

UNIVERSITY OF MILAN

Selection procedure for recruiting full professors under art.18, paragraph 1 and 4, of Law No.240/2010 for competition sector 13/D1 - STATISTICS, (scientific-disciplinary sector SECS-S/01 - STATISTICS) at the Department of Economia, Management e Metodi Quantitativi, (announcement published in Official Gazette No. 93 of 05/12/2023) - Competition code 5428.

[Name and Surname] CURRICULUM VITAE

(N.B. CV MUST BE OF UP TO 30 PAGES AND INCLUDE THE DETAILS CANDIDATES CONSIDER USEFUL FOR THE ASSESSMENT.

ALL THE TITLES INSERTED BELOW ARE JUST EXAMPLES THAT CAN BE REPLACED, CHANGED OR COMPLETED)

PERSONAL DATA (DO NOT INCLUDE YOUR PERSONAL ADDRESS AND LANDLINE OR MOBILE PHONE NUMBER)

SURNAME	PAPAMARKOU
NAME	THEODOROS
DATE OF BIRTH	13 April 1981

QUALIFICATIONS

DEGREE

(Specify full degree name, University, date, etc.)

Bachelor of science (B.Sc.) in mathematics, Department of Mathematics, University of Ioannina, Greece. September 2000 - August 2004.

DOCTORAL DEGREE OR EQUIVALENT QUALIFICATION EARNED IN ITALY OR ABROAD / MEDICAL SPECIALISATION DIPLOMA OR EQUIVALENT QUALIFICATION, FOR THE RELEVANT SECTORS, EARNED IN ITALY OR ABROAD

(Specify qualification full name, institution, date, etc.)

Doctor of Philosophy (Ph.D.) in statistics, Department of Statistics, University of Warwick, UK. September 2005 - June 2009.

FURTHER QUALIFICATIONS

(Specify qualification full name, institution, date, etc.)

Master of Science (M.Sc.) in statistics, Department of Statistics, University of Warwick, UK. September 2004 - August 2005.

TEACHING ACTIVITIES

CLASSES AND MODULES

(Specify academic year, degree course, hours of frontal instruction, No. of credits, if any)

1. Taught the module 'longitudinal data analysis'. The University of Manchester, Department of Mathematics. Manchester, UK. February 2021 -- May 2023 (three academic years, second semester each year). Taught this module to fourth year undergraduate and postgraduate students.
2. Developed and taught the module 'theory of statistical inference'. University of Liverpool, Department of Mathematics. Liverpool, UK. February 2022 -- April 2022 (one academic year, second semester). Taught this module to third year undergraduate students.
3. Developed and taught the module 'big data analytics'. University of Glasgow, School of Mathematics and Statistics. Glasgow, UK. January 2017 -- March 2019 (two academic years, second semester each year). Taught this module to fourth year undergraduate and postgraduate students.
4. Taught the module 'data analysis'. University of Glasgow, School of Mathematics and Statistics. Glasgow, UK. January 2016 -- March 2018 (two academic years, second semester each year). Taught this module to third year undergraduate and postgraduate students.
5. Taught the module 'statistical methods'. University of Glasgow, School of Mathematics and Statistics. Glasgow, UK. September 2015 -- December 2015 (one academic year, first semester). Taught this module to first year undergraduate students.

COMPLEMENTARY TEACHING ACTIVITIES AND SERVICE ACTIVITIES TO STUDENTS

MENTORING BACHELOR'S DEGREE, MASTER'S DEGREE, PhD, AND SPECIALISATION SCHOOL DISSERTATIONS AND THESES

(Specify academic year, University, degree course, etc.)

Supervision and mentoring of post-doctoral researchers:

1. Co-supervised post-doctoral researcher Danny Wood. The University of Manchester. Alliance Manchester Business School. Manchester, UK. June 2022 -- September 2023. Co-supervised the post-doctoral researcher on a research project focused on the identification of important variables for predictive uncertainty.
2. Mentored on the Manchester Gold staff career mentoring programme for 2021. The University of Manchester. September 2021 -- August 2022. Manchester, UK. I mentored Farideh Jalali, who is an MRC Research Fellow at The University of Manchester. I introduced Farideh to collaborators from the University of Tennessee. As a result of this collaboration with Farideh and with the external collaborators, we all co-authored a conference article, which appeared at IEEE Engineering in Medicine and Biology Society (EMBC) 2022.

