Marco Scutari

December 22, 2025

🏛 Istituto Dalle Molle di Studi sull'Intelligenza Artificiale (IDSIA)
📇 Polo Universitario Lugano, Via la Santa 1, 6962 Lugano (Switzerland)
🌐 https://www.bnlearn.com/about   ✉ scutari@bnlearn.com   🎓 Google Scholar   in Linkedin
🔤 Languages: Italian (native), English (fluent), Japanese (N4).

Fellowships and Positions

present ~ 2019
Senior Researcher.
Istituto Dalle Molle di Studi sull'Intelligenza Artificiale (IDSIA), Switzerland.

2018 ~ 2014
Lecturer in Statistics.
Department of Statistics and Somerville College, University of Oxford, UK.

2014 ~ 2011
Research Associate in Statistical Genetics.
UCL Genetics Institute, University College London, UK.

2011 ~ 2008
Doctoral Research Fellow in Statistics.
Department of Statistical Sciences, Università degli Studi di Padova, Italy.

Professional Qualifications and Awards

present
Google Scholar Highly Cited Scientist.
Ranked globally 17th for Bayesian networks, 10th for Causal Discovery, 24th for Fairness.

present ~ 2022
World's Top 2% Scientists.
Stanford University.

2023
Featured Poster (top 25).
World Congress of Dermatology.

2023
Best Paper Award.
Italian Association for Artificial Intelligence.

2020
Best Paper Award.
International Conference on Probabilistic Graphical Models.

2017
Excellence Recognition Scheme.
University of Oxford.

2015
Fellow of the Higher Education Academy.
The UK Professional Standards Body for teaching and support in higher education.

Consulting

present ~ 2021
La Roche-Posay/L'Oréal.
Skin and Mental Diseases Connections in Google Search Trends Data.
Infodemiology: Climate change, Pollution, Skin and Mental Diseases.
Dermatitis and Quality of Life.

2025 ~ 2023
Pfizer.
Causal Artificial Intelligence for Clinical Big Data.

2023
DTU Aqua/European Union Maritime and Fisheries Fund.
COPE2: Discard Survival of Undersized European Plaice Caught with Towed Fishing Gears in Danish Waters.

2019
United Nations.
Analytical Tools for Capacity Building in Support of Prioritization of Sustainable Development Goals in National Development Strategies.

External Funding

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<tr><td>2026
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2025</td><td>**The Institute of Medical Science, The University of Tokyo (K25-2170).**   **¥1568k**
"Large-scale Gene Regulatory Network Estimation from Single-Cell Transcriptome Based on HPC", implementing a scalable ML pipeline using state-of-the art causal discovery and inference.</td></tr>
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2021   **UBS Switzerland.**   **54k CHF**
"Classification Models", investigating the generalisability and transferrability of ML models for anomaly detection in financial transactions.

2021
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2020   **UBS Switzerland.**   **380k CHF**
"Algorithmic Fairness", producing new explainable fairness for ML models and had UBS implementing fair pricing and credit scoring.

2020
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2019   **UBS Switzerland.**   **200k CHF**
"Certification of Machine Learning", investigating Explainable AI for deep learning models for NLP.

2016   **International Centre for Mathematical Sciences (ICMS, 1601-SCU).**   **£22k**
Organising and hosting the 4-day workshop "Learning Graphical Models in High Dimensional Settings."

Research Group

present
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2020   **Alessio Zanga** (Ph.D. Student then Research Associate, co-supervised with Fabio Stella).
"Causal Network Models for Clinical Data in the Presence of Missing Values."
Department of Informatics, Systems and Communication, Università degli Studi di Milano-Bicocca, Italy;
Data Science and Advanced Analytics, F. Hoffmann-La Roche Ltd, Basel, Switzerland.

present
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2023   **Niccolò Rocchi** (Ph.D. Student, co-supervised with Fabio Stella).
"Federated Learning for Clinical Data."
Department of Informatics, Systems and Communication, Università degli Studi di Milano-Bicocca, Italy.

2024
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2021   **Alessandro Bregoli** (Ph.D. Student, co-supervised with Fabio Stella).
"Analyzing Complex Systems with Cascades Using Continuous-Time Bayesian Networks."
Department of Informatics, Systems and Communication, Università degli Studi di Milano-Bicocca, Italy.

2024
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2021   **Alice Bernasconi** (Ph.D. Student, co-supervised with Fabio Stella).
"Causal Models of Cardiovascular Risk in Breast Cancer Patients."
Department of Informatics, Systems and Communication, Università degli Studi di Milano-Bicocca;
Fondazione IRCSS Istituto Nazionale Tumori, Italy.

2023
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2017   **Katharina Anders** (Ph.D. Student, co-supervised with Scott Hale).
"To What Extent are Google Search Queries Predictive of User Intent?."
Oxford Internet Institute, University of Oxford, UK.

2023
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2020   **Lorenzo Vallegi** (Ph.D. Student, co-supervised with Federico Mattia Stefanini).
"Bayesian Analysis of Heterogeneous Agronomic Data Sets."
Department of Statistics, Computer Science and Applications, Università degli Studi di Firenze.

2021   **Francesca Panero** (Research Assistant).
"Fair Machine Learning Models."
Istituto Dalle Molle di Studi sull'Intelligenza Artificiale (IDSIA), Switzerland.

2021
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2019   **Rafael Cabañas** (Junior Researcher).
"Machine Learning Applied to Business Challenges in the Banking Industry, in collaboration with UBS."
Istituto Dalle Molle di Studi sull'Intelligenza Artificiale (IDSIA), Switzerland.

Service

2018 ～ 2014 **Course Coordinator, M.Sc. in Applied Statistics, M.Sc. in Statistical Science.**
Department of Statistics, University of Oxford.

2018 ～ 2015 **Internal Examiner, M.Sc. in Applied Statistics, M.Sc. in Statistical Science.**
Department of Statistics, University of Oxford.

2018 ～ 2015 **Admissions Officer, M.Sc. in Applied Statistics, M.Sc. in Statistical Science.**
Department of Statistics, University of Oxford.

2018 ～ 2015 **Admissions Officer, B.Sc. and M.Math. in Mathematics, Mathematics & Statistics, Mathematics & Computer Science, Computer Science.**
Somerville College, University of Oxford.

Professional Organisations

present ～ 2023 Working Group on Artificial Intelligence for Health, Italian Association for Artificial Intelligence.

2018 ～ 2014 International Society for Bayesian Analysis (ISBA).

