

Curriculum Vitae

ANASTASIA PAPAVALIIOU

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Department of Statistics, University of Warwick, Coventry, CV4 7AL, UK.

ACADEMIC POSITIONS

2006-present: Assistant Professor¹, Department of Statistics, **University of Warwick**.

2005-2006 : Lecturer, Department of Statistics, **University of Warwick**.

2004-2005 : Postdoctoral Research Associate, Department of Chemical Engineering, **Princeton University**.

2002-2004 : Chu Assistant Professor of Applied Mathematics², Department of Applied Physics and Applied Mathematics, **Columbia University**.

EDUCATION

1999-2002: **Princeton University**, Ph.D, Applied Mathematics, June 2002 (supervisor: René Carmona. Thesis title: “Adaptive Particle Filters with Applications”).

1997-1999: **Princeton University**, M.A., Applied Mathematics, June 1999.

1993-1997: **Aristotelian University of Thessaloniki**: B.S.(with honors), Mathematics, June 1997.

RESEARCH INTERESTS

Applied Probability: stochastic filtering, sequential Monte-Carlo methods (particle filters), simulation and estimation for multiscale systems, computational rough paths. Applications to finance, signal processing, molecular dynamics.

GRANTS

- 2007: EPSRC Standard Research Grant (co-PI). Proposal Title: “WORKSHOP: Stochastic Filtering and Control” (20K GBP)
- 2006-2008: Marie Curie International Reintegration Grant. Proposal Title: “Applications of the Theory of Rough Paths to Speech Recognition” (80K EUR).
- 2005: NSF Travel Grant, 30th Conference on Stochastic Processes and their Applications (UCSB, 2005) (1K USD).
- 2004: EU Travel Grant, 6th World Bernoulli Congress, Barcelona, 2004 (800 EUR).
- 2003: NSF-DMS/AWM Travel Grant (1K USD).

PUBLICATIONS in Journals

- Parameter Estimation for Rough Differential Equations (with C. Ladrue).
Preprint: <http://arxiv.org/abs/0812.3102>.
- Parameter Estimation for Multiscale Diffusions (with A.M. Stuart and G.A. Pavliotis). *Stoch. Proc. Appl.* (accepted). Preprint: <http://arxiv.org/abs/0806.3248>.
- Particle Filters for Multiscale Systems. *ESAIM Proceedings*, vol. 19: 108–114, 2007.³
- Variance Reduction for the Equation-Free Simulation of Multiscale Stochastic Systems (with I. Kevrekidis). *Multiscale Model. Simul.*6(1): 70-89, 2007.
- Parameter Estimation and Asymptotic Stability in Stochastic Filtering. *Stoch. Proc. Appl.* vol 116: 1048-1065, 2006.
- A Uniformly Convergent Adaptive Particle Filter. *J. Appl. Probab.*, vol 42(4):1053-1068, 2005.

Refereed Conference Proceedings

- Entropy based Adaptive Particle Filters (with S. Liverani). *Proceedings of the NSSPW, September 13-15, 2006, Corpus Christi College, Cambridge*.
- Adaptive Estimation of partially observed nonlinear stochastic systems. *Proceedings of the 11th Mediterranean Conference on Control and Automation, June 17-20, 2003, Rhodes, Greece*.

¹Warwick University has renamed scale B Lecturers to Assistant Professors, starting September 2006.

²Not tenured-track.

³Proceedings of the Workshop on Sequential Monte Carlo Methods: filtering and other applications, Oxford 2006.

INVITED CONFERENCE TALKS

- June 2008: Stochastic Analysis and Applications – for Mathematical Physics to Mathematical Finance, Princeton University.
- February 2007: Multiscale Analysis and Computations in Stochastic Differential Equation Modelling, University of Sussex, Brighton.
- November 2006: Recent Advances in Monte Carlo Based Inference, Isaac Newton Institute for Mathematical Sciences, Cambridge.
- July 2006: XXVI European Meeting of Statisticians, Torun, Poland.
- July 2006: Workshop on Sequential Monte Carlo Methods: filtering and other applications, Oxford.
- August 2005: “Applications of Rough Paths to Speech Recognition”, Workshop on “New Directions in Probability Theory”, IMA, Minnesota.
- July 2004: “Adaptive Particle Filters and high-dimensional Systems”, Workshop on “Particle and Monte Carlo Methods”, Barcelona.

