

# CURRICULUM VITAE

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**Bernard Chazelle**

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## Professional Experience

Princeton University

Professor, Department of Computer Science, 1989–

Associate Professor, Department of Computer Science, 1986–89

Institute for Advanced Study, Princeton

Member, School of Natural Sciences, 2013–15

Collège de France

Professor, Computer Science Chair, 2012–13

NEC Research Institute

Fellow, 1998–2003 (chairman of the board, 2000–03)

Other positions

ENS Ulm, Ecole Polytechnique, University of Paris, Brown University, CMU,

DEC SRC, Xerox PARC, INRIA

## Education

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

Diploma (Applied Math), Mines ParisTech, France, 1977

## Honors

Test-of-Time Award, European Symposia on Algorithms (2018)

Best SICON Paper Prize, SIAM Control and Systems Theory (2013)

SIAM Outstanding Paper Prize (2012)

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)

## Representative Publications

- Iterated learning in dynamic social networks, (with C. Wang), *J. Machine Learning Research* 20 (2019) 1–28.
- A sharp bound on the  $s$ -energy and its applications to averaging systems, *IEEE Trans. Automatic Control* 64 (2019), 4385–4390.
- Well-posedness of the limiting equation of a noisy consensus model in opinion dynamics, (with Q. Jiu, Q. Li, C. Wang), *J. Differential Equations* 263 (2017), 365–397.
- Noisy Hegselmann-Krause systems: phase transition and the  $2R$ -conjecture, (with C. Wang, Q. Li, Weinan E), *J. Statistical Physics* 166 (2017), 1209–1225.
- Inertial Hegselmann-Krause systems, (with C. Wang), *IEEE Trans. Automatic Control* 62 (2017), 3905–3913.
- Diffusive influence systems, *SIAM J. Comput.* 44 (2015), 1403–1442.
- An algorithmic approach to collective behavior, *J. Statistical Physics* 158 (2015), 514–548.
- Algorithmic renormalization for network dynamics, *IEEE Trans. Network Science and Engineering* 2 (2015), 1–16.
- The Convergence of bird flocking, *J. ACM* 61 (2014), 21:1–35.
- The total  $s$ -energy of a multiagent system, *SIAM J. Control Optim.* 49 (2011), 1680–1706.
- Self-improving algorithms, (with N. Ailon, K. Clarkson, D. Liu, W. Mulzer, C. Seshadhri), *SIAM J. Comput.* 40 (2011), 350–375.
- The fast Johnson-Lindenstrauss transform and approximate nearest neighbors, (with N. Ailon), *SIAM J. Comput.*, 39 (2009), 302–322.
- Shape distributions, (with R. Osada, T. Funkhouser, D.P. Dobkin), *ACM Trans. Graphics* 21 (2002), 807–832.
- A minimum spanning tree algorithm with inverse-Ackermann type complexity, *J. ACM* 47 (2000), 1028–1047.
- The Discrepancy Method: Randomness and Complexity, *Cambridge University Press*, 2000; paperback version, 2001.
- Cutting hyperplanes for divide-and-conquer, *Discrete Comput. Geom.* 9 (1993), 145–158.
- On linear-time deterministic algorithms for optimization problems in fixed dimension, (with J. Matoušek), *J. Algorithms* 21 (1996), 579–597.
- An optimal convex hull algorithm in any fixed dimension, *Disc. Comput. Geom.* 10 (1993), 377–409.
- An optimal algorithm for intersecting three-dimensional convex polyhedra, *SIAM J. Computing* 21 (1992), 671–696.
- An optimal algorithm for intersecting line segments in the plane, (with H. Edelsbrunner), *J. ACM* 39 (1992), 1–54.
- Triangulating a simple polygon in linear time, *Disc. Comput. Geom.* 6 (1991), 485–524.
- Fractional cascading: I. A data structuring technique, II. Applications, (with L.J. Guibas), *Algorithmica* 1 (1986), 133–191.

(All publications at <https://www.cs.princeton.edu/~chazelle/pubs.html>)