Education

2011 ～ 2008 **Ph.D. in Statistical Sciences**, Doctoral School in Statistical Sciences.
Università degli Studi di Padova, Italy.
European Doctorate (Doctor Europeus).

Dissertation: *"Measures of Variability for Graphical Models."*
Supervisors: Adriana Brogini and Korbinian Strimmer, Institut für Medizinische Informatik, Statistik und Epidemiologie (IMISE), Universität Leipzig.

2007 ～ 2004 **M.Sc. in Statistics and Computer Science**, Faculty of Statistical Sciences.
Università degli Studi di Padova, Italy.
Graduation mark: 107/110.

Dissertation: *"Network Bayesiani: un Approccio Non Parametrico Basato sull'Entropia per la Selezione del Modello"* (*Bayesian Networks: an Entropy-Based Nonparametric Approach to Model Selection*).
Supervisors: Adriana Brogini and Fortunato Pesarin.

2004 ～ 2001 **B.Sc. in Statistics and Information Technologies**, Faculty of Statistical Sciences.
Università degli Studi di Padova, Italy.
Graduation mark: 110/110.

Dissertation: *"Miglioramenti della carta di controllo AEWMA"* (*Improving AEWMA Control Charts*).
Supervisor: Guido Masarotto.

Collaborations with Industry and Technology Transfer

2022 ～ 2019 **UBS.**
Certification of Machine Learning Models.
Product Offering & Pricing.
Algorithmic Fairness.

2018 **InvestAssure.**
Predicting Risks Associated with Corporate Responsibility.

2018 **Fospha.**
Effects of Weather on Human Behaviour.

2018
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2017
AT&T.
Dynamic Positioning of Mobile Tower Antennas with Dynamic Bayesian Networks.

2018
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2016
ecoVeritas.
Investigating Data Hierarchies and Sample Sizes in Packaging Waste Calculations and Their Effect.

2017
Nielsen.
Modelling Promotions using Bayesian Hierarchical Models.
TV Set Location Prediction Using Supervised Machine Learning Techniques.

2016
Google and Deutsche Bahn.
Comparing Time Series Modelling Methods for Optimising Deutsche Bahn's Media Investments.

2015
GlaxoSmithKline (GSK).
Searching for Heterogeneity in Continuous End-Points from Clinical Trials Arising Due to Sub-Populations.

Journals and Conferences

Editor

2025
Editor in Frontiers in Psychology (Topic: "Statistical Guidelines: New Developments in Statistical Methods and Psychometric Tools").

present
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2023
Statistica Neerlandica (Associate Editor).

2021
PLoS Genetics (Guest Editor).

2020
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2011
Frontiers in Systems Biology, Frontiers in Genetics.

Programme/Scientific Committees

present
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2014
International Conference on Probabilistic Graphical Models (PGM).

present
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2019
Workshop on Explainable Artificial Intelligence (CD-MAKE).

present
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2020
Conference on Uncertainty in Artificial Intelligence (UAI).

present
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2021
International Conference of the Italian Association for Artificial Intelligence (AIxIA).

2024
Satellite Workshop to International Society for Bayesian Analysis (ISBA) World Meeting.

2020
International Joint Conference on Artificial Intelligence (IJCAI).

2019
Belgian Dutch Conference on Machine Learning (Benelearn).
Artificial Intelligence for Healthcare (AI4HB2E, IEEE CBMS).

2017
Advanced Methodologies for Bayesian Networks (AMBN).
Learning Graphical Models in High Dimensional Settings, Principal Organiser.

2015
European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML PKDD).

2014
International Meeting on Computational Intelligence Methods for Bioinformatics and Biostatistics (CIBB).

2011
Workshop on Probabilistic Problem Solving in Biomedicine, Conference on Artificial Intelligence in Medicine (AIME).

Software

present
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2007
bnlearn (author and maintainer).
An R package implementing Bayesian network learning and inference.

present
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2020
fairml (author and maintainer).
An R package implementing machine learning models that ensure fair predictions.

present
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2020
rbmn (maintainer).
An R package for Gaussian Bayesian networks.

2016
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2009
packdep (co-author with Radhakrishnan Nagarajan and maintainer).
An R package to explore dependencies between user-contributed R packages and identify key packages according to social network analysis metrics.

Publications

Books

2023
Scutari M and Malvestio M (2023). *The Pragmatic Programmer for Machine Learning: Engineering Analytics and Data Science Solutions*. Chapman & Hall.

2021
Scutari M and Denis JB (2021). *Bayesian Networks with Examples in R*. Chapman & Hall, 2nd edition.

2014
Denis JB and Scutari M (2014). *Réseaux Bayésiens avec R : Élaboration, Manipulation et Utilisation en Modélisation Appliquée.* Pratique R. EDP. This is a French translation of "Bayesian Networks with Examples in R".

Scutari M and Denis JB (2014). *Bayesian Networks with Examples in R*. Chapman & Hall.

2013
Nagarajan R, Scutari M, and Lèbre S (2013). *Bayesian Networks in R with Applications in Systems Biology*. Use R! series. Springer.

Book Chapters

2023
Scutari M and Malvestio M (2023). Developing and Running Machine Learning Software: Machine Learning Operations (MLOps). *Wiley StatsRef: Statistics Reference Online*.

Scutari M and Malvestio M (2023). Machine Learning Software and Pipelines. *Wiley StatsRef: Statistics Reference Online*.

2015
Scutari M (2015). Graphical Modelling in Genetics and Systems Biology. In Lucas P, editor, *Foundations of Biomedical Knowledge Representation*, Lecture Notes in Artificial Intelligence. Springer, pages 143–158.

Scutari M (2015). Personalised Medicine: Taking a New Look at the Patient. In Lucas P, editor, *Foundations of Biomedical Knowledge Representation*, Lecture Notes in Artificial Intelligence. Springer, pages 139–141.

2011
Scutari M and Strimmer K (2011). Introduction to Graphical Modelling. In Balding DJ, Stumpf M, and Girolami M, editors, *Handbook of Statistical Systems Biology*. Wiley, pages 237–251.

Policy Briefs

2024
Francescon S, Zhou X, Tassan-Viol F, Cogo E, Rocca C, Scutari M, Bali Swain R, Bollino CA, Mitrović S, and Weidemeyer N (2024). Enhancing G7 Leadership in Global Climate Action. Policy brief, Think7 Task Force on Energy, Climate and Sustainable Development, providing research-based policy recommendations to the 2024 G7 summit in Italy.

