

DR. ANTONIOS MEIMARIS

Research Mathematician

Founder - Quant Lab Research Centre, Australia

Data Scientist - SEC Newgate Research, Australia

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EDUCATION

PhD in [Econometrics & Business Statistics \(Mathematics\)](#), [Monash University](#), Melbourne, Australia 2020
Coursework passed with High Distinction (highest achievable grade)

Fully funded by Monash University (Fees and Stipend)

MRes in [Decision Making Under Risk & Uncertainty](#), [University of Liverpool](#), Liverpool, UK 2016

Awarded with Distinction (highest achievable grade)

Fully funded by EPSRC Doctoral Training Grant (Fees and Stipend)

BSc (Hons) in [Pure & Applied Mathematics](#), [University of Athens](#), Athens, Greece 2015

Specializations: (i) Computational Mathematics & (ii) Statistics and Operations Research

PUBLICATIONS

- o **Antonios Meimaris**, “On the limitations of the Wiener path integral most probable path technique for solving nonlinear Itô stochastic differential equations”, *Examples and Counterexamples* 1, (2021): 100039: 1-4.
- o Konstantinos Liaskos, Athanasios Pantelous, Ioannis Kougiumtzoglou, **Antonios Meimaris** and Antonina Pirrotta, “Implicit analytic solutions for a nonlinear fractional partial differential beam equation”, *Communications in Nonlinear Science and Numerical Simulation* 83, (2020): 105219: 1-19.
- o **Antonios Meimaris**, Ioannis Kougiumtzoglou and Athanasios Pantelous, “Closed-form approximate solutions for a class of coupled nonlinear stochastic differential equations”, *Applied Mathematics and Computation* 364, (2019): 124669: 1-18.
- o **Antonios Meimaris**, Ioannis Kougiumtzoglou, 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* 97(4), (2019): 1-15.
- o **Antonios Meimaris**, Ioannis Kougiumtzoglou and Athanasios Pantelous, “Approximate transition probability density functions for a class of coupled nonlinear stochastic differential equations”, 8th CSM conference proceedings, (2019): 346-351.
- 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* 121, (2018): 38-49.
- o **Antonios Meimaris**, Ioannis Kougiumtzoglou and Athanasios Pantelous, “Approximate analytical solutions for a class of nonlinear stochastic differential equations”, *European Journal of Applied Mathematics* 30(5), (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.

IN PREPARATION

- o **Antonios Meimaris**, Vasileios Kontosakos, Athanasios Pantelous and Ioannis Kougiumtzoglou, “Approximate closed-form solutions for continuous time derivative pricing”, (2021).
- o Konstantinos Liaskos, **Antonios Meimaris**, Athanasios Pantelous and Ioannis Kougiumtzoglou, “Analytic solution in implicit form for the large deflection of a nonlinear beam with fractional derivative terms”, (2021).
- o Konstantinos Liaskos, Athanasios Pantelous, Ioannis Kougiumtzoglou and **Antonios Meimaris**, “Implicit analytic solutions for the stochastic linear partial differential beam equation with fractional derivative terms”, (2021).

SHORT TERM ACADEMIC APPOINTMENTS

CE Lecturer - University of Liverpool, Liverpool, United Kingdom Lecture Topic: <i>History of Probability & Randomness</i>	November, 2017
Visiting Scholar - Columbia University, New York, USA	May - June, 2017
Visiting Scholar - Columbia University, New York, USA	November - December, 2016

TEACHING EXPERIENCE

Teaching Associate - Monash Business School, Melbourne, Australia Responsible with teaching, marking and other administrative duties for the units:	2018 - 2021
ETC2430 - Actuarial statistics	ETC3530 - Contingencies in insurance and pensions
ETC4130 - Asset liability management	ETC3420 - Applied insurance methods
ETC5343 - Financial mathematics under uncertainty	
Teaching Assistant - University of Liverpool, Liverpool, United Kingdom Responsible with teaching, marking and other administrative duties for the units:	2016 - 2018
MATH480 - Probability Essentials for Financial Calculus (Stochastic Calculus)	
MATH367 - Networks in Theory and Practice (Graph Theory)	
Teaching Assistant - University of Athens, Athens, Greece Responsible with teaching, marking and other administrative duties for the units:	2014 - 2015
MATH141 - Computer Science I (Algorithms with MATLAB applications)	
MATH101 - Calculus I (Real Analysis)	
Teacher - Varvakios Pilot School, Athens, Greece Organized by the University of Athens, Athens, Greece. Responsible with teaching a number of large classes, organizing courses and had the opportunity to discuss with more experienced teachers about teaching approaches.	February - April 2015

