Curriculum vitae

Born April 16, 1958 in Paris, France.

Education

1976	Baccalauréat C, Paris.
1976-78	Mathématiques supérieures et spéciales, Paris.
1978-80	Maîtrise de Mathématiques Pures, Université Paris VI.
1981	Agrégation de Mathématiques.
1983	Thèse de 3ème cycle supervised by N. Varopoulos, Université Paris VI: "Opérateurs pseudo-différentiels sur un corps local".
1989	Doctorat d'État, Université Paris VI: "Analyse harmonique et analyse réelle sur les groupes".

Academic Positions

1981-85	Professeur agrégé (High school teacher).
1985-88	Professeur agrégé at Université Paris VI (Lecturer).
1988-1993	Chargé de recherche, C.N.R.S., at Université Paris VI.
1990-91	Visiting scholar, Massachusetts Institute of Technology, joint fellowship from N.S.F. and C.N.R.S..
1993-2005	Directeur de recherche, C.N.R.S., at Université Paul Sabatier, Toulouse, France.
1998—	Professor of Mathematics, Cornell University, NY, USA.
2009-2015	Chair, Department of Mathematics, Cornell University, NY, USA.
2017—	Abram R. Bullis Professor of Mathematics, Cornell University, NY, USA.

Awards and distinctions

Rollo Davidson Award, 1994
Guggenheim Fellow, 2006-07
Fellow of the Institute of Mathematical Statistics (2011)
Fellow of the American Academy of Arts and Sciences (2011)
Fellow of the American Mathematical Society (2012-inaugural class)

External funding

1995–1997 Principal investigator, NATO Collaborative Research Grant 950686 ($8000), Analysis and Geometry of Finite Markov Chains (with Persi Diaconis).
1997–1998 Renewal of Nato Collaborative Research Grant 950686 ($5500)
1999-2001 NSF Grant DMS-9802855, Analysis and geometry of certain Markov chains and processes.
2001-2006 NSF Grant DMS-0102126, Analysis and geometry of Markov chains and diffusion processes.
2003-2008 NSF Infrastructure Grant 0306194 (Co-PI). Graduate and Postdoctoral Training in Probability Theory and its Applications.
2006-2009 NSF Grant DMS-0603886 Markov Processes in Geometric Environments.
2008-2016 NSF Grant EMSW21-RTG 0739164 (Co-PI; PI starting in July 2010). Interdisciplinary Training in the Applications of Probability.
2009-2010 NSF Grant DMS-085587 Travel Grant US Participants, SPA Berlin 2009, 33rd Conference on Stochastic Processes and their Applications.
2010-2014 NSF Grant DMS-1004771 Heat kernel estimates and applications.
2013-2014 NSF Grant DMS-1344959 US participant support for the Institute Henri Poincar program "Random Walks and the Asymptotic Geometry of Groups".
2014-2017 NSF Grant DMS-1404435 Random walks, diffusions, semigroups, and associated geometries.
2014-2017 NSF Grant DMS-1406599 Asymptotically Efficient and Efficiently Computable Bayesian Estimation (Former PI: Dawn Woodard, ORIE; Current PI: Laurent Saloff-Coste; Co-PI: Pierre Patie, ORIE; Former PI left academia).
2017-2021 NSF Grant DMS-1645643 Research Training Group: Dynamics, Probability, and Partial Differential Equations in Pure and Applied Mathematics; PI: Steve Strogatz; Co-PIs: T. Healey, L. Saloff-Coste, G. Samorodnitsky, A. Vladimirsky.
2017-2020 NSF Grant DMS- Random walks and diffusions, and their geometries.

Visiting Positions

-Visiting scholar, Massachusetts Institute of Technology (MIT). October 1988—January 1989 and October 1989—January 1990. These visits were financed by MIT, the NSF and the CNRS.
-Invited Professor, Wrocław University, Poland. November—December 1991. Financed by the European program TEMPUS.
I-nvited Professor, The Flinders University, Adelaïde and University of New South Wales, Sydney, Australia. March—April 1992.
-Visiting scholar, Stanford University August 1992.
-Invited Professor, Rome and Milan Universities, Italy. April-May 1994. Financed by the C.N.R., Italy.
-Visiting scholar, Stanford University July 1994.
-Visiting scholar, Stanford University, and MSRI, Berkeley. July-August 1995. Organizer and main speaker with Persi Diaconis of MSRI summer graduate program: Random Walk and Geometry.
-Invited Professor, Saint Flour 1996 Summer School in Probability.
Visiting scholar, Cornell University, October 1997.
-Visiting Professor, Centre Emile Borel, Heat kernel trimester, Spring 2002.
-Visiting Professor, Graz Technical University, January 2003.
-Visiting Scholar, RIMS-Kyoto University, June-July 2003.
-Visiting Professor, Université Paris XI (Orsay), June-July 2008.

Editorial Activities

1994–2000 Associate Editor, The Annals of Probability.
1996–2001 Associate Editor, Annales de la faculté des sciences de Toulouse.
1999–2005 Associate Editor, Stochastic Processes and their Applications.
2001–2005 Associate Editor, ESAIM: Probability and Statistics.
2001–2011 Editor, Mathematische Zeitschrift.
2011–2016 Editor, Annales Scientifiques de L'École Normale Supérieure.
2003–present Editor, Probability Theory and Related Fields.
2003–present Editor, Journal of Theoretical Probability.
2005–present, Advisory board, Frontier in Mathematics, Birkhäuser.
2006–present Editor, Potential Analysis (Chief Editor, 2006–2015).
2012–present Editor, Probability Surveys (Chief Editor 2012–2014).
2013-present Editor, Journal of Functional Analysis.