Journal Articles and Conference Papers

in the works

Babagoli MA, Beller MJ, Scutari M, Gonzales-Rivas JP, Noronha JC, Medina A, Sulbaran N, Cabrera SS, Fallahzadeh A, Iruvanti S, Nieto-Martinez R, and Mechanick JI. Bayesian Network Modelling of Cardiometabolic Risk Factors and Disease Across 48 WHO STEPS: A Comparative Analysis. *The Lancet Global Health*.

Bechny M, Kishi A, Tomita Y, Scutari M, van der Meer J, Schmidt M, Bassetti C, Tzovara A, and Faraci F. Sleep-Stage Dynamics Predict Current Sleep-Disordered Breathing and Future Cardiovascular Risk. *Scientific Reports*.

Mitrovic S, Bulleri E, Ruinelli L, Colombo A, Toniolo S, Malpetti D, Scutari M, Iotti G, Merlani P, Azzimonti L, Novotni D, and Pagnamenta A. Early Identification of Ventilator-Associated Pneumonia Using Machine Learning Models: A Prospective Cohort Study. *Intensive Care Medicine*.

Nagarajan R and Scutari M. Benchmarking Constraint-Based Bayesian Structure Learning Algorithms: Role of Network Topology. *arXiv*.

Panero F, Wit E, and Scutari M. The Role of Uncertainty in Assessing the Fairness of Machine Learning Models. *RSS: Data Science and Artificial Intelligence*.

Rocchi N, Scutari M, Zanga A, Nagarajan R, and Stella F. On Federated Causal Discovery in Medicine: Opportunities and Challenges. *npj Digital Medicine*.

Sato N, Scutari M, and Imoto S. Causal Assessment of Gene Regulatory Networks in Single-Cell Transcriptomics Data Based on Bayesian Network Using scstruc. *Cell Reports Methods*.

Sato N, Scutari M, Kawano S, Yamaguchi R, and Imoto S. DAG Learning from Zero-Inflated Count Data Using Continuous Optimization. *TBD*.

Sato N, Scutari M, Kawano S, Yamaguchi R, and Imoto S. Practical Causal Evaluation Metrics for Biological Networks. *Bioinformatics*.

Zanga A, Scutari M, and Stella F. Causal Discovery on Higher-Order Interactions. *International Journal of Approximate Reasoning*.

Scutari M. fairml: A Statistician's Take on Fair Machine Learning Modelling. *Journal of Statistical Software*.

in print

Orsoni M, Benassi M, and Scutari M. Information Theory, Machine Learning, and Bayesian Networks in the Analysis of Dichotomous and Likert Responses for Questionnaire Psychometric Validation. *Psychological Methods*.

Bernasconi A, Zanga A, Lucas PJF, Scutari M, Trama A, and Stella F. A Causal Network Model to Estimate the Cardiotoxic Effect of Oncological Treatments in Young Breast Cancer Survivors. *Progress in Artificial Intelligence*. This is an extended version of the "Towards a Transportable Causal Network Model Based on Observational Healthcare Data" AIxIA paper.

Till AC, Henry TR, Scutari M, and Briganti G. Abnormal Child Behavior in Primary School Students: A Bayesian Network Analysis. *L'Encéphale*.

2025

Bechny M, Scutari M, van der Meer J, Faraci F, Meystre S, Natelson BH, and Kishi A (2025). Unveiling Sleep Dysregulation in Chronic Fatigue Syndrome with and without Fibromyalgia Through Bayesian Networks. In *Proceedings of the 23rd International Conference on Artificial Intelligence in Medicine (AIME25)*, pages 33–43.

Bijlenga P, Spinner G, Scutari M, Delucchi M, and Hirsch S (2025). Introducing Bayesian Analysis for Clinicians: Sex-Associated Risk Assessment of Intracranial Aneurysms. In *Proceedings of the 10th European-Japanese Cerebrovascular Congress (EJCVC22)*, pages 19–26.

Malpetti D, Scutari M, Gualdi F, van Setten J, van der Laan S, Haitjema S, Lee AM, Hering I, and Mangili F (2025). Technical and Legal Aspects of Federated Learning in Bioinformatics: Applications, Challenges and Opportunities. *Frontiers in Digital Health*, 7:1644291.

Papanastasiou G, Scutari M, Tachdjian R, Hernandex-Trujillo V, Raasch J, Billmeyer K, Vasilyev N, and Ivanov V (2025). Causal Modeling in Large-Scale Data to Improve Identification of Adults at Risk for Combined and Common Variable Immunodeficiencies. *npj Digital Medicine*, 8:361.

Scutari M, Kerob D, Krutmann J, and Salah S (2025). Causal Networks of Infodemiological Data: Modelling Dermatitis. In *Proceedings of the 23rd International Conference on Artificial Intelligence in Medicine (AIME25)*, pages 397–407.

Zanga A, Bernasconi A, Lucas PJF, Pijnenborg H, Reijnen C, Scutari M, and Constantinou AC (2025). Federated Causal Discovery with Missing Data in a Multicentric Study on Endometrial Cancer. *Journal of Biomedical Informatics*, 169:104877.

2024

Bernasconi A, Zanga A, Lucas PJF, Scutari M, Di Cosimo S, De Santis MC, La Rocca E, Baili P, Cavallo I, Verderio P, Ciniselli CM, Pizzamiglio S, ABlanda, Perego P, Vallerio P, Stella F, Trama A, and the Ada Working Group (2024). From Real-World Data to Causally Interpretable Models: A Bayesian Network to Predict Cardiovascular Diseases in Adolescents and Young Adults with Breast Cancer. *Cancers*, 16(21):3634.

Briganti G, Decety J, Scutari M, and McNally RJ (2024). Using Bayesian Networks to Investigate Psychological Constructs: The Case of Empathy. *Psychological Reports*, 127(5):2334–2346.

Briganti G, Scutari M, Epskamp S, Borsboom D, Hoekstra R, Golino HF, Christensen AP, Morvan Y, Ebrahimi OV, Heeren A, de Ron J, Bringmann L, Huth K, Haslbeck J, Isvoranu A, Marsman M, Blanken T, Henry TR, Fried E, and McNally RJ (2024). Network Analysis: An Overview for Mental Health Research. *International Journal of Methods in Psychiatric Research*, 33(4):e2034.

Scutari M (2024). Entropies and Divergences for Bayesian Networks: Computational Complexity and Efficient Implementation. *Algorithms*, 17(1):24.