Supervision of PhD students:

1. Co-supervising PhD student George Livesey. The University of Manchester. Department of Materials. Manchester, UK. September 2023 -- present. Co-supervising the student on a research project focused on the development of topological data analysis methods for the detection of corrosion in nuclear canisters.
2. Co-supervising PhD student Amr Mousa. The University of Manchester. Alliance Manchester Business School. Manchester, UK. September 2023 -- present. Co-supervising the student on a research project focused on the development of safe reinforcement learning algorithms in changing environment.
3. Co-supervising PhD student Marcos Negre Saura. The University of Manchester. Alliance Manchester Business School. Manchester, UK. September 2023 -- present. Co-supervising the student on a research project focused on the development of uncertainty quantification algorithms for reinforcement learning.
4. Co-supervising PhD student Jana Stella. The University of Manchester. Department of Electrical and Electronic Engineering. Manchester, UK. December 2022 -- present. Co-supervising the student on a research project focused on the development of deep learning modelling for ocean engineering.

Supervision of students in MSc by research programme:

1. Co-supervised MSc by research student Alan Lazarus. University of Glasgow, School of Mathematics and Statistics. Glasgow, UK. Academic year 2016 -- 2017. Co-supervised the student for one year, which was the duration of his MSc by research programme. As a result of the supervision of Alan with

Dirk Husmeier as the co-supervisor, we all co-authored a conference article, which appeared at AISTATS 2018.

Supervision of students in taught MSc programmes in statistics, data science, and actuarial science:

1. Supervised 14 MSc projects: 4 in summer 2023, 4 in summer 2022 and 6 in summer 2021. The University of Manchester, Department of Mathematics. Manchester, UK. June 2021 -- present.
2. Supervised 11 MSc projects: 4 in summer 2018, 4 in summer 2017 and 3 in summer 2016. University of Glasgow, School of Mathematics and Statistics. Glasgow, UK. June 2016 -- August 2018.

Supervision of undergraduate projects:

1. Supervised 4 whole-year undergraduate projects: 1 in 2023 -- 2024 (ongoing), 1 in 2022 -- 2023 and 2 in 2021 -- 2022. The University of Manchester, Department of Mathematics. Manchester, UK. September 2021 - present.
2. Supervised 4 single-semester undergraduate projects: 2 in 2016 -- 2017 and 2 in 2017 -- 2018. University of Glasgow, School of Mathematics and Statistics. Glasgow, UK. September 2016 -- August 2018.

TUTORING BACHELOR'S DEGREE, MASTER'S DEGREE, AND PhD STUDENTS

(Specify academic year, degree course, etc.)

Delivery of tutorials:

1. Delivered tutorials for 4 modules, namely 'vector calculus' (first year undergraduate students), 'probability 1' (first year undergraduate students), 'probability and statistics 2' (second year undergraduate students), 'linear regression models' (third year undergraduate students). Manchester, UK. Manchester, UK. September 2022 -- December 2023 (two academic years, second semester each year).
2. Delivered numerous other tutorials for introductory probability, statistical inference, time series, and data analysis at various universities (University of Warwick, University of Glasgow, The University of Manchester) in the UK, as a PhD student, assistant professor, associate professor and professor.

Advising students:

1. Advisor of studies. The University of Manchester, Department of Mathematics. Manchester, UK. October 2020 -- present. Advisor of studies for more than 20 students per year, including undergraduate and postgraduate students.
2. Advisor of studies. University of Glasgow, School of Mathematics and Statistics. Glasgow, UK. September 2016 -- July 2018. Advisor of studies for more than 20 students per year, including undergraduate and postgraduate students.

SEMINARS

(Specify seminar title, place, date, etc.)

