

CURRICULUM VITAE

Gérard BEN AROUS
Born on 26/6/1957

Education

1978 : BS (Maitrise), Mathematics, Ecole Normale Supérieure (Paris)
1979 : MSc in Statistics (DEA), University Paris 11-Orsay
1980 : MSc in Mathematics (DEA), University Paris 6
1981 : PhD Mathematics (Paris 7), advisor Robert Azencott
1982-83 : Postdoc at the University of Colorado (Boulder) invited by D.W.Stroock.
1987 : "Thèse d'Etat" (Paris 7)

Academic positions

1981-86 : "Agrégé préparateur" at Ecole Normale Supérieure (Paris)
1987-88 "Maître de conférences" at Ecole Normale Supérieure
1988-94 : Professor at the University of Paris Sud(Orsay)
1992-94 : Director of the Laboratory of Mathematics of University of Paris Sud(Orsay),
1994-97 : Professor and Director of the Department of Mathematics and Computer Sciences of Ecole Normale Supérieure (Paris)
1997-07: Ordinary (Full) Professor at Ecole Polytechnique Fédérale de Lausanne (Swiss Federal Institute of Technology), Chair of Applied Probability
2002- Professor of Mathematics, Courant Institute of Mathematical Sciences, New York University

Honors and distinctions

- Rollo Davison prize (Imperial college) in 1993 for my work on large deviations and on Stochastic Taylor formula.
- Montyon prize of the French Academy of Sciences in November 96.
- Invitation as one of the ten plenary speakers at the 2nd ECM (European Congress of Mathematics) in Budapest , July 1996.
- Lady Davis Senior Fellow (Israel (October 2000))
- Invited speaker at ICM 2002 (Peking)
- Elected Member of the International Statistical Institute (2004)

Research Interests:

Probability theory, stochastic analysis, large deviations, hypoelliptic operators and heat kernels, subriemannian geometry, non equilibrium statistical mechanics, dynamics of spin glasses, transport and diffusion in random media, aging, homogenisation, random spectra.

Managerial experience:

- Director of the Laboratory of Mathematics of Orsay from 1992 to 1994
- Director of the Department of Mathematics and Computer Science of Ecole Normale Supérieure from 1994 to 1997
- Founded the Bernoulli Institute at EPFL in 2001
- Chairman of the Appointment and Tenure Committee, Courant Institute, 2003-2005

Editorial boards :

I am an associate editor of:

- Communications in Pure and Applied Mathematics
- Annales de l' Institut Henri Poincaré
- Mathematical Physics, Analysis and Geometry
- Journal of Theoretical Probability

I have been one of the Main editors of JEMS, Journal of the European Mathematical Society.

I have been an associate editor of :

- Annals of Probability
- « Astérisque » (Société Mathématique de France)
- Infinite Dimensional Analysis, Quantum Probability and related topics
- ESAIM, Probability and Statistics, the electronic review of SMAI.

Advisory boards:

- Member of the Scientific Board of AIM (American Institute of Mathematics)
- Member (including chair) of appointment committees for various institutions including NYU, EPFL, ETH Zurich, Oxford, Ecole Normale Supérieure and the Universities of Paris 11, Paris 7 and Paris 13.
- Member Graduate Studies Committee, Courant 2003-05
- (Elected) Member Library Liaison Committee, NYU, 2004-05
- Member of the Tenure-Track Committee of EPFL
- Member of the Scientific Board of Institut Emile Borel (Institut Henri Poincaré, Paris)
- Member of the Scientific Board of the CIRM (Centre International de Rencontres Mathématiques (Marseille))
- Member of the Scientific Committee of the European Congress of Mathematics, Stockholm 2004
- Member of the Special Invited Lectures Committee for the IMS, 2003-04
- Member of the Scientific committee "Complex Systems modelling" of the CNRS program « Quantitative Ecology »
- Member of the Scientific Board of FRUMAM (Federation of math. depts in Marseille region)
- Expert for the french Ministry of Research for various programs.
- Grant referee for NSF (USA) or ISF (Israel), or the Dutch equivalent.
- Member of the Scientific Program Committee of the St-Flour Probability summer school.
- Member of various Audit Committees (including Laboratory of Probability of Lyon 2005, Paris 6, 1997, CNRS; Laboratory of Mathematics of Paris 13, 1998)
- Organization of various CNRS programs : "stochastic algorithms", Mathematical Structures of life.
- President of the audit committee of the Laboratory of Mathematics of Paris 13, 1998.
- Elected member of the (French) National Council for the Universities, section "Applied Mathematics and applications of Mathematics", for 4 years from 92 to 95
- Member of the scientific council of the SMF for the symposiums "L'état de la recherche" until 1995

Organization of international conferences (last ten years)