OTHER WORK EXPERIENCE & SKILLS

Founder - Quant Lab Research Centre, Melbourne, Australia Responsible for providing research leadership, which normally includes promoting and facilitating leading-edge research, including collaborative and interdisciplinary research. Client work includes the development of solutions for prediction, automation and data visualization projects.	2020 - present
Data Scientist - SEC Newgate Research, Melbourne, Australia Second-in-command (2ic) and responsible with projects requiring data collection, data entry and analysis. In charge of data visualization projects, improving efficiency and predictive analytics. Interpreting data in order to draw conclusions for strategy implementation, using statistical techniques for hypothesis testing and creating reports for presenting conclusions to team and clients.	2020 - present
Proprietary Quantitative Trader - Snap Innovations Australia, Melbourne, Australia Responsible with developing quantitative methods and conducting trades.	2019 - 2020
Analyst & Facilitator - BARD - Monash University, Melbourne, Australia Funded by IARPA. Responsible with analyzing problems and transmitting information regarding Bayesian Argumentation via Delphi (BARD) to a variety of backgrounds about the value of information.	July - August 2018
o Computer Literacy Certificate - University of Athens, Greece Awarded based on the number of Information Technology modules successfully passed. (e.g. Algorithm Development & Analysis, Numerical Analysis and Programming in MATLAB, Python, R and Java)	2014
o Languages: English, Greek, Russian	

COLLABORATIONS & MEMBERSHIPS

Monash Data Futures Institute, Monash University	2020 - present
The Research Society, Australia	2020 - present
Group Risk - Allianz SE, Munich, Germany	2020 - present
Allianz Global Investors, Munich, Germany	2019 - 2020
Stochastic Engineering Dynamics Lab, Columbia University, New York, USA	2015 - 2020

COMMITTEES & PANELS

Invited in the Judging panel of the SCUDEM VI 2021 , Systemic Initiative for Modeling Investigations and Opportunities with Differential Equations (SIMIODE), Cornwall, NY, USA	November - December, 2021
Invited in the Judging panel of the SCUDEM V 2020 , Systemic Initiative for Modeling Investigations and Opportunities with Differential Equations (SIMIODE), Cornwall, NY, USA	September - November, 2020
I participated in the Probabilistic Methods Committee , California Institute of Technology (Caltech), Pasadena, CA, USA	June, 2019
Purpose: to promote and foster research in uncertainty analysis, model validation methods and risk-informed decision-making, and to stimulate its understanding and use in science and engineering applications to benefit society.	

RECENT AWARDS

Technology and Innovation Award (as part of Newgate Research), awarded by the Research Society, Australia, for the innovative work in social network analysis.	May 2021
Postgraduate Publications Award , including monetary prize (\$5,000), for the amount of top tier published research papers during my candidature at Monash University, Melbourne, Australia and the quality of my thesis by publications.	February 2020
Certificate of Excellence, Certified Peer Reviewer , awarded by Elsevier Researcher Academy.	September 2019
Econometric Game, Finalist Award (Top 10) , 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.	April 2019
Teaching Excellence Award (Best Ph.D. Teaching Associate) , from the Director of Education, Associate Professor Vasilis Sarafidis, including monetary prize, for my teaching at Monash University, Melbourne, Australia.	February 2019
Teaching Award , from the Head of Department, Professor Heather Anderson, including monetary prize, for my teaching at Monash University, Melbourne, Australia, during the academic year 2018.	December 2018
Monash Graduate Scholarship (MGS) Grant , Postgraduate Research Studentship (2018-2021).	October 2017
Monash International Tuition Scholarship (MITS) Grant , Postgraduate International Tuition Studentship (2018-2021).	October 2017
EPSRC Centre for Doctoral Training (CDT): Award , including monetary prize, for a proposed solution to an uncertainty quantification problem (See Page 7).	May 2017
EPSRC Centre for Doctoral Training (CDT): Studentship Grant (No.: 1654075) , Principal Investigator & Award Holder (2015-2019).	July 2015