Scutari M, Kerob D, and Salah S (2024). Inferring Skin-Brain-Skin Connections from Infodemiology Data Using Dynamic Bayesian Networks. *Scientific Reports*, 14:10266.

Valleggi L, Scutari M, and Stefanini FM (2024). Learning Bayesian Networks with Heterogeneous Agronomic Datasets via Mixed-Effect Models and Hierarchical Clustering. *Engineering Applications of Artificial Intelligence*, 131:107867.

2023

Bernasconi A, Zanga A, Lucas PJF, Scutari M, and Stella F (2023). Towards a Transportable Causal Network Model Based on Observational Healthcare Data. In *Proceedings of the 2nd Workshop on Artificial Intelligence for Healthcare, 22nd International Conference of the Italian Association for Artificial Intelligence (AIxIA 2023)*, pages 67–82. Best paper award.

Bregoli A, Rathsman K, Scutari M, Stella F, and Mogesen SW (2023). Analyzing Complex Systems with Cascades using Continuous Time Bayesian Networks. In *Proceedings of the 30th International Symposium on Temporal Representation and Reasoning (TIME23)*, pages 8:1–8:21.

Briganti G, Scutari M, and McNally RJ (2023). A Tutorial on Bayesian Networks for Psychopathology Researchers. *Psychological Methods*, 28(4):947–961.

Liew BXW, Hartvigsen J, Scutari M, and Kongsted A (2023). Data-Driven Network Analysis Identified Subgroup-Specific Low Back Pain Pathways: A Cross-Sectional GLA:D Back Study. *Journal of Clinical Epidemiology*, 153:66–77.

Liew BXW, Palacios-Ceña M, Scutari M, Fuensalida-Novo S, Guerrero-Peral A, Ordás-Bandera C, Pareja JA, and Fernández-de-las-Peñas C (2023). Path Analysis Models Integrating Psychological, Neuro-Physiological and Clinical Variables in Individuals with Tension-Type Headache. *The Journal of Pain*, 24(3):426–436.

Zanga A, Bernasconi A, Lucas PJF, Pijnenborg H, Rejinen C, Scutari M, and Stella F (2023). Causal Discovery with Missing Data in a Multicentric Clinical Study. In *Proceedings of the 21st International Conference on Artificial Intelligence in Medicine (AIME23)*, pages 40–44.

2022

Delucchi M, Spinner GR, Scutari M, Bijlenga P, Morel S, Friedrich CM, Furrer R, and Hirsch S (2022). Bayesian Network Analysis Reveals the Interplay of Intracranial Aneurysm Rupture Risk Factors. *Computers in Biology and Medicine*, 147:105740.

Liew BXW, de-la-Llave-Rincón AI, Scutari M, Arias-Buría JL, Cook CE, Cleland J, and Fernández-de-las-Peñas C (2022). Do Short-Term Effects Predict Long-Term Improvements in Women Who Receive Manual Therapy or Surgery for Carpal Tunnel Syndrome? A Bayesian Network Analysis of a Randomized Clinical Trial. *Physical Therapy*, 102(4):pzac015.

Scutari M (2022). Comments on: "Hybrid Semiparametric Bayesian Networks". *TEST*, 31:328–330.

Scutari M, Marquis C, and Azzimonti L (2022). Using Mixed-Effect Models to Learn Bayesian Networks from Related Data Sets. *Proceedings of Machine Learning Research (PGM 2022)*, 186:73–84.

Scutari M, Panero F, and Proissl M (2022). Achieving Fairness with a Simple Ridge Penalty. *Statistics and Computing*, 32:77.

Zanga A, Bernasconi A, Lucas P, Pijnenborg H, Reijnen C, Scutari M, and Stella F (2022). Risk Assessment of Lymph Node Metastases in Endometrial Cancer Patients: A Causal Approach. In *Proceedings of the 1st Workshop on Artificial Intelligence for Healthcare, 21st International Conference of the Italian Association for Artificial Intelligence (AIxIA 2022)*, pages 1–15.

2021

Azzimonti L, Corani G, and Scutari M (2021). A Bayesian Hierarchical Score for Structure Learning from Related Data Sets. *International Journal of Approximate Reasoning*, 142:248–265. This is an extended version of the "Structure Learning for Related Data Sets with a Hierarchical Bayesian Score" PMLR paper.

Bodewes T and Scutari M (2021). Learning Bayesian Networks from Incomplete Data with the Node-Averaged Likelihood. *International Journal of Approximate Reasoning*, 138:145–160. This is an extended version of the "Identifiability and Consistency of Bayesian Network Structure Learning from Incomplete Data" PMLR paper.

Bregoli A, Scutari M, and Stella F (2021). A Constraint-Based Algorithm for the Structural Learning of Continuous-Time Bayesian Networks. *International Journal of Approximate Reasoning*, 138:105–122. This is an extended version of the "Constraint-Based Learning for Continuous-Time Bayesian Networks" PMLR paper.

Briganti G, Scutari M, and Linkowski P (2021). Network Structures of Symptoms from the Zung Depression Scale. *Psychological Reports*, 124(4):1897–1911.

Liew BXW, Ford JJ, Scutari M, and Hahne AJ (2021). How Does Individualised Physiotherapy Work for People with Low Back Pain? A Bayesian Network Analysis Using Randomised Controlled Trial Data. *PLoS ONE*, 16(10):e0258515.

Liew BXW, Peolsson A, Falla D, Cleland JA, Scutari M, Kierkegaard M, and Dedering Å (2021). Mechanisms of Recovery after Neck-Specific or General Exercises in Patients with Cervical Radiculopathy. *European Journal of Pain*, 25(5):1162–1172.

Pedrero-Martin Y, Falla D, Martinez-Calderon J, Liew BXW, Scutari M, and Luque-Suarez A (2021). Self-Efficacy Beliefs Mediate the Association Between Pain Intensity and Pain Interference in Acute/Subacute Whiplash-Associated Disorders. *European Spine Journal*, 20:1689–1698.

2020

Azzimonti L, Corani G, and Scutari M (2020). Structure Learning for Related Data Sets with a Hierarchical Bayesian Score. *Proceedings of Machine Learning Research (PGM 2020)*, 138:5–16.

Bodewes T and Scutari M (2020). Identifiability and Consistency of Bayesian Network Structure Learning from Incomplete Data. *Proceedings of Machine Learning Research (PGM 2020)*, 138:29–40.

