Silvia Metelli

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My personal website
My professional page

LANGUAGES

Italian: native speaker, **English**: fluent, **French**: working knowledge

RESEARCH INTERESTS

A broad interest in dynamic network analysis - with applications spanning from epidemiology to cyber-security - network meta-analysis and dynamic treatment regimes for personalised medicine. Specific interests include nonparametric latent feature models, clustering, dimensionality-reduction and multivariate mixed models.

CURRENT POSITION

Assistant Professor of Biostatistics (fixed term), University of Paris,
CRESS, INSERM, INRA, F-75004 Paris.

EMPLOYMENT

Post-doctoral Research Associate, The Alan Turing Institute & Imperial College London, March 2018 - Oct 2019

External Consultant, Jinn Capital, London, Dec 2016 - Sept 2017

EDUCATION

Ph.D, Statistics (award date: 1 October 2018)
Department of Mathematics - Statistics Section,
Imperial College London, 2014 - 2018,
Supervisor: Professor Nicholas A. Heard

MRes Degree, Mathematical Science
Distinction
Imperial College London, 2013 - 2014

Short Advanced Course, Survival Analysis
Statistical Science PhD School, University of Padua, June 2012

Master of Science, Statistical Sciences
Thesis: Bayesian Estimation with INLA for logistic multilevel models,
110/110 cum laude - publication recommended
University of Florence, 2010 - 2012

Bachelor of Science, Statistics
Thesis: Estimation methods for discrete multilevel models,
110/110 cum laude
University of Florence, 2007 - 2010

VISITING EXPERIENCES

Visiting PhD student Los Alamos National Laboratory, June 2015-Aug 2015
Advanced Computing Solutions - PO Office
Los Alamos, New Mexico, US

TEACHING

Teaching Assistant, Imperial College London, Oct 2014-2017

Teaching assistant for the following courses: *Probability & Statistics I, Probability & Statistics II, Statistical Modelling I, Statistical Modelling II, Python, MATLAB.*

SUPERVISION OF STUDENTS

June 2019 - Aug 2019, Supervision of a UROP (Undergraduate Research Opportunity Programme) student, 2^{nd} year, BSc in Mathematics, Department of Mathematics, Imperial College London. Project: Random forests for classification of computer network data.

PUBLICATIONS

S. Metelli and A. Chaimani. Challenges in meta-analyses with observational studies. *Evidence-Based Mental Health*, 23 (2), 83-87, 2020.

S. Metelli and N.A. Heard. On Bayesian New Edge Prediction and Anomaly Detection in Computer Networks. *The Annals of Applied Statistics*, 13 (4), 2586-2610, 2019.

S. Claudiani, S. Metelli, R. Kamvar, R. Szydlo, A. Khan et al. Introducing a Predictive Score for Successful Treatment Free Remission in Chronic Myeloid Leukemia (CML). *Blood, The Journal of the American Society of Hematology*, 134, 26-26, 2019.

S. Metelli. New Edge Activity and Anomaly Detection in a Large Computer Network. *PhD Thesis*, Imperial College London, 2018.

S. Metelli and N.A. Heard. Model-based clustering and new edge modelling in large computer networks. *2016 Proceedings of the IEEE Intelligence and Security Informatics Conference (ISI)*, 91-96, 2016.

L. Grilli, S. Metelli and C. Rampichini. Bayesian estimation with integrated nested Laplace approximation for binary logit mixed models. *Journal of Statistical Computation and Simulation*, 85 (13), 2718-2726, 2015.

S. Metelli and N.A. Heard. Modelling new edge formation in a computer network through Bayesian variable selection. *2014 Proceedings of the IEEE Joint Intelligence and Security Informatics Conference (JISIC)*, 272-275, 2014.

SUBMITTED and WORKING PAPERS

S. Metelli, D. Mavidis, A. Chaimani. Bayesian model-based outlier detection in network meta-analysis. *Working Paper.*

S. Claudiani, S. Metelli, R. Kamvar, R. Szydlo et al. Introducing a Predictive Score for Successful Treatment Free Remission in Chronic Myeloid Leukemia (CML). *Submitted.*

S. Metelli and N.A. Heard. Activity monitoring with topic modelling for cyber-security data. *Working Paper.*

CONFERENCES and WORKSHOPS

2020 International Society Conference of Clinical Biostatistics, *ISCB41*, Aug. 23-27, Krakow, PL
2018 Computational and Methodological Statistics, *CMStatistics*, Dec. 14-16, Pisa, IT
2018 The Alan Turing Institute Data Study Group, Dec. 10-14, London, UK
2017 Statistical Data Science Workshop, July 3-5, London, UK

2017 Data Science for Cyber-Security, Sept. 25-27, London, UK
2016 Quick Fire talks, Imperial College London, Nov. 4, London, UK
2016 IEEE Intelligence and Security Informatics Conference (ISI), Sept. 28-30, Tucson, AZ
2015 Quick Fire talks, Imperial College London, Oct. 30, London, UK
2015 Dynamic Networks and Cyber Security Workshop, June 22-24, Bristol, UK
2014 IEEE Joint Intelligence and Security Informatics Conference, Sept. 24-26, The Hague, NL
2013 International Workshop on Statistical Modelling, IWSM, July 7-11, Palermo, IT
2013 International Workshop on Simulation, May 21-25, Rimini, IT

INVITED TALKS

2nd IMA and OR Society Conference on Mathematics of Operational Research, Birmingham, UK, Apr 2019
Centre of Research in Epidemiology and Statistics Sorbonne Paris Cite, Paris, FR, Apr 2019
Imperial College Behind the scenes, Data Science Institute, London, UK, Feb 2019

AWARDS and FUNDINGS

Seal of Excellence - European Commission certificate for the project "Dynamic comparative effectiveness research", submitted under the Horizon 2020s Marie Skołodowska-Curie actions call H2020-MSCA-IF-2019
Statistical Data Science Award - Best poster award, Statistical Data Science UK 2017
IEEE-ISI Studentship - Mobility grant IEEE-ISI 2016 conference
Santander Mobility Award - Travel grant for the year 2014-15
Maths Department (IC) Studentship - Four year studentship (stipend and fees)
Villa Favard Award - Most original thesis of the year 2011-2012
University of Florence- Outstanding achievements scholarship 2010-2012

TECHNICAL SKILLS

R, Python: Extensive experience
Programming: R, Python, STATA and MATLAB
Data Visualisation: Gephi, Dash, Cytoscape
Applications: LaTeX, UNIX, Apache Hadoop, Microsoft Office
Operating Systems: Experience with Linux, Mac and Microsoft Windows