

CURRICULUM VITAE

Bernard Chazelle

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Professional Experience

Princeton University

Professor, Department of Computer Science, 1989–
Associate Professor, Department of Computer Science, 1986–89

NEC Research Institute

Fellow, 1998–2003 (chairman of the board, 2000–)

Brown University

Assistant/Associate Professor, Department of Computer Science, 1982/1985

Visiting faculty at Ecole Polytechnique, Ecole normale supérieure, University of Paris, Carnegie-Mellon University, and INRIA.

Education

Ph.D., Computer Science, Yale University, 1980

Eng. Dipl. (Applied Math), Ecole des Mines de Paris, 1977

Honors

Best Paper Award, ACM-SIAM Symposium on Discrete Algorithms (2009)

Fellow, American Academy of Arts and Sciences (2004)

Fellow, World Innovation Foundation (2004)

Member, European Academy of Sciences (2002)

Fellow, Association for Computing Machinery (1995)

Guggenheim Fellow (1994)

Service Award, Association for Computing Machinery (1988)

Editorial Boards

Journal of the ACM (1996–2010)

SIAM Journal on Computing (1985–2010)

Algorithmica (1984–2009)

Discrete and Computational Geometry

International Journal of Computational Geometry & Applications

Computational Geometry: Theory and Applications (1990–2008)

ACM Transactions on Algorithms (2004–2008)

AMS Contemporary Mathematics Series

Foundations and Trends in Theoretical Computer Science

Geometry & Computing (Springer)

Chapman & Hall/CRC (Handbook & Series)

Journal of Algorithms (1989–2003)
ENTCS (1995–2000)
Journal of Computational Geometry
ACM XRDS

Program Committees

2nd AFCET-STACS (1984); 17th ACM STOC (1985); 2nd ACM SoCG (1986); ICPAM (1986); SIAM Annu. Meeting (CGS) (1987); 4th ACM SoCG (chair, 1988); 3rd ARIDAM (chair, 1988); 22nd ACM STOC (1990); 25th ACM STOC (1993); 9th ACM SoCG (1993); 8th ACM-SIAM SODA (1996); 2nd ACM WACG (1997); 13th ACM SoCG (1997); 2nd RANDOM (1998); 2nd ALENEX (2000); 7th COCOON (2001); 12th ACM-SIAM SODA (2001); 2nd FUN (2001); 42nd FOCS (2001); LATIN (2002); 43rd FOCS (PC Chair, 2002); 9th COCOON (2003); 7th RANDOM (2003); 29th MFCS (2004); 20th ACM SoCG (2004); 16th ACM-SIAM SODA (2005); 12th COCOON (2006); FAW (2007); 40th ACM STOC (2008); 2nd ICS (chair, 2011); 39th ICALP (2012).

Service (selected)

Chair, DIMACS Special Year (1989–90); Member, The Geometry Center, NSF S&T Center (1990–94); Co-Director, DIMACS (1996–1998); Chair, Computational Geometry Impact Task Force (1996); Member, Steering Committee, ACM Computational Geometry (1997); President, Program Evaluation Committee, INRIA (1997); Founder, PACT (1998); Member, ACIB Scientific Council (1999); President, Scientific Council, DI, Ecole normale supérieure, Paris (1999–); Member, Research Council, Ecole Polytechnique, France (2000–); Advisor, Japan Society for the Promotion of Science (2004); Member, Scientific Council, Institut Henri-Poincaré, Paris (2006–); Member, Board of Governors, IMA (2006–); Member, Scientific Committee, TGGT, Paris (2008); Chair Professor, ITCS, Tsinghua University (2008); Director, Center for Computational Intractability (2010–).

Keynote Addresses (since 1990)

