

IOANNIS PAPAGEORGIU

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POSITIONS

- 11/2020 – 02/2023** – **CMCC, Universidade Federal do ABC - UFABC, Brazil.**
Professor Adjunto.
11/2020 – 01/2023 Professor Visitante.
- 09/2017 – 11/2019** **Neuromat, Instituto de Matemática e Estatística, Universidade de São Paulo, Brazil.**
Post-Doctorant (FAPESP).
- 09/2015 – 03/2017** **Departamento de Matemática, Universidad de Buenos Aires, Argentina.**
Post-Doctorant (CONICET).
- 09/2013 – 08/2015** **Matematiska Institutionen, Uppsala Universitet, Sweden.**
Researcher.
- 10/2009 – 03/2011** **Institut de Mathématiques de Toulouse, Université Paul Sabatier, France.**
Post-Doctorant (ANR- EVOL).

EDUCATION

- 2005 – 2009** **Imperial College, University of London, UK**
PhD Thesis: The Log-Sobolev Inequality in Infinite Dimensions.
Supervisor: Prof. Boguslaw Zegarlinski.
Examiners: Profs Vassili Kolokoltsov and Michael Ruzhansky.
- 2003 – 2004** **Cambridge University, UK**
M.Phil in Statistical Science.
M.Phil Thesis supervisor: Dr P.M.E. Altham.
- 2001 – 2002** **Queen Mary University of London, UK**
MSc in Mathematics.
MSc Thesis supervisor: Dr Dudley Stark.

1997 – 2001 **University of Ioannina, Greece**
Diploma in Mathematics.

Other (distant, part-time)

2019 – 2023 **Neapolis University Pafos, Cyprus**
MA in Modern and Contemporary Greek and European History.
MA Thesis supervisor: Dr Kyriakos Iakovidis.
Examiners: Profs Georgios Georgis and Marios Evriviades.

2011 – 2015 **Royal Holloway, University of London, UK**
BA in Classical Studies.

RESEARCH INTERESTS

Functional Analysis, Probability theory and Statistical Mechanics: Analysis on infinite dimensional spaces, coercive inequalities, gibbs measures, log-Sobolev inequality, concentration of measure, modified log-Sobolev inequality, interacting spin systems on the lattice, Orthogonal polynomials, Random walks, cutoff, contact processes, Quasi Stationary distributions.

PUBLICATIONS

- Replica Mean Field limits for neural networks with excitatory and inhibitory activity.(arXiv:2401.10955).
- (with Takis Konstantopoulos) *The log-Sobolev inequality for spin systems of higher order interactions*. (arXiv:1906.11980).
- *Cutoff for random walks on graphs with bottlenecks*. (arXiv:1606.06723).
- *Interacting systems of infinite spiking neurons with weights beyond uniform summability*. Markov Processes Relat. Fields, 29, 435–456 (2023).
- (with Pierre Hodara) *Concentration and Poincare type inequalities for a degenerate pure jump Markov process*. *Matemática*, 20 (2022)..
- (with Cristian F. Coletti) *Asymptotic Analysis of the Elephant Random Walk*. J. Stat. Mech.: Theory Exp. 1 (2021).
- *Modified log-Sobolev inequality for a compact PJMP with degenerate jumps*. J. Stat. Phys. 178, 1293–1318 (2020)
- (with James Inglis) *Log-Sobolev inequalities for infinite-dimensional Gibbs measures with non-quadratic interactions*. Markov Processes Relat. Fields 25, 879-897 (2019).
- (with Pierre Hodara) *Poincare type inequalities for compact degenerate pure jump Markov processes*. Mathematics 7(6), 518 (2019).

- *The log-Sobolev inequality with quadratic interactions.* J. Math. Phys. 59, 083301 (2018).
- *The Logarithmic Sobolev Inequality for Gibbs measures on infinite product of Heisenberg groups.* Markov Processes Relat. Fields 20, 705-749 (2014).
- *A note on the modified Log-Sobolev inequality.* J. Potential Anal., 35, 3, 275-286 (2011).
- *Concentration inequalities for Gibbs measures.* Infin. Dimens. Anal. Quantum Probab. Relat. Top. 14, 1, 79-104 (2011).
- *The Logarithmic Sobolev Inequality in Infinite dimensions for Unbounded Spin systems on the Lattice with non Quadratic Interactions.* Markov Processes Relat. Fields 16, 447-484 (2010).
- (with James Inglis) *Logarithmic Sobolev inequalities for infinite dimensional Hormander type generators on the Heisenberg group.* J. Potential Anal., 31, 1, 79-102 (2009).

Other

(with Achillefs Papageorgiou) *An Alternative Explanation of Parties' Extreme Positioning: A Spatial Model Analysis under the 'Second Degree Preference' Hypothesis.* Homo Oeconomicus 27(4), 395-417 (2011).

Thesis, Conference Papers and Notes

- *The Log-Sobolev Inequality in Infinite Dimensions.* Ph.D. thesis, Imperial College London, UK (2010).
- *Functional Inequalities, Spectral Theory and Semigroup Estimates.* Lectures by Fen-Yu Wang. Notes by I. Papageorgiou. In "Aspects of Analysis", Edited by B. Zegarlinski. Mathematical Notebooks Vol II, Matrix Press (2010).
- *The q Logarithmic Sobolev inequality in infinite dimensions.* 7th ISAAC Congress, Imperial College, London (2009).
- *The Logarithmic Sobolev inequality for measures with infinite number of wells.* 1st International Conference on Mathematics and Statistics, ATINER, Athens (2007).
- *Multiple regression models for building companies' contract data.* MPhil thesis, Cambridge University, UK (2005).
- *On a theorem of shift-tightness.* MSc thesis, Queen Mary London, UK (2002).

