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**Citizenship:** Cypriot

**Date and place of birth:** 7<sup>th</sup> May 1984, Nicosia, Cyprus

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**Research Interests:** Problems at the interface of Differential Equations and Probability/Statistics. Bayesian nonparametric Statistics including but not limited to inverse problems: theoretical foundation, asymptotic performance of posterior distributions in the infinitely-informative data limit, design and analysis of sampling algorithms in high dimensions, unbiased estimation of posterior expectations.

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### Academic Positions

- 2019 - present, Assistant Professor  
Department of Mathematics and Statistics, University of Cyprus
  - 2015 - 2019, Lecturer  
Department of Mathematics and Statistics, University of Cyprus
  - 2014 - 2015, Postdoctoral Research Fellow  
Department of Statistics, University of Warwick
    - Position under the EPSRC funded project  
*Enabling Quantification of Uncertainty in Inverse Problems (EQUIP)*
    - Supervisor: Professor Gareth Roberts
  - 2013 - 2014, Postdoctoral Research Fellow  
Mathematics Institute, University of Warwick
    - Position under the ERC funded project  
*Problems at the Applied Mathematics-Statistics interface (AMSTAT)*
    - Supervisor: Professor Andrew Stuart
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## University Education

- 2013, PhD in Mathematics  
University of Warwick
    - Supervisor: Professor Andrew Stuart.
  - 2010, MSc in Mathematics (Distinction)  
University of Warwick
    - Dissertation supervisor: Professor Andrew Stuart
  - 2009, BSc in Applied Mathematical and Physical Sciences (First Class)  
National Technical University of Athens
    - University Medal for graduating top in School's class of 2009
    - Dissertation supervisor: Professor Spiros Argyros
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## Publications

### A. In Refereed Journals

- S. Agapiou and A. Savva, *Adaptive inference over Besov spaces in the white noise model using  $p$ -exponential priors, to appear in Bernoulli (accepted September 2023), preprint arXiv:2209.06045.*
- S. Agapiou and S. Wang, *Laplace priors and spatial inhomogeneity in Bayesian inverse problems, to appear in Bernoulli (accepted October 2022), preprint arXiv:2112.05679.*
- S. Agapiou and P. Mathé, *Designing truncated priors for direct and inverse Bayesian problems, Electronic Journal of Statistics 16(1) (2022) 158-200*
- S. Agapiou, M. Dashti and T. Helin, *Rates of contraction of posterior distributions based on  $p$ -exponential product priors, Bernoulli 27(3) (2021) 1616-1642*
- S. Agapiou, A. Anastasiou, A. Baxevari, T. Christofides, E. Constantinou, G. Hadjigeorgiou, C. Nicolaides, G. Nikolopoulos and K. Fokianos, *Modeling the first wave of Covid-19 pandemic in the Republic of Cyprus, Scientific Reports 11 (2021) 7342*
- S. Agapiou, M. Burger, M. Dashti and T. Helin, *Sparsity-promoting and edge-preserving maximum a posteriori estimators in non-parametric Bayesian inverse problems, Inverse Problems 34(4) (2018) 045002*
- S. Agapiou, G. O. Roberts and S. J. Vollmer, *Unbiased Monte Carlo: posterior estimation for intractable/infinite-dimensional models, Bernoulli 24(3) (2018) 1726-1786*
- S. Agapiou, O. Papaspiliopoulos, D. Sanz-Alonso and A. M. Stuart, *Importance Sampling: intrinsic dimension and computational cost, Statistical Science 32(3) (2017) 405-431*

- S. Agapiou, J. M. Bardsley, O. Papaspiliopoulos and A. M. Stuart, Analysis of the Gibbs sampler for hierarchical inverse problems, *SIAM/ASA Journal on Uncertainty Quantification* 2(1) (2014) 511-544
- S. Agapiou, A. M. Stuart and Yuan-Xiang Zhang, Bayesian posterior contraction rates for linear severely ill-posed inverse problems, *Journal of Inverse and Ill-Posed Problems* 22(3) (2014) 297-321
- S. Agapiou, S. Larsson and A. M. Stuart, Posterior contraction rates for the Bayesian approach to linear ill-posed inverse problems, *Stochastic Processes and their Applications* 123(10) (2013) 3828-3860