PRESENTATIONS AT CONFERENCES & COLLOQUIUMS

- 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 (Caltech), Pasadena, CA, USA
“Approximate closed-form solutions for a class of nonlinear stochastic differential equations with applications in engineering dynamics”
*Here I also participated in the [Probabilistic Methods Committee](#).
- 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”

PROFESSIONAL DEVELOPMENT

- AI: innovation in action*
Committee for Economic Development of Australia (CEDA), Australia July 2021
*Speakers from KPMG Futures, Microsoft Australia & Senator the Hon Jane Hume, Minister for Superannuation, Financial Services and the Digital Economy, Minister for Women’s Economic Security
- Towards Net Zero: securing our energy future*
Committee for Economic Development of Australia (CEDA), Australia July 2021
*Speakers from AEMO, Siemens, AGL & Nous Group
- Launch of the Intergenerational Report 2021*
Committee for Economic Development of Australia (CEDA), Australia June 2021
*Speaker: The Hon. Josh Frydenberg, Federal Treasurer
- Virtual roundtable: Decision making in complex systems*
Committee for Economic Development of Australia (CEDA), Australia October 2020
*Speakers from the Sax Institute

<i>CDT Easter School 2017</i> University of Liverpool, Liverpool, United Kingdom *Here I was a member of the organizing team	April 2017
<i>NATCOR: Forecasting and Predictive Analytics</i> Lancaster University, Lancaster, United Kingdom	September 2016
<i>3rd BCN(Barcelona) Summer School on Stochastic Analysis</i> Centre de Recerca Matemàtica, Bellaterra, Barcelona, Spain	June-July 2016
<i>NATCOR: Convex Optimization</i> University of Edinburgh, Edinburgh, United Kingdom	June 2016
<i>MIGSAA graduate course on stochastic pathwise integration and stochastic particle systems</i> University of Edinburgh, Edinburgh, United Kingdom	April 2016
<i>CDT Easter School 2016</i> University of Liverpool, Liverpool, United Kingdom	April 2016
<i>13th International Probabilistic Workshop (IPW2015)</i> University of Liverpool, Liverpool, United Kingdom	November 2015
<i>9th Panhellenic Logic Symposium</i> National Technical University of Athens, Athens, Greece	June 2013

REVIEWING SERVICE

Invited to review papers for

[Applied Mathematics and Computation, Elsevier](#)

[Computers & Industrial Engineering, Elsevier](#)

[Nonlinearity, IOP Publishing & London Mathematical Society](#)

[Journal of King Saud University - Science, Elsevier](#)

[ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems, Part B: Mechanical Engineering, American Society of Mechanical Engineers \(ASME\)](#)

[Engineering Optimization, Taylor and Francis Ltd.](#)

[AIMS Mathematics, AIMS Press](#)

[Mathematics, MDPI AG](#)

[Symmetry, MDPI AG](#)

PUBLIC TALKS

A Brief History of Randomness: From divination and gambling to modern Probability Theory & Statistics
168 Lonsdale Street, Melbourne, Australia
March 2020

PRESENTATIONS AT INTERNAL SEMINARS

A History of Driver Modelling: From regression to Machine Learning techniques
Newgate Research, Australia
July 2021
*Here I presented to Newgate Research members how driver analysis/modelling started from the ancient times and how it evolved until the age of Machine Learning approaches, e.g. Random Forest modelling

OTHER VOLUNTEER SERVICE

Mentor for the “The Tipping Point” program, supported by THI Australia.	2019 - present
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, United Kingdom.	2016 - 2017
Member of the organizing team of the forum of Department of Mathematics, University of Athens, Athens, Greece.	2013 - 2019
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

References available upon request