Bregoli A, Scutari M, and Stella F (2020). Constraint-Based Learning for Continuous-Time Bayesian Networks. *Proceedings of Machine Learning Research (PGM 2020)*, 138:41–52. Best Student Paper award.

Briganti G, Scutari M, and Linkowski P (2020). A Machine Learning Approach to Relationships Among Alexithymia Components. *Psychiatria Danubina*, 32(Suppl. 1):180–187.

Fisher H, Gittoes M, Evans L, Bitchell L, Mullen R, and Scutari M (2020). An Interdisciplinary Examination of Stress and Injury Occurrence in Athletes. *Frontiers in Sports and Active Living*, 2(595619):1–20.

Liew BXW, Peolsson A, Scutari M, Löfgren H, Wibault J, Dedering Å, Öberg B, Zsigmond P, and Falla D (2020). Probing the Mechanisms Underpinning Recovery in Post-Surgical Patients with Cervical Radiculopathy Using Bayesian Networks. *European Journal of Pain*, 24(5):909–920.

Ruggieri A, Stranieri F, Stella F, and Scutari M (2020). Hard and Soft EM in Bayesian Network Learning from Incomplete Data. *Algorithms*, 13(12):329.

Scutari M (2020). Bayesian Network Models for Incomplete and Dynamic Data. *Statistica Neerlandica*, 74(3):397–419.

Sheldrake TE, Caricchi L, and Scutari M (2020). Tectonic Control on Global Variations in the Record of Large-Magnitude Explosive Eruptions in Volcanic Arcs. *Frontiers in Earth Science*, 8(127):1–14.

2019

Liew BXW, Scutari M, Peolsson A, Peterson G, Ludvigsson ML, and Falla D (2019). Investigating the Causal Mechanisms of Symptom Recovery in Chronic Whiplash Associated Disorders using Bayesian Networks. *The Clinical Journal of Pain*, 35(8):647–655.

Scutari M, Graafland CE, and Gutiérrez JM (2019). Who Learns Better Bayesian Network Structures: Accuracy and Speed of Structure Learning Algorithms. *International Journal of Approximate Reasoning*, 115:235–253. This is an extended version of the "Who Learns Better Bayesian Network Structures: Constraint-Based, Score-Based or Hybrid Algorithms?" PMLR paper.

Scutari M, Vitolo C, and Tucker A (2019). Learning Bayesian Networks from Big Data with Greedy Search: Computational Complexity and Efficient Implementation. *Statistics and Computing*, 25(9):1095–1108.

2018

Chao YS, Scutari M, Chen TS, Wu CJ, Durand M, Boivin A, Wu HS, and Chen WC (2018). A Network Perspective of Engaging Patients in Specialist and Chronic Illness Care: the 2014 International Health Policy Survey. *PLoS ONE*, 13(8):e0201355.

Scutari M (2018). Dirichlet Bayesian Network Scores and the Maximum Relative Entropy Principle. *Behaviormetrika*, 45(2):337–362. This is an extended version of the "Dirichlet Bayesian Network Scores and the Maximum Entropy Principle" PMLR paper.

Scutari M, Graafland CE, and Gutiérrez JM (2018). Who Learns Better Bayesian Network Structures: Constraint-Based, Score-Based or Hybrid Algorithms? *Proceedings of Machine Learning Research (PGM 2018)*, 72:416–427.

Vitolo C, Scutari M, Tucker A, and Russell A (2018). Modelling Air Pollution, Climate and Health Data Using Bayesian Networks: a Case Study of the English Regions. *Earth and Space Science*, 5(4):76–88.

2017

Chao YS, Wu HT, Scutari M, Chen TS, Wu CJ, Durand M, and Boivin A (2017). A Network Perspective on Patient Experiences and Health Status: the Medical Expenditure Panel Survey 2004 to 2011. *BMC Health Services Research*, 17(579):1–12.

Scutari M (2017). Dirichlet Bayesian Network Scores and the Maximum Entropy Principle. *Proceedings of Machine Learning Research (AMBN 2017)*, 73:9–20.

Scutari M (2017). Bayesian Network Constraint-Based Structure Learning Algorithms: Parallel and Optimised Implementations in the bnlearn R Package. *Journal of Statistical Software*, 77(2):1–20.

Scutari M, Auconi P, Caldarelli G, and Franchi L (2017). Bayesian Networks Analysis of Malocclusion Data. *Scientific Reports*, 7(15236):1–11.

2016

Scutari M (2016). An Empirical-Bayes Score for Discrete Bayesian Networks. *Journal of Machine Learning Research (Proceedings Track, PGM 2016)*, 52:438–448.

Scutari M, Mackay I, and Balding DJ (2016). Using Genetic Distance to Infer the Accuracy of Genomic Prediction. *PLoS Genetics*, 12(9):e1006288, 1–19.

2014

Bentley AR, Scutari M, Gosman N, Faure S, Bedford F, Howell P, Cockram J, Rose GA, Barber T, Horsnell R, Pumfrey C, Winnie E, Shacht J, Beauchêne K, Praud S, Greenland A, Balding DJ, and Mackay I (2014). Applying Association Mapping and Genomic Selection to the Dissection of Key Traits in Elite European Wheat. *Theoretical and Applied Genetics*, 127(12):2619–2633.

Scutari M, Howell P, Balding DJ, and Mackay I (2014). Multiple Quantitative Trait Analysis Using Bayesian Networks. *Genetics*, 198(1):129–137.

Tian S, Scutari M, and Denis JB (2014). Crossed Linear Gaussian Bayesian Networks, Parsimonious Models. *Journal de la Société Française de Statistique*, 155(3):1–21.

2013

Nagarajan R and Scutari M (2013). Impact of Noise on Molecular Network Inference. *PLoS ONE*, 12(e80735):1–12.

Scutari M (2013). On the Prior and Posterior Distributions Used in Graphical Modelling (with discussion). *Bayesian Analysis*, 8(3):505–532.

Scutari M, Mackay I, and Balding DJ (2013). Improving the Efficiency of Genomic Selection. *Statistical Applications in Genetics and Molecular Biology*, 12(4):517–527.

Scutari M and Nagarajan R (2013). On Identifying Significant Edges in Graphical Models of Molecular Networks. *Artificial Intelligence in Medicine*, 57(3):207–217.

2012

Scutari M and Brogini A (2012). Bayesian Network Structure Learning with Permutation Tests. *Communications in Statistics—Theory and Methods*, 41(16–17):3233–3243.