1. Gave seminar at ELLIS summer school on machine learning for healthcare and biology (Manchester Unit). The University of Manchester. 14 June 2023. Manchester, UK. Title of talk: 'Topological deep learning'.
2. Gave seminar at UCSB computer science colloquium. University of California, Santa Barbara (UCSB), Department of Computer Science. 26 September 2022. Santa Barbara, USA. Title of talk: 'The premise of approximate MCMC in Bayesian deep learning'.
3. Gave seminar at Warwick Statistics 50th anniversary conference. University of Warwick, Department of Statistics. 8 September 2022. Coventry, UK. Title of talk: 'The premise of approximate MCMC in Bayesian deep learning'.
4. Gave seminar at ICMS Seminar Series. University of Glasgow, School of Mathematics and Statistics. 23 April 2021. Glasgow, UK. Title of talk: 'Challenges in Markov chain Monte Carlo for Bayesian neural networks'.

SCIENTIFIC RESEARCH ACTIVITIES

SCIENTIFIC PUBLICATIONS

(For each publication, specify the following: authors' names, full title, publisher, date and place of publication, ISBN/ISSN/DOI or equivalent code)

Published journal articles with A ranking in 13/D1:

[1] T Papamarkou. "Approximate blocked Gibbs sampling for Bayesian neural networks". In: Statistics and Computing 33 (5 2023). DOI: <https://doi.org/10.1007/s11222-023-10285-5>.

[2] T Papamarkou, J Hinkle, MT Young, and D Womble. "Challenges in Markov chain Monte Carlo for Bayesian neural networks". In: Statistical Science 37.3 (2022), pp. 425-442. DOI: <https://doi.org/10.1214/21-STS840>.

[3] T Papamarkou, F Nasrin, A Lawson, N Gong, O Rios, and V Maroulas. "A random persistence diagram generator". In: Statistics and Computing 32 (5 2022). DOI: <https://doi.org/10.1007/s11222-022-10141-y>.

[4] A Spannaus, T Papamarkou, S Erwin, and JB Christian. "Inferring the spread of COVID-19: the role of time-varying reporting rate in epidemiological modelling". In: Scientific Reports 12 (2022). DOI: <https://doi.org/10.1038/s41598-022-14979-0>.

[5] M Besançon, T Papamarkou, D Anthoff, A Arslan, S Byrne, D Lin, and J Pearson. "Distributions.jl: definition and modeling of probability distributions in the JuliaStats ecosystem". In: Journal of Statistical Software 98 (16 2021). DOI: <https://doi.org/10.18637/jss.v098.i16>.

[6] D Agrawal, T Papamarkou, and J Hinkle. "Wide neural networks with bottlenecks are deep Gaussian processes". In: Journal of Machine Learning Research 21.175 (2020), pp. 1-66. URL: <http://jmlr.org/papers/v21/20-017.html>.

[7] D Harjanto, T Papamarkou, CJ Oates, V Rayon-Estrada, FN Papavasiliou, and A Papavasiliou. "RNA editing generates cellular subsets with diverse sequence within populations". In: Nature Communications 7 (2016), p. 12145. DOI: <https://doi.org/10.1038/ncomms12145>.

[8] CJ Oates, T Papamarkou, and M Girolami. "The controlled thermodynamic integral for Bayesian model evidence evaluation". In: Journal of the American Statistical Association 111 (2016), pp. 634-645. DOI: <https://doi.org/10.1080/01621459.2015.1021006>.

[9] T Papamarkou, A Mira, and M Girolami. "Zero variance differential geometric Markov chain Monte Carlo algorithms". In: Bayesian Analysis 9 (2014), pp. 97-128. DOI: <https://doi.org/10.1214/13-BA848>.

Other published journal articles:

[10] Global Lipids Genetics Consortium. "Discovery and refinement of loci associated with lipid levels". In: Nature Genetics 45 (2013), pp. 1274-1285. DOI: <https://doi.org/10.1038/ng.2797>.

Published conference articles:

[11] JG Wiese, L Wimmer, T Papamarkou, B Bischl, S Günnemann, and D Rügamer. "Towards efficient MCMC sampling in Bayesian neural networks by exploiting symmetry". In: Joint European Conference on Machine Learning and Knowledge Discovery in Databases (ECML PKDD): Research Track. 2023, pp. 459-474. DOI: https://doi.org/10.1007/978-3-031-43412-9_27.

[12] EA Horvat and T Papamarkou. "Gender differences in equity crowdfunding". In: HCOMP. AAAI Press, 2017, pp. 51-60. DOI: <https://doi.org/10.1609/hcomp.v5i1.13319>.