REVIEWS FOR JOURNALS

Annals of Probability (2012)

VISITS - CONFERENCE & SEMINAR PRESENTATIONS

- Universidade de Sao Paulo, Sao Paulo, Brazil, 17 Oct 2019.
- Universidade de Sao Paulo, Sao Paulo, Brazil, 5 Oct 2017.
- Univeristad de La Havana, Havana, Cuba, 4 May 2017.
- XX Brazilian School of Probability, ICMC/USP, San Carlos, SP, Brazil, 4-9 Jul 2016.
- Pontifical Catholic University of Chile, Santiago, Chile, 13 Jun 2016.
- University of Buenos Aires, Argentina, 25 Nov 2015.
- 37th Conference on Stochastic Processes and their Applications, Buenos Aires, Argentina, 28 July-01 Aug 2014.
- 11th International Vilnius Conference on Probability Theory and Mathematical Statistics, Vilnius, Lithuania, 30 June-4 July 2014.
- Uppsala University, Sweden, 1 Oct 2013.
- University of Bielefeld, Germany, 2 Feb 2011.
- 7th ISAAC Conference, London, UK, 13-18 Jul 2009.
- Swansea University, Wales, UK. 28-29 May 2009.
- Rennes University, EVOL Project (Working day), France, 3-4 April 2009.
- Technical University of Berlin, Germany, 18 Feb 2009.
- University of Jyvaskyla, Finland, 7 Jan 2009.
- Institute of Mathematics, Johannes Gutenberg-University Mainz, Germany, 10-14 Nov 2008.
- Institut de Mathématiques de Toulouse, France, 1-7 Oct 2008.
- Division of Mathematical Physics, Wroclaw University, Poland, 26-29 Oct 2008.
- Probability and Geometry in High Dimensions Workshop, University of Lancaster, UK, 14-19 Sept 2008.
- Doktorandenkonferenz Stochastik, TU Berlin, Germany, 4-6 Sept 2008.
- Isoperimetry Poincare Inequalities and SDEs - Workshop, Imperial College, London, UK. Apr 2008.
- 100th Statistical Mechanics Conference, Rutgers State University of New Jersey, USA, 13-18 Dec 2008.
- 1st International Conference on Mathematics and Statistics, ATINER, Athens, Greece, 11-12 Jun 2007.
- Research Students Conference in Probability and Statistics, University of Durham, UK, 27-30 Mar 2007.
- University Paul Sabatier, Toulouse, France. 12-19 Sept 2006.

CONFERENCES / SUMMER SCHOOLS

- XXIII Escola Brasileira de Probabilidade, ICMC/USP, Sao Carlos, SP, Brazil, 22-27 Jul 2019.
- Geometry and scaling of random structures, CIMPA School and X Escuela Santaló, ICM Rio Satellite workshop, Buenos Aires, Argentina, 15-27 Jul 2018.
- Random Media in Atacama, San Pedro de Atacama, Chile, 12-16 Dec 2016.

- Stochastic Processes and Applications, National University of Mongolia, Ulan Bator, Mongolia, 27 Jul- 7 Aug 2015.
- Analysis Workshop, Imperial College London, UK, 16-18 Mar 2011.
- Workshop ANR (EVOL project), Dissipative Evolutions and convergence to equilibrium, Hammamet, Tunisia, 3-7 May 2010.
- Meeting on Analysis and Stochastic Analysis, Imperial College, London UK. 17-25 Mar 2009.
- Isoperimetry Poincare Inequalities and SDEs-Workshop, Imperial College, London, UK, Apr 2008.
- Lars Ahlfors Centennial Celebration, University of Helsinki, Finland, 20-24 Aug 2007.

GRANTS AND SCHOLARSHIPS

- 2014-2015:** Travel scholarship from Stiftelsen G.S. Magnuson fond, The Royal Swedish Academy of Science.
- 2013-2014:** Travel scholarship from Stiftelsen G.S. Magnuson fond, The Royal Swedish Academy of Science.
- 2007-2008:** Grant from Schilizzi Foundation.
- 2006-2009:** EPSRC founding for the PhD course at Imperial College.
- 2005-2008:** Offered a George and Marie Vergottis Cambridge bursary from the Cambridge European Trust for PhD studies in Cambridge University.
- 2003-2004:** EPSRC founding for the M.Phil course in Cambridge.
- 2001-2002:** Obtaining master degree with an overall grade ‘distinction’.
- 1999-2000:** Scholarship from the Public Institution of Scholarships (I.K.Y), for the third academic year in the University of Ioannina.
- 1998-1999:** Scholarship from the Public Institution of Scholarships (I.K.Y), for the second academic year in the University of Ioannina.
- 1997-1998:** Scholarship from the Public Institution of Scholarships (I.K.Y), for the first academic year in the University of Ioannina.

WORK EXPERIENCE

- 2014-2015** **Tutor of Mathematics (Uppsala University)**
Exercise classes to the undergraduate students.
- 2005-2009** **Tutor of Mathematics (Imperial College)**
Give tutorials to the undergraduate students in a variety of courses (analysis, probability, statistics etc.)
- 2002-03, 2004-05** **Teacher of Mathematics**
Work as private tutor for students of High School and Lyceum.

2000-2001

Assistant Tutor (University of Ioannina)
Give lectures to the undergraduate students.

LANGUAGES

Greek (mother tongue), English, French, Spanish, Portuguese.