2010

Nagarajan R, Datta S, Scutari M, Beggs ML, Nolen GT, and Peterson CA (2010). Functional Relationships Between Genes Associated with Differentiation Potential of Aged Myogenic Progenitors. *Frontiers in Physiology*, 1(21):1–8.

Scutari M (2010). Learning Bayesian Networks with the bnlearn R Package. *Journal of Statistical Software*, 35(3):1–22.

2009

Chavan SS, Bauer MA, Scutari M, and Nagarajan R (2009). NATbox: a Network Analysis Toolbox in R. *BMC Bioinformatics*, 10(Suppl 11):S14.

Conference Presentations and Seminars

Conference Presentations

2026

DAG Learning from Zero-Inflated Count Data Using Continuous Optimization. AAAI-26 Workshop on Graphs and More Complex Structures for Learning and Reasoning (GCLR), Singapore, January 27.

2025

Bayesian and Causal Networks for Clinical and Epidemiological Data: Concepts, Implementation and Interpretation. Invited workshop at the Bayesian Biostatistics Conference (BayesPharma), Leiden, October 22.

Causal Networks of Infodemiological Data: Modelling Dermatitis. Full talk at the 23rd International Conference on Artificial Intelligence in Medicine (AIME), Pavia, June 24.

Unveiling Sleep Dysregulation in Chronic Fatigue Syndrome with and without Fibromyalgia Through Bayesian Networks. Short talk at the 23rd International Conference on Artificial Intelligence in Medicine (AIME), Pavia, June 24.

2024

Causal Modeling in Large-Scale Data to Improve Identification of Adults at Risk for Combined and Common Variable Immunodeficiency. Talk at the Immunoglobulin National Conference (IgNS), Washington, October 17–20.

Expert-Informed Bayesian Networks for Sleep Diagnosis Support System: A Proof-of-Concept Study. Poster at the 27th Congress of the European Sleep Research Society, Seville, September 24–27.

Causal Modelling in Space and Time. Keynote talk at the 25th Brazilian Symposium of Probability and Statistics (SINAPE), Fortaleza, August 5.

Fairness in Machine Learning. Poster at the "Data Science for the Sciences" Conference, Universität Bern, April 11–12.

2023

Inferring Skin-Brain-Skin Connections from Infodemiology Data Using Dynamic Bayesian Networks. Featured poster (top 25) at the 25th World Congress of Dermatology, Singapore, August 3–8.

Analysing Google Search Trends Data with Dynamic Bayesian Networks. Invited talk at the Bernoulli Workshop on Sparse Inference on Complex Networks, Università della Svizzera Italiana, June 27.

2022

Using Mixed-Effect Models to Learn Bayesian Networks from Related Data Set. Talk at the 11th International Conference on Probabilistic Graphical Models (PGM), Almería, October 5.

2021

Mapping Complex Data with Bayesian Networks. Invited talk at the Spring Meeting of the Dutch Statistical Society (BMS/ANed), May 21.

2020

Identifiability and Consistency of Bayesian Network Structure Learning from Incomplete Data. Talk at the 10th International Conference on Probabilistic Graphical Models (PGM), Aalborg, September 24.

2019

The Regional Dimension: a Bayesian Network Analysis. Invited talk at the "Analytical Tools for Capacity Building on Quantitative Methods for SDG Interactions and Integration in National Development Strategies and Integrated Planning" Technical Workshop, United Nations Economic Commission for Africa (UNECA), Addis Ababa, December 19.

Challenges in Bayesian Network Modelling of Climate and Weather Data. Invited talk at the 1st "Artificial Intelligence for Copernicus" Workshop, Reading, November 6.

bnlearn: Practical Bayesian Networks in R. Invited tutorial at the "UseR!" Conference, Toulouse, July 9.

2018

Who Learns Better Bayesian Network Structures: Constraint-Based, Score-Based or Hybrid Algorithms? Talk at the 9th International Conference on Probabilistic Graphical Models (PGM), Prague, September 10.

2017   Bayesian Dirichlet Bayesian Network Scores and the Maximum Entropy Principle. Invited talk at the 10th International Conference of the ERCIM Working Group on Computational and Methodological Statistics (ERCIM 2017), London, December 17.

Bayesian Dirichlet Bayesian Network Scores and the Maximum Entropy Principle. Invited talk at the 3rd Workshop on "Advanced Methodologies for Bayesian Networks" (AMBN), Kyoto, September 22.

bnlearn, Learning Bayesian Networks 10 Years Later. Invited talk at the "Bayesian Networks Tools" Workshop, National Institute of Advanced Industrial Science and Technology (AIST), Tokyo, September 19.

Bayesian Networks, MAGIC Populations and Multiple Trait Prediction. Invited talk at the "Learning Graphical Models in High Dimensions" Workshop, ICMS, Edinburgh, April 6.

Beyond Uniform Priors in Bayesian Network Structure Learning. Invited talk at the "Learning Graphical Models in High Dimensions" Workshop, ICMS, Edinburgh, April 5.

2016   Bayesian Networks, MAGIC Populations and Multiple Trait Prediction. Poster at the "Probabilistic Modeling in Genomics" Workshop, Oxford, September 12.

An Empirical-Bayes Score for Discrete Bayesian Networks. Talk at the 8th International Conference on Probabilistic Graphical Models (PGM), Lugano, September 8.

Bayesian Networks, MAGIC Populations and Multiple Trait Prediction. Invited talk at the 6th International Conference of Quantitative Genetics (ICQG), Madison, June 14.

2015   Modelling Survey Data with Bayesian Networks. Invited talk at the "Bayesian Networks at Work" Workshop, Data Methods and Systems Statistical Laboratory, University of Brescia, May 18.

2014   Genotype-Environment Effects Analysis using Bayesian Networks. Invited talk at the 7th International Conference of the ERCIM Working Group on Computational and Methodological Statistics (ERCIM 2014), Pisa, December 7.

Predictive Accuracy: a Function of Genetic Distance. Poster at the "Statistical and Computational Methods for Relatedness and Relationship Inference from Genetic Marker Data" Workshop, International Centre for Mathematical Sciences (ICMS), Edinburgh, September 22.

On the Prior and Posterior Distributions Used in Graphical Modelling. Invited talk at the Joint Statistical Meetings (JSM), Boston, August 5.

Multiple Quantitative Trait Analysis in Statistical Genetics with Bayesian Networks. Talk at the "Integrating the Genome with the Phenome", Bloomsbury Centre for Genetic Epidemiology and Statistics (BCGES) and South of England Genetic Epidemiology Group (SEGEG) Annual Meeting, London, July 8.