CONTRIBUTED CONFERENCE TALKS

- September 2006: “Entropy based Adaptive Particle Filters”, Nonlinear Statistical Signal Processing Workshop, Corpus Christi College, Cambridge.
- May 2006: “Solving Differential Equations arising from Averaging of Multiscale Stochastic Systems”, 11th Hellenic Conference on Mathematical Analysis, Thessaloniki.
- June 2005: “Simulating Multiscale Systems”, 30th Conference on Stochastic Processes and their Applications, University of California at Santa Barbara.
- September 2004: “Accelerating Adaptive Particle Filters”, 10th Hellenic Conference on Mathematical Analysis, Athens.
- July 2004: “Adaptive Particle Filters”, 6th World Bernoulli Congress, Barcelona, 25-31 July, 2004.
- June 2003: “Adaptive Estimation of Partially Observed Nonlinear Stochastic Systems”, 11th IEEE Mediterranean Conference on Control and Automation, Rhodes, Greece.
- May 2003: “Parameter Estimation in Stochastic Filtering”, Third Workshop on Bayesian Inference in Stochastic Processes, La Magna, Spain.

INVITED SEMINAR TALKS

- Department of Statistics, Imperial College (February 2007).
- Department of Mathematics, Loughborough University (October 2006).
- Department of Mathematics, Bristol University (October 2006).
- Department of Applied Physics and Applied Mathematics, Columbia University (April 2006).
- Department of Mathematics, University of Massachusetts at Amherst (March 2006).
- Department of Mathematics, University of Leeds (March 2006).
- Department of Mathematics, University of Edinburgh (November 2005).
- Department of Mathematics, University of Warwick (September 2005).
- Department of Mathematics, Imperial College, London (October 2004).
- Department of Applied Mathematics, University of Crete (October 2004).
- Department of Applied Mathematics, Brown University (February 2004).
- Program in Atmospheres, Oceans and Climate, MIT (April 2003).
- Lamont-Doherty Earth Observatory, Columbia University (March 2003).
- Department of Statistics, Columbia University (February 2002).
- Seminaire de Statistique du L.S.P., C.N.R.S.-Univerite Paul Sabatier (February 2002).

TEACHING EXPERIENCE

- Autumn 2008: Lecturer, ST323 (Multivariate Statistics), University of Warwick.
- Winter 2006 & 2007: Lecturer, ST213 (Mathematics of Random Events), University of Warwick.
- Fall 2003: Lecturer, APAM 6302 (Numerical Methods for PDEs), Columbia University.
- Spring 2003 & 2004: Lecturer, APAM E4300 (Numerical Methods), Columbia University.
- Fall 2002: Lecturer, APAM E6901 (Special Topics in Applied Mathematics: Stochastic Simulations), Columbia University.
- Spring 2001: Teaching Assistant, ORF 515 (Stochastic Calculus with applications to finance), Princeton University.

- Fall 1999: Teaching Assistant, ORF 405 (Regression and Applied Time Series), Princeton University.
- Spring 1999: Teaching Assistant, CIV 201 (Computer Methods for problem solving), Princeton University.
- Spring 1998: Teaching Assistant, MAE 305 (Mathematics in Engineering), Princeton University.

OTHER EMPLOYMENT

- Summer 2001: *Summer Intern* at the Statistics and Data Mining Department, **Lucent Bell Labs**, Murray Hill, NJ. (supervisor: Dr.Vander Wiel)
- Summer 1998: *Summer Intern* at the Adaptive Information and Signal Processing Department, **Siemens Corporate Research, Inc.**, Princeton, NJ. (supervisor: Dr.Watrous)
- Summer 1995: *Summer Undergraduate Research Fellow* at the Computational Neuroscience Lab, **Rockefeller University**, New York, NY. (supervisor: professor J.Atick)

OTHER ACADEMIC ACTIVITIES

Reviewer for several academic journals.

Organiser: Workshop on Stochastic Filtering and Control. University of Warwick, August 2007.