Antonios Meimaris

Ph.D. Candidate & Teaching Associate - Monash University
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Personal Details

Citizenship: Greek   Languages: English, Greek, Russian

Short Term Academic Appointments

CE Lecturer - University of Liverpool, Liverpool, UK   November, 2017
Lecture Topic: *History of Probability & Randomness*

Visiting Scholar - Columbia University, New York, USA   May - June, 2017

Visiting Scholar - Columbia University, New York, USA   November - December, 2016

Collaborations

Stochastic Engineering Dynamics Lab, Columbia University   2015 - present

Education

Monash University, Melbourne, Australia

Doctor of Philosophy, Econometrics & Business Statistics, *Expected award date:* 2019
Fully funded by Monash University (Fees and Stipend)

- Thesis: *Closed form path integral based approximate solutions of stochastic differential equations*
- Advisors: Athanasios A. Pantelous, Ph.D (Monash University, Australia),
        Dan Zhu, Ph.D (Monash University, Australia) and
        Ioannis A. Kougioumtzoglou, Ph.D (Columbia University, USA)

University of Liverpool, Liverpool, United Kingdom

Doctor of Philosophy, Mathematics, *Started:* October 2016, *Cont. at Monash Univeristy*
Fully funded by EPRSC Doctoral Training Grant (Fees and Stipend)

- Thesis Topic: *Path integral techniques to stochastic modelling and options pricing*
- Advisors: Athanasios A. Pantelous, Ph.D (University of Liverpool, UK) and
        Ioannis A. Kougioumtzoglou, Ph.D (Columbia University, USA)

Master by Research, Decision Making Under Risk & Uncertainty, 2016
Fully funded by EPRSC Doctoral Training Grant (Fees and Stipend)

- *Awarded with distinction*
- Topic: *Some observations on the approximations of the Wiener path integral technique*
- Advisors: Athanasios A. Pantelous, Ph.D (University of Liverpool, UK) and
        Ioannis A. Kougioumtzoglou, Ph.D (Columbia University, USA)

University of Athens, Athens, Greece

Diploma, Mathematics, 2015

- *Four-year program*
- Directions: Pure & Applied Mathematics
- Specializations: Computational Mathematics
        Statistics and Operations Research

Publications

Published

o Konstantinos Liaskos, Athanasios Pantelous, Ioannis Kougioumtzoglou and **Antonios Meimaris**, "Implicit analytic solutions for the linear stochastic partial differential beam equation with fractional derivative terms", Systems & Control Letters 121, (2018): 38-49.

o **Antonios Meimaris**, Ioannis Kougioumtzoglou and Athanasios Pantelous, "Approximate analytical solutions for a class of nonlinear stochastic differential equations", European Journal of Applied Mathematics, (2018): 1-17.

o **Antonios Meimaris**, Ioannis Kougioumtzoglou and Athanasios Pantelous, "A closed form approximation and error quantification for the response transition probability density function of a class of stochastic differential equations", Probabilistic Engineering Mechanics 54 (2018): 87-94.

o **Antonios Meimaris**, Ioannis Kougioumtzoglou and Athanasios Pantelous, "Some observations on the approximations of the Wiener path integral technique", Meccanica dei Materiali e delle Strutture Vol. VI, no.1, (2016): 195-202.

Submitted

o **Antonios Meimaris**, Ioannis Kougioumtzoglou and Athanasios Pantelous, "Approximate transition probability density functions for a class of coupled nonlinear stochastic differential equations", 8th CSM conference proceedings, (2018), Under Review.

o **Antonios Meimaris**, Ioannis Kougioumtzoglou and Athanasios Pantelous, "Closed-form approximate solutions for a class of coupled nonlinear stochastic differential equations", Applied Mathematics and Computation, (2018), Under Review.

o **Antonios Meimaris**, Ioannis Kougioumtzoglou, Athanasios Pantelous and Antonina Pirrotta, "An approximate technique for determining in closed-form the response transition probability density function of diverse nonlinear/hysteretic oscillators", Nonlinear Dynamics, (2019), Under Review.

