

# ANTONIOS MEIMARIS

Ph.D. Candidate - Monash University

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## PERSONAL DETAILS

Citizenship: Greek

Languages: English, Greek, Russian

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## 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

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## COLLABORATIONS

Stochastic Engineering Dynamics Lab, Columbia University

2015 - present

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## EDUCATION

**Monash University**, Melbourne, Australia

Doctor of Philosophy, Econometrics & Business Statistics, *Expected award date:* 2019

- Thesis Topic: *Path integral techniques to stochastic modelling and options pricing*
- Advisors: Athanasios A. Pantelous, Ph.D (Monash University, Australia),  
Dan Zhu, Ph.D (Monash University, Australia) and  
Ioannis A. Kougiumtzoglou, Ph.D (Columbia University, USA)

**University of Liverpool**, Liverpool, United Kingdom

Doctor of Philosophy, Mathematics, *Started:* October 2016, *Cont. at Monash University*

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

Master by Research, Decision Making Under Risk & Uncertainty, 2016

- *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. Kougiumtzoglou, 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

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## PUBLICATIONS

### Published

- o Konstantinos Liaskos, Athanasios Pantelous, Ioannis Kougiumtzoglou and **Antonios Meimaris**, “Implicit analytic solutions for the linear stochastic partial differential beam equation with fractional derivative terms”, Systems & Control Letters, (2018). (Accepted)
- o **Antonios Meimaris**, Ioannis Kougiumtzoglou 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 Kougiumtzoglou 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 Kougiumtzoglou 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 Kougiumtzoglou and Athanasios Pantelous, “Approximate transition probability density functions for a class of coupled nonlinear stochastic differential equations”, 8<sup>th</sup> CSM conference proceedings, (2018), Under Review.
- o **Antonios Meimaris**, Ioannis Kougiumtzoglou and Athanasios Pantelous, “Closed-form approximate solutions for a class of coupled nonlinear stochastic differential equations”, Communications in Nonlinear Science and Numerical Simulation, (2018), Under Review.

### In preparation

**Antonios Meimaris**, Ioannis Kougiumtzoglou and Athanasios Pantelous, “Closed-form approximate analytical solutions for time-homogeneous nonlinear stochastic differential equations”, (2018).

### Preprints

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

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## AWARDS

<b>Monash Graduate Scholarship (MGS)</b> , Postgraduate Research Studentship (2018-2021).	Autumn 2017
<b>Monash International Tuition Scholarship (MITS)</b> , Postgraduate International Tuition Studentship (2018-2021).	Autumn 2017
<b>EPSRC Centre for Doctoral Training (CDT): Award</b> , including monetary prize, for a proposed solution to a statistical problem (estimators of unknown quantities and uncertainty quantification).	Summer 2017
<b>EPSRC Centre for Doctoral Training (CDT): Studentship</b> , Postgraduate Research Studentship (2015-2019).	Summer 2015
<b>Informatics Commendation Award of Athens College</b> , for excellence in information technology.	Summer 2011
<b>Commendation</b> , on a national level, for participating in the third and final stage of the 23rd Panhellenic Informatics Competition.	Summer 2011
<b>Commendation</b> , on a national level, for participating in the third and final stage of the 22nd Panhellenic Informatics Competition.	Summer 2010
<b>Commendation</b> , on an international level, for participating in the XVII International Space Olympics (ISO), Korolev City Moscow, Russia.	Winter 2009

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## PROFESSIONAL DEVELOPMENT

I have presented in the following events:

- 8<sup>th</sup> International Conference On Computational Stochastic Mechanics (CSM 8)* June 2018  
Paros, Greece  
“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  
Rhodes, Greece; organised by 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  
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

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## TEACHING EXPERIENCE

Currently, I am a teaching associate 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 TA 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 few lectures.

I have been a TA regularly since February 2014, in mathematics, with experience TA'ing the subjects of (stochastic) calculus, probability & statistics, network theory with applications, algorithms and programming. A full list of courses that I have TA'ed is below.

### **Monash University**

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

MATH367 - Networks in Theory and Practice

### **University of Athens**

MATH141 - Computer Science I (MATLAB)

MATH101 - Calculus I

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## 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. BARDs 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.

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

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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:**  $\text{\LaTeX}$ , 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.

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## 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

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## VOLUNTEER SERVICE

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