## B. Book Chapters and Conference Proceedings (refereed)

- S. Agapiou and P. Mathé, *Posterior contraction in Bayesian Inverse Problems under Gaussian priors*, New trends in parameter identification for mathematical models, Springer Trends in Mathematics series (2018) 1-29

## C. Theses

- S. Agapiou, *Aspects of Bayesian inverse problems*, PhD dissertation, University of Warwick (2013)
- S. Agapiou, *A classical and a Bayesian approach to linear ill-posed inverse problems*, MSc dissertation, University of Warwick (2010)
- S. Agapiou, *Stable and infinitely divisible distributions*, BSc dissertation, National Technical University of Athens (2009)

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## Preprints

- *Heavy-tailed Bayesian nonparametric adaptation*, with I. Castillo (arXiv:2308.04916).
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## Scholarships and Awards

- Shortlisted for the University of Cyprus teaching award, 2023 (decision pending)
  - Shortlisted for the Faculty of Pure and Applied Sciences teaching award, 2021
  - MSc and PhD funding through Professor Andrew Stuart's ERC grant AMSTAT, 2008/09-2012/13
  - Scholarship for undergraduate studies by Greek Scholarships Foundation, 2004/05-2008/09
  - Awards for performance as an undergraduate student at the School of Applied Mathematical and Physical Sciences, NTUA
    - Charalambos Chrysovergis award and University Medal for graduating top in School's class of 2009 (average grade 9.69/10)
    - Greek Scholarships Foundation annual awards and honorary scholarships for excellent performance, 2004/05-2008/09
    - Demetres Thomaidis Foundation awards for School's highest year-average grade, 2004/05, 2007/08, 2008/09
    - Christos Papakyriakopoulos awards for School's highest average grades in first and second year mathematics, 2004/05, 2005/06
    - Nikolaos Kritikos scholarship for highest average grade in first year Mathematics, 2004/05
    - Evangelos-Manthos Anastasakis award for highest average grade in first and second year Physics, 2004/05-2005/06
  - Participated in successful MSCA-COFUND-FP proposal, ONISILOS, 2021
  - Participated in successful Centre for Teaching and Learning proposal, 'Mathematical Modelling: an online experience' (7500 euro), 2021
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Talks (invited talks in bold, titles and slides available on homepage)

- 2023: **Workshop on Theory for Scalable, Modern Statistical Methods (Bocconi)**, **Webinar of ISBA-BNP section (Zoom)**, CIRM conference on Approximation Methods in Bayesian Analysis (Marseille)
  - 2022: SIAM UQ (Atlanta), **Statistics seminar (Athens University of Economics and Business)**
  - 2021: ECOSTA2021 (Zoom, Hong Kong)
  - 2020: **CMX seminar (Caltech)**, **Statistics seminar (Cambridge)**, **International Bayes Club (Zoom)**, CMStatistics (Zoom, King's Kollege)
  - 2019: **Uncertainty Quantification workshop (Oberwolfach)**, **Bayesian nonparametrics conference (Oxford)**, Applied Inverse Problems conference (Grenoble), **University of Haifa - University of Cyprus Workshop in Statistics (Haifa)**
  - 2018: **Uncertainty quantification in complex nonparametric models (Lorentz center, Leiden)**, Vilnius conference on probability theory and mathematical statistics and IMS annual meeting on probability and statistics (Vilnius), **EQUIP grant final meeting (Warwick)**, **Statistics seminar (Bocconi)**, Greek Stochastics  $\kappa'$  (Athens)
  - 2017: Applied Inverse Problems conference (Hangzhou), Algorithms and Computationally Intensive Inference seminar (Warwick), Greek Stochastics  $\iota'$  (Milos), **Bayesian and Nonlinear Inverse Problems workshop (Lorentz center, Leiden)**
  - 2016: **EQUIP/AIB Meeting: Data Assimilation and Inverse Problems (Warwick)**, **Joint Scientific Computation and Statistics seminar (Nottingham)**, **Retrospective Monte Carlo Workshop (Warwick)**
  - 2015: Algorithms and Computationally Intensive Inference seminar (Warwick), **Computational Statistics seminar (University College London)**, MiR@W day Uncertainty in Complex Computer Models (Warwick), **Statistics seminar (Imperial College London)**, Applied Inverse Problems conference (Helsinki), Reading-Warwick Data Assimilation day (Reading)
  - 2014: Greek Stochastics  $\zeta'$  (Athens), EQUIP lunch seminar (Warwick), Reading-Warwick Data Assimilation meeting (Warwick), Monte Carlo and Quasi Monte Carlo conference (Leuven), SIAM conference on Uncertainty Quantification (Savannah)
  - 2013: CSC@lunchtime seminar (Warwick), **Bayesian Nonparametrics conference (Amsterdam)**, Inverse Problems and Applications conference (Linköping), **Stochastic Analysis seminar (Oxford)**
  - 2012: **Canberra Symposium on Regularization (Australian National University)**, NSF/CBMS conference on Small Deviation Probabilities (Huntsville), Bayesian Inverse Problems workshop (Warwick), Numerical Analysis postgraduate workshop (Reading)
  - 2011: **Computational and Applied Mathematics seminar (Chalmers University of Technology)**, Young Researchers in Mathematics conference (Warwick)
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## Invited Research Visits

