS)
2010: John von Neumann Lecture (SIAM)
2010: Carl B. Allendorfer Award (MAA)
2012: Sarlo Distinguished Graduate Student Mentoring Award (UC Berkeley)
2012: Earle Raymond Hedrick Lectures (MAA)
2012: Fellow of the American Mathematical Society (AMS)
2014: Fellow of the Society for Industrial and Applied Mathematics (SIAM)
2015: Honorary Doctoral Degree, Goethe-Universität Frankfurt
2015-2020: Einstein Visiting Fellow, TU Berlin
2018: George David Birkhoff Prize in Applied Mathematics
2018: Member of the Berlin-Brandenburg Academy of Sciences and Humanities
2022: Speaker at International Congress of Mathematicians
2023: Honorary Doctoral Degree, Universität Bern, Switzerland

Research Funding:
1990-2014: National Science Foundation, Program in Algebra, Number Theory and
Combinatorics
2005-2009: DARPA, "Fundamental Laws in Biology" program
2011-2012: DARPA, "Deep Learning" program
2014-2020: National Science Foundation, Program in Computational Mathematics
2021-...: German National Science Foundation (DFG)
2024-2030: European Research Council (ERC Synergy Grant)

Editorial Board Membership:
Former: ACM SIGSAM Bulletin, Advances in Applied Mathematics, Algebra and Number
Theory, Annals of Combinatorics, Annals of Mathematics, Journal of the American
Mathematical Society, Journal of Symbolic Computation, Applicable Algebra in Engineering
Communication and Computing, Applied Mathematics Research EXpress, Beitrage zur
Geometrie und Algebra, Duke Mathematical Journal, Experimental Mathematics,
Foundations of Computational Mathematics, Journal of the Korean Mathematical Society,
Order.

Current: SIAM Journal on Applied Algebra and Geometry (editor-in-chief), Collecteana
Mathematica, Discrete and Computational Geometry, Journal of Combinatorial Theory
Series A, Portugaliae Mathematica, Research in the Mathematical Sciences, Algorithms and
Computation in Mathematics (Springer Book Series).

Conferences and Special Programs Organized (selected):
May 1990: Algebraic Issues in Geometric Computation, DIMACS, Rutgers
July 1992: Computational Algebraic Geometry (Regional Geometry Institute), Amherst
October 1993: US-Italian workshop on Hilbert functions, Cornell
June 1996: Effective Methods in Algebraic Geometry (MEGA 96), Eindhoven, The
Netherlands
Fall 1998: Symbolic Computation in Geometry and Analysis, MSRI Berkeley

2002-2003: Commutative Algebra, MSRI Berkeley
October 2003: Amoebas and Tropical Geometry, AIM Palo Alto
December 2003: Computational Algebraic Statistics, AIM Palo Alto
July 2004: Geometric Combinatorics, Park City IAS Summer Program
November 2005: Algebraic Statistics and Computational Biology, Clay Mathematics
Institute, Cambridge
2006-2007: Applications of Algebraic Geometry, IMA Minneapolis
Fall 2009: Tropical Geometry, MSRI, Berkeley.
Fall 2010: Modern Trends in Optimization, IPAM, UCLA.
Spring 2011: Algebraic Geometry with a View Towards Applications, Mittag-Leffler Institute,
Sweden.
Summer 2014: Applied Algebraic Geometry, National Institute for Mathematical Sciences,
Daejeon, Korea
Fall 2014: Algorithms and Complexity in Algebraic Geometry, Simons Institute for Theory of
Computing

Plenary Lectures and Lecture Series (selected):
December 1999: Hypergeometric Functions, Ritt Lectures, Columbia University
February 2000: Computational Algebraic Geometry, AAAS Science Exposition, Washington
DC
July 2001: Multigraded Hilbert Schemes, Latin-American Algebra Congress, Cordoba,
Argentina
May 2002: Ten Lectures on Solving Polynomial Equations, CBMS Conference, Texas A&M
June 2003: From Phylogenetic Trees to Tropical Algebraic Geometry, MEGA 2003,
Kaiserslautern, Germany
September 2003: Tropical Algebraic Geometry, Western Algebraic Geometry Conference,
UBC, Vancouver
March 2004: Algebraic Geometry of Statistical Models, Gergen Memorial Lectures, Duke
University
May 2004: Tropical Geometry, 2004 Erdos Memorial Lecture, AMS-SMM Joint Meeting,
Houston, Texas
June 2004: SIAM Discrete Mathematics Conference, Nashville, Tennessee
October 2004: Tropical Geometry of Statistical Models, 42nd Annual Allerton Conference on
Communication, Control and Computing, Allerton, Illinois
January 2005: Algebraic Statistics, MAA-AMS Lecture at Joint Meetings, Atlanta
January 2005: Algebraic Statistics, Brandeis-Harvard-MIT-Northeastern Colloquium
February 2005: Divisional Speaker at Reed College, Portland
February 2005: Algebraic Statistics for Computational Biology, Five lectures at the Latin
American School on Polynomial Systems, Angra dos Reis, Brazil
March 2005: Magnus Lectures at Colorado State University, Fort Collins
May 2005: Tropical Geometry, Zurich Mathematical Colloquium, Zurich, Switzerland
June 2005: Foundations of Computational Mathematics Conference, Santander, Spain
May 2006: Kuwait Fund Lecture, Cambridge University, England
May 2007: MAA Distinguished Lecture, Carriage House Conference Center, Washington DC
November 2007: Lindhard Lecture, Aarhus University, Denmark
November 2008: Clifford Lectures, Tulane University, New Orleans
May 2009: Di Prima Memorial Lecture, Caltech, Pasadena
July 2009: Plenary Lecture at the Brazilian Mathematical Colloquium, IMPA, Rio De Janeiro
March 2010: Bullit Lecture, University of Louisville, Kentucky
February 2011: Swedish Royal Academy of Sciences Lecturer
June 2011: INdAM Lecturer, L'Aquila, Italy
October 2011: Kempf Memorial Lectures, Johns Hopkins University
October 2011: Michelson Lecture, Naval Academy, Annapolis
November 2011: Distinguished Lecture Series, U of Wisconsin
May 2012: Kemeny Lectures, Dartmouth College
August 2012: Hedrick Lectures, MAA MathFest, Madison, Wisconsin
January 2013: Rothschild Distinguished Lectures in Mathematics and Computer Science,
Haifa, Israel

May 2014: Distinguished Lecturer, Chinese Academy of Sciences, Beijing
March 2015: Distinguished Lecture Series, Texas Tech, Lubbock
April 2015: Wing Lectures, U of Rochester, New York
December 2015: Plancherel Lecture, U Fribourg, Switzerland
June 2016: Plenary AMS Lecture, SIAM Annual Meeting, Boston