FSTTCS New Delhi, India (Plenary Address, 2000); Duke Univ. (Distinguished Lecture Series, 2000); COCOON, Guilin, China (Plenary Address, 2001); Bourbaki Seminar, Paris (2001); New York Academy of Sciences (2002); Univ. Victoria, BC (Distinguished Lecture Series, 2002); Univ. Madison-Wisconsin (Distinguished Lecture Series, 2003); ESA, Budapest, Hungary (Plenary Address, 2003); SODA, New Orleans (Plenary Address, 2004); Univ. Illinois at Urbana-Champaign (Distinguished Lecture Series, 2004); Univ. Toronto (Distinguished Lecture Series, 2005); FOCS, Pittsburgh (Invited Tutorial, 2005); AAAS (Annual Meeting 2006); UT Dallas (Distinguished Lecture Series, 2006); EuroCG, Delphi, Greece (Plenary Address, 2006); DIKEMES, Athens, Greece (2006); Simon Fraser Univ. (Distinguished Lecture Series, 2006); Morgenstern Lecture Series (2006); ETH Informatik's 25th Anniversary, Zurich (Plenary Address, 2006); North Carolina State Univ. (Interdisc. Distinguished Lecture Series, 2006); Univ. Michigan (Distinguished Lecture Series, 2007); EuroCG, Graz, Austria (Plenary Address, 2007); 34th ICALP, Wroclaw, Poland (Plenary Address, 2007); Norway Research Council Conference (Plenary Address, 2007); Stony Brook Univ. (Distinguished Lecture Series, 2007); Univ. Washington (Distinguished Lecture Series, 2008); Birzeit University (Distinguished Lecture, 2008); Univ. Buffalo SUNY (Distinguished Lecture Series, 2008); 5th TAMC 2008, Xi'an, China (Plenary Address, 2008); 1st China Symp. TCS, Tsinghua Univ., China (Plenary Address, 2008); Bryn Mawr College (Distinguished Lecture Series, 2009); Univs. Auckland; Canterbury; Otago; Wellington, New Zealand (Distinguished Lectures, 2009); CMU, Gaschnig-Oakley Memorial Lecture (Distinguished Lecture Series, 2009);

Drexel Univ. (Distinguished Lecture, 2009); MIT, Dertouzos Lecture (Distinguished Lecture Series, 2010); Univ. Pittsburgh, Bayer Lecture (Distinguished Lecture Series, 2011); Dartmouth Univ., CSRS (Keynote Address 2011).

Twenty Selected Publications

- The Discrepancy Method: Randomness and Complexity, *Cambridge University Press*, 2000; paperback version, 2001.
- Fractional Cascading: I. A Data Structuring Technique, II. Applications, (with L.J. Guibas), *Algorithmica* 1 (1986), 133–191.
- Filtering Search: A New Approach to Query-Answering, *SIAM J. Comput.* 15 (1986), 703–724.
- Lower Bounds on the Complexity of Polytope Range Searching, *J. AMS* 2 (1989), 637–666.
- A Deterministic View of Random Sampling and Its Use in Geometry, (with J. Friedman), *Combinatorica* 10 (1990), 229–249.
- Lower Bounds for Orthogonal Range Searching: I. The Reporting Case, II. The Arithmetic Model, *J. ACM* 37 (1990), 200–212, 439–463.
- Triangulating a Simple Polygon in Linear Time, *Disc. Comput. Geom.* 6 (1991), 485–524.
- An Optimal Algorithm for Intersecting Line Segments in the Plane, (with H. Edelsbrunner), *J. ACM* 39 (1992), 1–54.
- An Optimal Algorithm for Intersecting Three-Dimensional Convex Polyhedra, *SIAM J. Computing* 21 (1992), 671–696.
- Cutting Hyperplanes for Divide-and-Conquer, *Disc. Comput. Geom.* 9 (1993), 145–158.
- An Optimal Convex Hull Algorithm in Any Fixed Dimension, *Disc. Comput. Geom.* 10 (1993), 377–409.
- On Linear-Time Deterministic Algorithms for Optimization Problems in Fixed Dimension, (with J. Matoušek), *J. Algorithms* 21 (1996), 579–597.
- Lines in Space: Combinatorics and Algorithms, (with H. Edelsbrunner, L.J. Guibas, M. Sharir, J. Stolfi), *Algorithmica* 15 (1996), 428–447.
- Lower Bounds for Off-Line Range Searching, *Disc. Comput. Geom.* 17 (1997), 53–65.
- A Spectral Approach to Lower Bounds with Applications to Geometric Searching, *SIAM J. Comput.* 27 (1998), 545–556.
- A Minimum Spanning Tree Algorithm with Inverse-Ackermann Type Complexity, *J. ACM* 47 (2000), 1028–1047.
- Lower Bounds for Linear Degeneracy Testing, (with N. Ailon), *J. ACM* 52 (2005), 157–171.
- The Fast Johnson-Lindenstrauss Transform and Approximate Nearest Neighbors, (with N. Ailon), *SIAM J. Comput.*, 39 (2009), 302–322.
- Self-Improving Algorithms, (with N. Ailon, K. Clarkson, D. Liu, W. Mulzer, C. Seshadhri), *SIAM J. Comput.*, 40 (2011), 350–375.
- The Total s -Energy of a Multiagent System, *SIAM J. Control and Optim.*, 49 (2011), 1680–1706.