Plenary Lectures

–3ème Cycle Romand de Mathématiques, Champoussin, Switzerland, 1994
–Integral inequalities and Applications, Cortona, Italy, 1999
–Stochastic Analysis, Durham Research Symposium, Durham, UK, 1999
–Year 2000 Seminar on Stochastic Processes, Salt Lake City, USA, 2000
–Function theory: a conference in honor of W. Hayman, Imperial College, London, 2001
–Heat kernel and analysis on manifolds, IHP, Paris, 2002
–Oberwolfach Seminar: Finite Markov Chains, May 2002 (with J. Fill)
–Journée Hypathie, Finite Markov Chains, Marseille, France, 2003 (with M. Jerrum)
–Potential Theory and Analysis on Metric Spaces, RIMS, Kyoto, 2003
–Northeast Probability Seminar, New-York, 2004
–54th Midwest PDE Seminar, Detroit, 2004
–Rencontre Mathématiques de l'UMPA 6-7 janvier 2006 (with M. Benaim)
–MSJ-SI Probabilistic approach to Geometry, Kyoto, July-August 2008
–Birnbaum Lecturer at the Pacific Northwest Probability Seminar, October 2008
–Plenary Lecture, Canadian Mathematical Society Winter Meeting, Ottawa, December 2008
–Plenary Lecturer, Period on Partial Differential Equations, Milan and Pavia, May-June 2009
–Plenary Lecture, Stochastic Processes and their Applications, Berlin, July, 2009
–Invited Address. AMS Regional Meeting, Penn State, University Park, October 2009
–Journée d'Analyse Harmonique, Orsay, Januray 2011
–Plenary Lecture, 5th Int. Conf. on Stochastic Analysis and its Applications, Bonn, September 2011
–Plenary lecture, Lehigh Geometry and Topology Conference, May 2012
–Plenary Lecture, 65th British Mathematical Colloquium, Sheffield, UK, March 2013
–The Duncan Lectures, Johns Hopkins University (Applied Mathematics and Statistics), April 2014
–36th Midwest Probability Colloquium, Evanston, October 2014.
–Kai-Lai Chung Memorial Lecture, Department of Mathematics, Stanford University, March 2017.
–LMS-EPSRC Durham Symposium "Markov Processes, Mixing Times and Cut-off", July 2017.
–PIMS Distinguish Colloquium Speaker, University of British Columbia, October 2019.

Former Graduate Students

Andrzej Zuk, 1994-1997. Sur certaines propriétés spectrales du Laplacien sur les graphes. Professor, University Paris VII.

Pascal Lezaud, 1995-1998. Études quantitatives des chaînes de Markov par perturbation de leur noyau. Research position DSNA Toulouse (French Civil Aviation).

Sandrine Roussel, 1995-1999. Marches aléatoires sur le groupe symétrique. Lecturer, INSA Toulouse.

Sebastien Blachère, 1997-2000. Agrégation limitée par diffusion interne et temps de coupure sur les groupes discrets à croissance polynomiale. On leave from Marseille University, Senior Researcher (Statistics and Reliability Engineer) at SKF B.V.

David Revelle, 1998-2002. Random Walks on Solvable Groups. (NSF Postdoc, UC Berkeley). The Infinite Actuary-Actuarial Exam Preparation.

Lee Gibson, 2001-2005. The number of sites visited by a random walk on an infinite graph. The Infinite Actuary-Actuarial Exam Preparation.

Sharad Goel, 2001-2005 (CAM). Estimating mixing times: techniques and applications. (Yahoo/Microsoft Research, New York). Assistant Professor, Stanford University (Management Science & Engineering).

Melanie Pivarski, 2001-2006. Heat kernels on Euclidean complexes. Associate Professor, Roosevelt University.

Evgueni Klebanov, 2002-2006. Asymptotic behavior of covolutions of centered density on Lie groups of polynomial volume growth. Financial/banking Industry.

Guan-Yu Chen, 2003-2006. The cutoff phenomenon for finite Markov chains. Associate Professor, National Chiao Tung University.

Pavel Gyrya, 2002-2007. Heat kernels estimates for inner uniform subsets of Harnack-type Dirichlet spaces. American Express (Risk Management).

Jessica Zúñiga. 2003-2008. Merging of some time homogeneous and inhomogeneous Markov chains. (NSF Postdoc, Stanford University). Data Science Manager at Stitch Fix.

Russ Thompson, 2005-2011. Random walks and subgroup geometry, (Texas A& , 3 years postdoc). Senior Research Scientist at Alexa Internet.

Santi Tasena, 2006-2011. Assistant Professor at Chiang Mai University, Thailand.

Janna Lierl, 2007-2012. Heat kernel estimates on inner uniform domains, Assistant Professor (tenure-track), University of Connecticut, Store.

Tianyi Zheng, 2008-2013. Random walks on some classes of solvable groups. Assistant Professor (tenure-track), UC San Diego.

Mathav Murugan, 2012-2015 (CAM). Random walks on metric measure spaces. Assistant Professor (tenure-track) at the University of British Columbia.

Evan Randles, 2011-2016. Convolution powers of complex-valued functions and related topics in partial differential equations. Assistant Professor (tenure-track) at Colby College.

Kelsey Houston-Edwards, 2013-2018. Discrete Heat Kernel Estimates in Inner Uniform Domains. Assistant Professor (tenure-track) at Olin College of Engineering.

Jingbo Liu, 2014-2019. Heat kernel estimate of the Schrodinger operator in uniform domains. Senior Data Scientist at Walmart eCommerce.

Qi Hou, 2012-2019. Rough Hypoellipticity for Local Weak Solutions to the Heat Equation in Dirichlet Spaces. Visiting Assistant Professor, Cornell.