ORGANISATION, SUPERVISION AND COORDINATION OF NATIONAL AND INTERNATIONAL RESEARCH CENTRES OR GROUPS, OR PARTICIPATION IN THEM

(For each entry, specify year, role, research group, etc.)

1. Member of the European Laboratory for Learning and Intelligent Systems (ELLIS). The University of Manchester. December 2022 -- present. Manchester, UK.
2. Committee member of the Computational Statistics and Machine Learning Section of the Royal Statistical Society (RSS CSML). The University of Manchester. November 2022 -- present. Manchester, UK.

SUPERVISION OF OR PARTICIPATION IN PUBLISHING COMMITTEES OF SCIENTIFIC MAGAZINES

(For each entry, specify year, role, scientific magazine etc.)

1. Founding editor-in-chief for 'ACM Transactions on Probabilistic Machine Learning'. Association for Computing Machinery (ACM). June 2023 -- present.
2. Associate editor for 'Journal of Statistical Software'. Foundation for Open Access Statistics. October 2021 -- present.
3. Associate editor for 'Foundations of Data Science'. American Institute of Mathematical Sciences. November 2019 -- present.
4. Associate editor for 'RSS Series C'. John Wiley and Sons. January 2020 -- January 2022.
5. Associate editor for 'Neurocomputing'. Elsevier. January 2019 -- September 2020.

HOLDING PATENTS

(For each patent, specify authors' names, title, classification, patent number, etc.)

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NATIONAL AND INTERNATIONAL AWARDS AND ACCOLADES FOR RESEARCH ACTIVITY

(Specify award, date, issuing organisation, etc.)

1. ECML PKDD 2023 best paper award for the research track. The paper 'Towards efficient MCMC sampling in Bayesian neural networks by exploiting symmetry' has been selected among the 196 accepted papers of the research track as best paper by the ECML PKDD best paper award chairs. Turin, Italy.
2. One of the top 30% highest-scoring reviewers for NeurIPS 2018. Evaluated by the area chairs as one of the top 30% highest scoring reviewers for NeurIPS 2018. Montreal, Canada.

SPEAKING AT CONFERENCES AND CONVENTIONS OF INTERNATIONAL INTEREST

(Specify conference/convention title, date, etc.)

1. Co-organizing workshop on 'topological deep learning for computer vision' at CVPR 2024 (workshop officially accepted). 17 - 18 June 2024. Seattle, USA.
2. Co-organized minisymposium 'statistics and machine learning in topological and geometric data analysis' at the SIAM Conference on Mathematics of Data Science 2022 (MDS22). 28 - 29 September 2022. San Diego, USA.
3. Organized Digital Futures workshop on privacy preserving data analysis. The University of Manchester, Alliance MBS Business School. 16 - 19 May 2022. Manchester, UK.

MANAGING, ORGANISATIONAL, AND SERVICE ACTIVITIES**MANAGING TASKS AND DUTIES UNDERTAKEN AT COLLEGIATE BODIES AND COMMITTEES, AT CONSIDERABLE PUBLIC AND PRIVATE INSTITUTIONS AND SCIENTIFIC AND CULTURAL ORGANISATIONS, OR AT THE UNIVERSITY OF MILAN OR AT OTHER UNIVERSITIES**

(Specify task/duty, institution, date, etc.)

1. Board member of the Data Science and Artificial Intelligence Institute (IDSAI). The University of Manchester. September 2022 -- present. Manchester, UK.
2. Chair of the Mathematics Department forum. The University of Manchester, Department of Mathematics. October 2021 -- August 2023. Manchester, UK.
3. Lead of the advanced mathematics cluster of the Centre for Digital Trust and Security (DTS). The University of Manchester. October 2021 -- June 2023. Manchester, UK.
4. Head of taught postgraduate programme in statistics and data analytics. University of Glasgow, School of Mathematics and Statistics. Academic year 2018 -- 2019. Glasgow, UK.
5. Administrator of the EPSRC network on computational statistics and machine learning (NCSML). University of Warwick. January 2014 -- June 2014. Coventry, UK.

CLINICAL-AID ACTIVITIES

(Specify date, duration, role, institution where the activity was carried out, etc.)

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Date

4 January 2024

Place

Manchester, UK.