- Prof. Christoph Schwab (ETH Zurich), 1 week, upcoming, March 2024
  - Prof. Ismaël Castillo (Sorbonne University), 1 week, upcoming, December 2023
  - Prof. Ismaël Castillo (Sorbonne University), 3 days, December 2022
  - Prof. Richard Nickl (Cambridge University), 4 weeks, February 2020
  - Prof. Andrew Stuart (California Institute of Technology), 2 weeks, January 2020
  - Dr Masoumeh Dashti (Sussex University), 1 week, August 2018
  - Dr Tapio Helin (University of Helsinki), 1 week, April 2017
  - Prof. Peter Mathé (Weierstrass Institute), 1 week, May 2014
  - Prof. Omiros Papaspiliopoulos (Universitat Pompeu Fabra), 1 week, April 2014
  - Prof. Omiros Papaspiliopoulos (Universitat Pompeu Fabra), 1 week, March 2013
  - Prof. Stig Larsson (Chalmers University of Technology), 1 week, September 2011
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## Conference and Minisymposium organizer

- Member of the Scientific Committee of the International Society for Bayesian Analysis World Meeting, Venice July 2024
  - Member of the Local Organizing Committee of the International Symposium for Nonparametric Statistics (ISNPS), Paphos June 2022
  - Local Organizing Committee chair and Scientific Committee member of Bayesian Nonparametrics Networking Workshop, Nicosia April 2022
  - Co-organizer of annual *Panycyprian Statistics Day*, 2018-2022
  - Co-organizer of mini-symposia *Bayesian inverse problems with non-Gaussian priors* and *Communications in uncertainty quantification and inverse problems*, in AIP2017 conference at Hangzhou
  - Co-organizer of mini-symposium *Markov chain Monte Carlo in high dimensions*, in MCQMC2014 conference at KU Leuven
  - Co-organizer of the EQUIP lunch seminar and organizer of postdoc reading group on the Bayesian approach to inverse problems, 2014/15
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## Teaching Experience

- Bayesian Statistics, Winter term 2022/23, 2023/24  
University of Cyprus (elective course of MSc in Data Science introducing Bayesian Statistics using R and Stan)
- Statistical Learning, Spring term 2021/22, 2022/23  
University of Cyprus (core course of MSc in Data Science on statistical regression, classification, model selection, regularization)
- Co-instructor of Mathematical Modelling: an online experience, Spring term 2022/23  
University of Cyprus (4<sup>th</sup>-year undergraduate course on modern topics in Statistics and Applied Mathematics)
- Probability Theory, Winter term 2019/20  
University of Cyprus (3<sup>rd</sup>-year undergraduate course on metrotheoretic probability theory)
- Linear Models I, Winter term 2019/20, 2020/21, 2021/22, 2022/23, 2023/24  
University of Cyprus (4<sup>th</sup>-year undergraduate introductory course to regression and analysis of variance)
- Statistical Data Analysis, Spring term 2018/19, 2020/21, 2021/22  
University of Cyprus (3<sup>rd</sup>-year undergraduate course on introduction to Statistical simulation using R)
- Simulation and Data Analysis, Winter term 2016/17-2018/19  
University of Cyprus (MSc course on introduction to Statistical simulation using R)
- Linear Models II, Spring term 2015/16-2018/19  
University of Cyprus (4<sup>th</sup>-year undergraduate course on statistical regression, model selection, classification)
- Generalized Linear Models, Spring term 2015/16, 2017/18  
University of Cyprus (MSc course on topics from Statistical Regression)
- Topics in Statistics, Winter term 2015/16, 2016/17  
University of Cyprus (MSc course on topics from the area of Statistical Learning)
- Control Theory, Winter terms 2013/14, 2014/15  
University of Warwick (3<sup>rd</sup>-year undergraduate course introducing controllability, observability, stabilizability, Gaussian probability, filtering/smoothing and optimal control)
- Assistant for lecture series on Bayesian inverse problems by Professor Andrew Stuart, 05/2012 & 07/2012  
Göttingen University and Peking University
  - Taught supplementary lectures and helped with preparation of lecture notes
  - Research level week-long course introducing prior modelling in function space, Bayes theorem for PDE inverse problems, well-posedness and approximation of posterior distributions, and algorithms for probing the posterior.
- Assistant for lecture series on Data Assimilation by Professor Andrew Stuart, 07/2012  
Peking University

