

Djalil CHAFAÏ – Brief CV

Birth: Mid-June 1973. Country of residence: France. Email: djalil@chafai.net
General scientific profile: mostly mathematician, amateur of physics and of computer science.
Domains of expertise: probability theory, mathematical analysis, statistical physics.

Academic positions

- 2021 – Professor of mathematics, École Normale Supérieure – PSL (DMA)
- 2013 – Professor of mathematics, Université Paris-Dauphine – PSL (CEREMADE/MIDO)
- 2011 – 2017 Part time professor of mathematics, École Polytechnique (CMAP)
- 2009 – 2013 Professor of mathematics, Université Paris-Est Marne-la-Vallée (LAMA)
- 2003 – 2009 Junior Research Associate, Institut National de la Recherche Agronomique (INRA)
- 2002 – 2003 Postdoctoral researcher MathFIT/EP SRC/LMS, University of Oxford (leader: Terry Lyons)

Other experiences

- 1999 – 2000 National service, Météo-France Research Center
Research Engineer in the IASI satellite data assimilation team (leader: Florence Rabier)

Education

- 2008 Habilitation à Diriger des Recherches, Université de Toulouse (mentor: Dominique Bakry)
- 2002 Doctorate in Mathematics, Université de Toulouse (advisor: Michel Ledoux)
- 1997 Master of Applied Mathematics (DEA), Université de Toulouse
- 1996 Agrégation de mathématiques

Awards

- 2012 – 2017 Junior member of Institut Universitaire de France (IUF)
- 2012 Prix de Mathématiques Maurice Audin

Exceptional service to the community

- 2021 – 2025 Responsable scientifique du Réseau National des Bibliothèques de Mathématiques (RNBM)
- 2017 – 2020 Vice-president of Université Paris-Dauphine in charge of digital strategy
- 2012 – 2015 Managing and Production Editor for the academic journals EJP and ECP
- 2012 – 2013 Director of Université Paris-Est Doctoral School on Mathematics and Information Technology

Additional editorial tasks

- 2012 – 2020 Associate Editor of EJP & ECP (IMS & Bernoulli Society Journals)
- 2012 – 2019 Co-Editor in Chief of ESAIM Proceeding and Surveys (SMAI journal)
Together with Pauline Lafitte, Tony Lelièvre, Clément Mouhot then Cyril Imbert

Research interests (up to now)

- Markov processes/semigroups, their equilibrium/geometry
- Sobolev type inequalities and partial differential equations
- Poisson and Gauss measures, heat kernels, limit theorems
- Stochastic models and stochastic inverse problems:
 - Mathematical Biology (pharmacology, biostatistics)
 - Mathematical Physics (spin systems, statistical mechanics)
 - Computer Science (data streams processing, queuing)
 - Earth Science (variational assimilation in meteorology)
- Geometric functional analysis, concentration, convexity, isoperimetry
- Random matrices, random graphs, and high dimensional phenomena
- Boltzmann-Shannon and Voiculescu entropies, information theory
- Random structures and algorithms, stochastic simulation

Scientific activity

- Profiles: HAL zbMATH MathSciNet GoogleScholar arXiv ORCID Semantic Scholar
- Numbers: 40+ articles, 3+ research books, 3+ teaching books.
- Co-organized conferences include Hong Kong, Paris, Kyoto, New York
- Former PhD students include Bertrand Cloez, Raphaël Butez, David García-Zelada.

Favorite theorem (arXiv:2012.05602)

If M is a square random matrix with independent and identically distributed entries of zero mean and unit variance then, in high dimension, its spectral radius is equivalent to the square root of the dimension.