Multiple Quantitative Trait Analysis in Statistical Genetics with Bayesian Networks. Invited talk at the 11th International Meeting on Computational Intelligence Methods for Bioinformatics and Biostatistics, Cambridge, June 28.

Multiple Quantitative Trait Analysis in Statistical Genetics with Bayesian Networks. Invited plenary talk at "Graphical Causality Models: Tree, Bayesian Networks and Big Data", European Network for Business and Industrial Statistics (ENBIS)−Société Française de Statistique (SFdS) Spring Meeting, Paris, April 9.

2013   Learning Bayesian Networks in R: an Example in Systems Biology. Tutorial at the "UseR!" Conference, University of Castilla-La Mancha, Albacete, July 9.

Graphical Models for Genomic Selection. Talk at the MAGIC Workshop, National Institute for Agricultural Botany (NIAB), Cambridge, June 12.

Bayesian Networks for Gene Network Discovery: Parallel and Optimised Learning. Poster at the "Mathematical and Statistical Aspects of Molecular Biology" Conference (MASAMB), Imperial College, London, April 11.

2012   Efficient Use of Marker Profiles in Genomic Selection. Talk at the 15th Meeting of the EUCARPIA Section "Biometrics in Plant Breeding", Hohenheim, September 5.

2011   On Identifying Significant Edges in Graphical Models. Talk at the Workshop "Probabilistic Problem Solving in Biomedicine" of the 13th Artificial Intelligence in Medicine (AIME) Conference, Bled (Slovenia), July 2.

2010   Constraint-based Bayesian Network Learning with Permutation Tests. Talk at the Conference "Statistics for Complex Problems: the Multivariate Permutation Approach and Related Topics", Padova, June 15.

Seminars

2025
Achieving Fairness with a Simple Ridge Penalty: Estimates and Uncertainty. Jornée AppliBUGS, Institut National des Sciences Appliquées (INSA), Lyon, December 12.

Achieving Fairness with a Simple Ridge Penalty: Estimates and Uncertainty. Probability and Statistics Group, Bernoulli Institute, University of Groningen, November 18.

Causal Modelling for Environmental Epidemiology. Département Mathématiques et Numérique, INRAE, October 14.

Causal Modelling for Environmental Epidemiology. Department of Computer Science, Brunel University London, February 12.

Causal Modelling for Environmental Epidemiology. Department of Mathematical Sciences, University of Bath, February 11.

2024
Causal Modelling in Space and Time. Mathematics Webinar, MDPI/Sciforum, October 10.

Causal Modelling in Space and Time. Faculty of Data Science, Shiga University, July 23.

Causal Modelling in Space and Time. The Institute for Medical Science, The University of Tokyo, July 8.

bnlearn, Learning Bayesian Networks 15 Years Later. Bayesian Network Modelling Association (BNMA), June 24.

Causal Modelling in Space and Time. Department of Systems Innovation, Graduate School of Engineering Science, Osaka University, June 18.

Different Takes on the Causal Modelling of Spatio-Temporal Data. Florence Center for Data Science and Department of Statistics, Informatics and Applications, Universitá degli Studi di Firenze, May 24.

Different Takes on the Causal Modelling of Spatio-Temporal Data. Department of Informatics, Systems and Communication, Universitá degli Studi di Milano Bicocca, March 6.

Network Structures for Psychological Constructs: The Case of Empathy. University Center for Statistics in the Biomedical Sciences (CUSSB), Vita-Salute San Raffaele University, Milan, January 29.

2023
Fair Machine Learning: Achieving Fairness with a Simple Ridge Penalty. Department of Informatics, Systems and Communication, Universitá degli Studi di Milano Bicocca, June 29.

Fair Machine Learning: Achieving Fairness with a Simple Ridge Penalty. Department of Statistics, London School of Economics (LSE), June 12.

Analysing Google Search Trends Data with Dynamic Bayesian Networks. Department of Systems Innovation, Graduate School of Engineering Science, Osaka University, January 30.

Analysing Google Search Trends Data with Dynamic Bayesian Networks. Institute for Global Environmental Strategies (IGES), Tokyo, January 20.

Bayesian Network Models for Continuous-Time and Structured Data. National Institute of Advanced Industrial Science and Technology (AIST), Tokyo, January 19.

2022
Bayesian Network Models for Continuous-Time and Structured Data. School of Computation, Information and Technology, Technische Universität München, September 7.

bnlearn: Practical Bayesian Networks in R. Department of Biomedical Data Intelligence, Graduate School of Medicine, Kyoto University, April 18.

Mapping Complex Data with Bayesian Networks. Department of Systems Innovation, Graduate School of Engineering Science, Osaka University; and online for the Japanese Behaviormetric Society, April 6.

Bayesian Networks and Their Extensions in Modern Machine Learning. Center for Complexity and Biosystems, University of Milan, February 28.

2021
Bayesian Networks and Their Extensions in Modern Machine Learning. Department of Economics, University of Crete, October 13.

Introduction to Bayesian Networks: How We Can Use Them as Probabilistic and Causal Models. Digital Health Lab Day, Zurich University of Applied Sciences (ZHAW), Winterthur, September 16.

Bayesian Networks and Their Extensions in Modern Machine Learning. Department of Economics and Management, University of Brescia, April 8.

2019
Bayesian Networks, Big Data and Greedy Search: Efficient Implementation with Classic Statistics. Department of Systems Innovation, Graduate School of Engineering Science, Osaka University, April 3.

2017 Dirichlet Bayesian Network Scores and the Maximum Entropy Principle. Department of Mathematics, Brunel University London, November 24.

An Empirical-Bayes Score for Discrete Bayesian Networks. Department of Informatics, Systems and Communication, Universitá degli Studi di Milano Bicocca, January 17.

2016 Bayesian Network Modelling with Examples. IBM Analytics, London Data Science Studio, November 28.

Bayesian Networks, MAGIC Populations and Mutliple Trait Prediction. School of Agriculture, Food, and Rural Development, Newcastle University, November 16.

Bayesian Network Modelling: with Examples in Genetics and Systems Biology. Bayesian Networks Meetup, Alan Turing Institute, September 29.

2015 Using Genetic Distance to Infer the Accuracy of Genomic Prediction. Statistical Omics Meeting Series, Imperial College, London, September 7.

2013 Graphical Models for Genomic Selection. Unité Mathématiques et Informatique Appliquées, INRA, Jouy-en-Josas, November 7.