In preparation

o **Antonios Meimaris**, Vasileios Kontosakos, Athanasios Pantelous and Ioannis Kougioumtzoglou, "Analytical closed-form approximations for continuous time interest rate dynamics", (2019).

o Konstantinos Liaskos, Athanasios Pantelous, Ioannis Kougioumtzoglou and **Antonios Meimaris**, "Implicit analytic solutions for the nonlinear partial differential beam equation with fractional derivative terms", (2019).

Preprints

Antonios Meimaris, "On the additive persistence of a number in base p", (2015).

Awards

Econometric Game, Finalist Award (Top 10), April 2019

for participating in the final stage of the 2019 Econometric Game, developing stochastic models for CO_2 emissions; organized by the Actuarial Science, Econometrics and Operational Research Management (VSAE), University of Amsterdam, Amsterdam, Netherlands.

*Here I was the captain of the Monash University team.

Teaching Excellence Award (Best Ph.D. Teaching Associate), February 2019

from the Director of Education, Associate Professor Vasilis Sarafidis, including monetary prize, for my teaching at Monash University.

Teaching Award, December 2018

from the Head of Department, Professor Heather Anderson, including monetary prize, for my teaching at Monash University during the academic year 2018.

Monash Graduate Scholarship (MGS) Grant,   October 2017

Postgraduate Research Studentship (2018-2021).

Monash International Tuition Scholarship (MITS) Grant,   October 2017

Postgraduate International Tuition Studentship (2018-2021).

EPSRC Centre for Doctoral Training (CDT): Award,   May 2017

including monetary prize, for a proposed solution to an uncertainty quantification problem (See Page 7).

EPSRC Centre for Doctoral Training (CDT): Studentship Grant,   July 2015

Postgraduate Research Studentship (2015-2019).

Informatics Commendation Award of Athens College,   July 2011

for excellence in information technology.

Commendation, on a national level,   March 2011

for participating in the third and final stage of the 23rd Panhellenic Informatics Competition.

Commendation, on a national level,   April 2010

for participating in the third and final stage of the 22rd Panhellenic Informatics Competition.

Commendation, on an international level,   October 2009

for participating in the XVII International Space Olympics (ISO), Korolev City Moscow, Russia.

PROFESSIONAL DEVELOPMENT

I will present in the following events:

5th Symposium on Quantitative Finance and Risk Analysis (QFRA 2019)   June 2019
Kos Island, Greece; organised by Monash University, Melbourne, Australia
"Approximate closed-form solutions for continuous time derivative pricing"

2019 EMI Conference   June 2019
California Institute of Technology, Pasadena, CA, USA
"Approximate closed-form solutions for a class of nonlinear stochastic differential equations with applications in engineering dynamics"

I have presented in the following events:

Monash Business School Doctoral Colloquium   November 2018
State Library Victoria, Melbourne, Australia
"Approximate analytical solutions for a class of nonlinear stochastic differential equations"

8th *International Conference On Computational Stochastic Mechanics (CSM 8)* June 2018
Paros, Greece; organised by Rice University, Houston, TX, USA
"Approximate transition probability density functions for a class of coupled nonlinear stochastic differential equations"

2018 EMI Conference   June 2018
Massachusetts Institute of Technology (MIT), Boston, MA, USA
"Approximate transition probability density functions for a class of nonlinear stochastic differential equations"

2017 EMI Conference   June 2017
San Diego, CA, USA
"Assessing the accuracy of the Wiener Path Integral technique for a class of stochastic differential equations"

2016 EMI International Conference   October 2016

University of Lorraine (Université de Lorraine), Metz, France

"Some observations on the approximations of the Wiener path integral technique"

*Here I was a keynote speaker

Annual Showcase Conference   September 2016

University of Liverpool, Liverpool, United Kingdom

"Some observations on the approximations of the Wiener path integral technique"

*Here I also presented a poster "Path integral techniques: Applications to financial modelling and options pricing"

2nd Symposium on Quantitative Finance and Risk Analysis (QFRA 2016)   June 2016

Rhodes, Greece; organised by University of Liverpool, Liverpool, United Kingdom

"Some observations on the approximations of the Wiener path integral technique"

I have attended the following events:

CDT Easter School 2017

University of Liverpool, Liverpool, United Kingdom   April 2017

NATCOR: Forecasting and Predictive Analytics

Lancaster University, Lancaster, United Kingdom   September 2016

3rd BCN(Barcelona) Summer School on Stochastic Analysis

Centre de Recerca Matemàtica, Bellaterra, Barcelona, Spain   June-July 2016

NATCOR: Convex Optimization

University of Edinburgh, Edinburgh, United Kingdom   June 2016

MIGSAA graduate course on stochastic pathwise integration and stochastic particle systems

University of Edinburgh, Edinburgh, United Kingdom   April 2016

CDT Easter School 2016

University of Liverpool, Liverpool, United Kingdom   April 2016

13th International Probabilistic Workshop (IPW2015)

University of Liverpool, Liverpool, United Kingdom   November 2015

9th Panhellenic Logic Symposium

National Technical University of Athens, Athens, Greece   June 2013

Teaching Experience

Currently, I am a Teaching Associate at Monash University. In the last semester, I was responsible for the postgraduate unit ETC4130, a course with advanced stochastic calculus elements, and ETC3430 & ETC3530, two applied probability & statistics undergraduate units at Monash University.

In addition, I was a teaching and marking assistant for MATH367, an advanced graph theory course and a teaching assistant for MATH480, an advanced measure-theoretic probability theory course, at the University of Liverpool (2016-2017). I also was a marking assistant for MATH367, in the previous year at the University of Liverpool.

I was a teacher for a two month period in 2015 at Varvakios Pilot School, Greece, organized by the University of Athens, Greece. This placement provides useful experience since it helps prepare the student for teaching large classes, organizing a course, and also gives the student an opportunity to teach a number of lectures.

I have been a teaching regularly since February 2014, in mathematics, with experience in the subjects of (stochastic) calculus, probability & statistics, network theory with applications, algorithms and programming. A full list of courses, which I was responsible for, is presented in the following page.

Monash University

ETC2430 - Actuarial statistics (Probability & Statistics)

ETC4130 - Asset liability management (Stochastic Calculus)

ETC3530 - Contingencies in insurance and pensions (Probability & Statistics)

ETC3430 - Financial mathematics under uncertainty (Probability & Statistics)

University of Liverpool

MATH480 - Probability Essentials for Financial Calculus (Stochastic Calculus)

MATH367 - Networks in Theory and Practice (Graph Theory)

University of Athens

MATH141 - Computer Science I (Algorithms with MATLAB applications)

MATH101 - Calculus I (Real Analysis)

OTHER WORK EXPERIENCE AND SKILLS

I was an analyst and facilitator for the Bayesian Argumentation via Delphi (BARD), a multi-year project funded by IARPA, organized by Monash University during July-August 2018. BARD's principal investigators include experts in Delphi from the University of Strathclyde and experts in the psychology of causal reasoning from Birkbeck College London and University College London.

I received the Computer Literacy Certificate from the University of Athens, Greece, based on the number of Information Technology modules successfully passed.

I was a programmer responsible with developing Web-based software at Converge - ICT Solutions & Services, Greece during the summer of 2009.

During these years, I have acquired the following technical skills

- **Programming:** LATEX, MATLAB, Mathematica and others.
- **Operating Systems:** Apple Mac OS X, Linux, Microsoft Windows, Oracle Solaris and others.
- **Application Software:** Microsoft Office, OpenOffice, TeamViewer and others.

VISITS TO INTERNATIONAL RESEARCH CENTERS

Hartree Centre, Science and Technology Facilities Council, UK	May 2016
European Organization for Nuclear Research (CERN), Switzerland	October 2010
Cosmonaut Preparation Center in Korolev City, Russia	October 2009

VOLUNTEER SERVICE

Captain of the Monash University Econometric Game 2019 team, Monash University, Melbourne, Australia.	2018 - 2019
Member of the organizing team of the CDT Easter School 2017, University of Liverpool, Liverpool, UK.	2016 - 2017
Member of the organizing team of the forum of Department of Mathematics, University of Athens, Athens, Greece.	2013 - present
Member of a number of Mathematics study groups (with a variety of subjects) and organizer of one, as a student at the University of Athens, Athens, Greece.	2013 - 2015