- Scientific Committee for the conference "Trees" at the University of Versailles in June 95.
- Scientific Committee for the symposium in the memory of Albert Badrikian at Clermont Ferrand in September 1995.
- Organization of the tri-annual conference: "Stochastic Analysis" at Oberwolfach in October 1996 with A.Sznitman and JD.Deuschel.
- Co-organisation of the special semester, in Spring 98, at Institut Henri Poincaré on "Logsobolev inequalities, statistical mechanics and large deviations " (with F.Comets, L.Gross, D.Stroock, L.Saloff-Coste).
- Organization of the conference "Stochastic Analysis" with A. Sznitman and J. D. Deuschel, Oberwolfach, November 1999.
- Co-organization of a congress on Monte-Carlo methods (with Talay, Lions, Pardoux, Le Gall, Sznitman), Monte-Carlo July 2000.
- Co-organization of the workshop: Mathematics and Biology, 27-28 May 2000, ENS Paris.
- Co-organistaion with D.Genske of the Workshop "Migration of contaminants in fractured media", EPFL,Lausanne, September 2000.
- Organization of a winter school on Random matrices, March 2001, Diablerets, in the "3eme cycle romand".
- Organization of the probability session of the first joint AMS-SMF meeting, July 2001, Lyon (with G.Papanicolaou(Stanford))
- Organisation of a workshop on "Aging in random media" Oberwolfach, August 2001 (with A.Bovier, V:Gayrard)
- Organization of the Forum Diderot of the European Mathematical Society, on the mathematics of telecommunications, November 2001 (Lausanne, Eindhoven, Helsinki)
- Organization of a Session of the IMS Meeting July 02, Banff, on Random Media.
- Organization of the conference "Stochastic Analysis", Oberwolfach, November 2002 (with O.Zeitouni (Haifa) and JD Deuschel (Berlin)).
- Organization of one of the sessions (Path intergals and Stochastic Analysis, with S.Albeverio) of the 14th International Congress on Mathematical Physics, Lisbonne July 2003
- Member of the Scientific Committee of the European Congress of Mathematics, Stockholm 2004
- Member of the Program Committee of the World Bernoulli Congress, Barcelona 2004
- Organization with Jay Rosen and Daniel Ocone of the Northeast Probability Seminar, New York, November 2004, November 2005 and November 2007.
- Scientific Board of the conference "stochastic Analysis in Mathematical Physics", Lisbon September 2006 (Satellite conference of ICM 2006)
- Organization of a semester in Bonn on "Complex Stochastic Systems" with S.Albeverio, J.Chayes,M.Ledoux. Organization of two workshops (Random matrices and Particle Systems)

- Organization of a conference on Spin Glasses in CRM Montreal, with E.Bolthausen, M.Mezard, D.Stein

Supervision of PhD theses

- Thesis of Marc BRUNAUD (former student of ENS , St Cloud) on “Mean Field Interacting Diffusions”, December 1989. Marc Brunaud is Maitre de Conferences at the University Paris 7
- Thesis of Fabienne CASTELL (former student of ENS), on “Stochastic Flows”, January 1992. Fabienne Castell is Professeur at the University of Marseilles.
- Thesis of Alice GUIONNET (former student of the ENS) on “Dynamics of spin glasses”. March 1995. Alice Guionnet is a “Directeur de Recherches” at CNRS in ENS-Lyon. Alice GUIONNET has won the Oberwolfach prize in November 1999. This prestigious prize was awarded for the first time to a probabilist. She has also been awarded the Rollo Davison prize.
- Thesis of Mihai GRADINARU on “Singularity of hypoelliptic Green functions near the diagonal ». June 95 . M. Gradinaru is “Maître de Conferences” in Nancy.
- Without having been the administrative supervisor, I have led the scientific part of the thesis of Raphael CERF (former student of the ENS) on “Large deviations for Genetic algorithms”. Raphael CERF is now professor at the University of Paris 11. Raphael CERF has received the Institut Henri Poincaré prize for his work on genetic algorithms; he has received the Rollo Davison prize and the young european scientist prize (at ECM 2000) for his work on Wulff construction for percolation in 3 dimensions.
- Thesis of H. OWHADI (Former student of Ecole Polytechnique de Paris) on “Anomalous diffusion from multiscale homogenisation”. EPFL, January 2001. H.Owhadi is now Chargé de Recherche at CNRS, in Marseille, after a postdoc stay in Haifa. This thesis was funded by Corps des Ponts. Houman Owhadi is a tenure track assistant professor at Caltech.
- Thesis of M.SORTAIS (former student of EPFL) on “Large deviations for disordered lattice models dynamics”. October 2001. Michel SORTAIS is now a postdoc in Postdam. This thesis was funded by a FNRS Grant. “Dynamics of Spin Glasses”
- Thesis of J.B BARDET (ENS-Lyon) on « Large deviations for coupled map lattices », EPFL October 2002. JB Bardet is a Maitre de Conferences at the University of Rennes.
- Thesis of Jiri CERNY, “Some properties of Strongly disorderer systems”, EPFL January 2003. Jiri Cerny is a postdoc at EPFL.
- Thesis of Sandrine PECHE (ENS Cachan), “Universality of local eigenvalue statistics for random sample covariance matrices”, January 2003, EPFL. Sandrine PECHE is now a Maitre de Conference at Grenoble University and a visiting professor at UC Davis for the year 2006-07.
- Thesis of Roman ROYFMAN (Courant Institute), Trap models in dimension1, in progress
- Thesis of Alexey KUPTSOV (Courant Institute), REM universality for spin glasses, in progress
- Thesis of Carlos Antonio AUFFINGER (EPFL), Heavy Tailed Random Matrices, in progress

Industrial Research and Contracts

- EDF : (Electricité de France)
“Conception of a new method of state-reduction for the management of a hydroelectric complex valley with many coupled reservoirs, in random environment” with Fabienne Castell.
Contract for Electricité de France, number R35/1E8063
- BRGM : (French Bureau for Geology and Mines)
"Modelling of hydraulic flows in complex fractured media »
- ELF (Oil Company): "Audit of an advection method for the computation of surface currents using thermography" with Michel Balabane (Paris 13)
- PEUGEOT SA (Car maker) : "Emission quality control for engine production ", with Alain Trouvé (ENS)
- CEA : Commissariat à l’Energie Atomique, Saclay
"Modelling of diffusion of toxic radioactive waste in clay and high-performance concrete"
- ANDRA : (French National Agency for Nuclear Waste Management) "Modelling of diffusion of radionuclides in zeolithe-doped clays" with Michel Renard,
- CEA : « Fracturation of Concrete at High Temperature», with D.Langevin (CNRS Orsay)