On the Prior and Posterior Distributions Used in Graphical Modelling. Graphical Modelling Reading Club, Department of Statistics, University of Oxford, October 25.

Bayesian Network Modelling in Genetics and Systems Biology. Biomathematics Seminar, Imperial College, October 15.

Applications of Bayesian Networks in Genetics and Systems Biology. Computational Biology Seminar, University of Liverpool, September 13.

2012 Graphical Models and Protein Signalling Networks. Astellas, Leiden, November 5.

2011 Measures of Variability for Graphical Models. Genetics Institute, University College London (UCL), March 14.

2010 Bayesian Network Resampling for the Analysis of Functional Relationships. Institut für Medizinische Informatik, Statistik und Epidemiologie (IMISE), Universität Leipzig, October 12.

2009 Structure Variability in Graphical Models. Machine Learning / Intelligent Data Analysis Group, Institut für Softwaretechnik und Theoretische Informatik, Technische Universität Berlin, November 5.

Comparing Bayesian Networks and Structure Learning Algorithms. Institut für Medizinische Informatik, Statistik und Epidemiologie (IMISE), Universität Leipzig, October 20.

2008 Network Bayesiani: Selezione del Modello (*Bayesian Networks: Structure Learning Algorithms*). Department of Information Engineering, Università degli Studi di Padova, November 4.

Teaching

present ~ 2024 **The Anatomy of a Machine Learning Pipeline.**
Inter-University Workshop Series, Worldwide.
European Network for Business and Industrial Statistics (ENBIS); Universitá degli Studi di Milano-Bicocca.

present ~ 2022/23 **Advanced Probabilistic Modelling.**
Department of Innovative Technologies, University of Applied Sciences and Arts of Southern Switzerland (SUPSI), Switzerland.
M.Sc. in Engineering, Data Science.

2023/24 **Distilling Causal Models: Model Averaging, Federated Learning and More.**
Cambridge Centre for AI in Medicine (CCAIM), University of Cambridge, UK.
AI and Machine Learning Summer School.

2022/23 ~ 2020/21 **Practical Bayesian Networks for Clinical Data.**
European Institute of Oncology (IEO), European School of Molecular Medicine (SEMM), Italy.
Centre for Doctoral Training.

2022/23 **Advanced Data Science I.**
Center for Mathematical Modeling and Data Science, Osaka University, Japan.
Graduate School of Engineering Science.

2022 | **Bayesian Networks in Policy and Society.**
Department of Economics, School of Social Sciences, University of Crete, Greece.
Advanced Summer School in Economics & Econometrics.

2021/22 ⁓ 2019/20 | **Uncertainty Reasoning and Data Mining.**
Department of Innovative Technologies, University of Applied Sciences and Arts of Southern Switzerland (SUPSI), Switzerland.
M.Sc. in Engineering.

2018/19 ⁓ 2015/16 | **R Programming, Statistical Programming.**
Department of Statistics, University of Oxford, UK.
M.Sc. in Applied Statistics, M.Sc. in Statistical Science.

2018/19 ⁓ 2014/15 | **Probability and Statistics (1st and 2nd year).**
Somerville College, University of Oxford, UK.
B.Sc. and M.Math. in Mathematics, Mathematics & Statistics, Mathematics & Computer Science, Computer Science.

2018/19 | **Linear Algebra (1st year).**
Somerville College, University of Oxford, UK.
B.Sc. and M.Math. in Computer Science.

2017 | **Understanding Bayesian Networks.**
Department of Statistical Sciences, Università Cattolica del Sacro Cuore, Italy.
Graduate course in collaboration with the Italian Statistical Society (SIS).

2016/17 | **Graph Theory (2nd year).**
Somerville College, University of Oxford, UK.
B.Sc. and M.Math. in Mathematics, Mathematics & Statistics, Mathematics & Computer Science, Computer Science.

2015/16 ⁓ 2014/15 | **Linear Models.**
Department of Statistics, University of Oxford, UK.
M.Sc. in Applied Statistics.

2014/15 | **Log-Linear Models and Contingency Tables.**
Department of Statistics, University of Oxford, UK.
M.Sc. in Applied Statistics.

2012/13 ⁓ 2011/12 | **Introduction to Genetic Epidemiology in the GWAS Era.**
Bloomsbury Centre for Genetic Epidemiology and Statistics, University College London, UK.
Graduate course.

2011/12 | **Graphical Models: Model Estimation and Validation.**
Department of Statistical Sciences, Università degli Studi di Padova, Italy.
Graduate course for the Doctoral School in Statistical Sciences.

2007/08 | **Database Management Systems II.**
Faculty of Statistical Sciences, Università degli Studi di Padova, Italy.
M.Sc. in Statistics and Computer Science.

Advanced Training Courses

06/2010 | **Monte Carlo Statistical Methods.**
Doctoral School in Statistical Sciences, Università degli Studi di Padova, Italy.
Instructor: George Casella, Department of Statistics, University of Florida.

09/2009 | **Statistical Learning and Data Mining.**
Zentrum für Bioinformatik und Biostatistik, Donau-Universität Krems, Austria.
Instructor: Trevor Hastie and Robert Tibshirani, Department of Statistics, Stanford University.

05/2009 | **Analysis of Clustered Categorical Data.**
Doctoral School in Statistical Sciences, Università degli Studi di Padova, Italy.
Instructor: Alan Agresti, Department of Statistics, University of Florida.

11/2009
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10/2009 — **Statistical Methods.**
Doctoral School in Information Engineering, Università degli Studi di Padova, Italy.
Instructor: Lorenzo Finesso, Institute for Biomedical Engineering (ISIB), National Research Council (CNR).

Visiting Periods

02/2025 — **University of Bath**, UK.
Department of Mathematical Sciences.
Host: Oliver Feng.

01/2017 — **Università Cattolica del Sacro Cuore**, Italy.
Department of Statistical Sciences.
Host: Guido Consonni.

02/2017 — **Università degli Studi di Milano-Bicocca**, Italy.
Department of Informatics, Systems and Communication.
Host: Fabio Stella.

10/2010
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09/2010 — **Universität Leipzig**, Germany.
Institut für Medizinische Informatik, Statistik und Epidemiologie (IMISE).
Host: Korbinian Strimmer.

11/2009
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10/2009 — **Universität Leipzig**, Germany.
Institut für Medizinische Informatik, Statistik und Epidemiologie (IMISE).
Host: Korbinian Strimmer.