- Taught supplementary lectures and helped with preparation of lecture notes
  - Research level week-long course introducing the discrete-time filtering and smoothing problems, the most important relevant algorithms, and briefly discussing the continuous-time case.
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### Departmental Service at the Department of Mathematics and Statistics University of Cyprus

- Co-director of interdisciplinary postgraduate program in Data Science, 2017-present
  - Member of postgraduate studies committee, 2018-2020
  - Responsible for the Department's internship program, 2018-2022
  - Department's representative in organizing committee of the national phase of the European Statistics Competition 2018-present
  - Co-organizer of educational day for high school students with topic *Why study Mathematics and Statistics?*, 2019
  - Responsible for department's outreach and public relations, 2018-2019
  - Member of committee for formulation of departmental strategic plan, 2018
  - Organizer of the Mathematics and Statistics colloquium, 2015-2017, 2023
  - Member of undergraduate studies committee, 2016-2017
  - Member of publishing committee, 2015-2016, 2018-2019
  - Responsible for comprehensive exams in Simulation and Data Analysis for PhD candidates, 2016-2018, 2022
  - Internal examiner of Eleni Manoli's PhD thesis, *Advancements in Indirect Questioning Techniques*, 2022
  - Internal examiner of Charalambos Charalambous' PhD thesis, *Probability Inequalities and Related Asymptotic Results for U-statistics Based on Associated and Negatively Associated Random Variables*, 2021
  - Internal examiner of Dimitrios Pilavakis' Phd thesis, *Bootstrap methods for functional time-series*, 2019
  - Internal examiner of Andreas Makrides' PhD thesis, *Statistical inference for multi-state reliability systems*, 2016
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## Other Academic Activities

- PhD advisor of Aimilia Savva, 2019-2023 (successfully defended in December 2023)
- Chair of the International Society of Bayesian Analysis Program Council, 2024
- Vice-chair of the International Society of Bayesian Analysis Program Council, 2023
- Co-chair of the International Society of Bayesian Analysis Prize Committee, 2023
- Member of the International Society of Bayesian Analysis Prize Committee, 2022
- Member of the National Statistical Council, 2022-2027 (NSC is an advisory body for the National Statistical System with members appointed by the Council of Ministers of the Republic of Cyprus)
- Founding member and elected board member of Cyprus Statistical Society, 2017-2022
- Referee for *Annals of Statistics*, *Annals of Applied Probability*, *Journal of the Royal Statistical Society B*, *Journal of Machine Learning Research*, *Mathematical Statistics and Learning*, *Electronic Journal of Statistics*, *Scandinavian Journal of Statistics*, *Bernoulli*, *Statistics and Computing*, *Journal of Statistical Planning and Inference*, *SIAM Journal on Uncertainty Quantification*, *Methodology and Computing in Applied Probability*, *Inverse Problems*, *Inverse Problems and Imaging*, *Journal of Complexity*, and *Mathematics of Computation*
- Mentoring of MASDOC PhD students Daniel Sanz-Alonso (currently faculty at University of Chicago) and Matthew Thorpe (current faculty at University of Warwick), University of Warwick, 2013-2015
- Served as consultant for the National Examinations Services, on the statistical analysis of the results of the national competition for employment as a schoolteacher, 2019