

MONICA CHIOGNA

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EDUCATION

1993, University of Padua
Ph.D. in Statistics
1987, University of Bologna
Degree in Statistics

ACADEMIC POSITION

2018–present, University of Bologna
Full Professor of Statistics
2015–2018, University of Padua
Full Professor of Statistics
2001–2015, University of Padua
Associate Professor of Statistics
1995–2001, University of Padua
Researcher in Statistics
1993–1994, University of Glasgow
Lecturer in Statistics

TEACHING EXPERIENCE

University of Bologna

2018 – present
Introductory Statistics
Statistical Methods for Genomics
Statistics

University of Padua

- 2001–2006 Tecniche Statistiche di classificazione (third year of the bachelor's degree program under DM 509 in Statistics and Information Technology, Faculty of Statistical Sciences).
- 2001–2005 Tecniche Statistiche di classificazione, Master in Business Administration, Faculty of Statistical Sciences.
- 2001–2009 Inferenza Statistica II, Modelli statistici I (second year of the bachelor's degree programs under DM 509 in Statistics and Business Management and Statistics, Economics, and Finance, Faculty of Statistical Sciences).
- 2009–2012 Statistica 2 (second year of the bachelor's degree programs under DM 270 in Statistics and Information Technology and Statistics, Economics, and Finance, Faculty of Statistical Sciences).
- 2012–2014 Statistica 2 (second year of the bachelor's degree programs under DM 270 in Statistics and Information Technology and Statistics, Economics, and Finance).
- 2014–2017 Statistica 1 (first year of the bachelor's degree programs under DM 270 in Statistics for Economics and Business and Statistics for Technologies and Sciences); Data Analysis (second year of the master's degree

program under DM 270 in Statistical Sciences).

- 2017–2018 Statistical learning (first year of the master's degree program under DM 270 in Data Science).

PhD level (cycles XXVII-XXXIX)

- Applied Multivariate Techniques (first year foundation course for Statistics PhD students)
 - Statistical Methods (audience consists of PhD students with non statistical backgrounds)
 - Data Analysis (PhD-level Applied Statistics course for graduate Science students and PhD students with non statistical backgrounds)
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PARTICIPATION AS INVITED SPEAKER

1995

Innsbruck: *10th International Workshop on Statistical Modelling*.

Invited talk (with A. Azzalini): "Some practical work and software tools in repeated measures analysis".

1996

Rimini: *XXXVIII Riunione Scientifica della Società Italiana di Statistica*.

Invited talk in the specialized session *Computational Aspects of Statistical Inference*: "Computational methods based on graphical models for managing complex probability distributions".

2002

Genova: *TIES 2002: Annual Conference of The International Environmetrics Society* (June 18-22).

Invited talk (with C. Gaetan): "Mortality and air pollution: a dynamic generalized linear modelling approach".

2003

Treviso: *S.C.O. 2003: Complex Models and Computationally Intensive Methods for Estimation and Prediction* (September 4-6).

Invited talk (with C. Gaetan): "Transfer function modelling strategy for combining evidence in air pollution and daily mortality studies".

2006

Torun (PL): *XXVI European Meeting of Statisticians* (July 24-28).

Invited talk (with C. Gaetan): "Spatiotemporal modelling of epidemiological processes".

2008

Kelowna (CA): *TIES 2008: Annual Conference of The International Environmetrics Society* (June 9-13).

Invited talk (with C. Gaetan): "Spatiotemporal modelling of count data".

2009

Milano: *S.C.O. 2009: Complex Data Modeling and Computationally Intensive Methods for Estimation and Prediction* (September 14-16).

Invited talk (with M.S. Massa and C. Romualdi): "A graphical models approach for comparing gene sets".

2014

Cambridge, UK: *CIBB 2014: 11th International Meeting on Computational Intelligence Methods for*

Bioinformatics and Biostatistics (June 26-28).

Plenary talk: "Graphical modelling for gene set analysis".

2018

Pisa: *CMStatistics 2018: 11th International Conference of the ERCIM WG on Computational and Methodological Statistics* (December 14-16).

Invited talk (with T.K.H. Nguyen): "Inferring networks from next generation sequencing data".

2020

EurobioC2020 Online Conference (December 14-18).

Keynote Speaker: "Connections matter: a conversation between statistics and biology".

2021

Didactics of Probability and Statistics in Italian Universities, Study Days (October 21-22, online).

Invited talk: "Teaching statistics in degree programs in statistical sciences".

Salzburg Mathematics Colloquium (November 18).

Invited seminar: "Statistical modelling of biological networks: challenges and opportunities".

2022

London: *CMStatistics 2022: 15th International Conference of the ERCIM WG on Computational and Methodological Statistics* (December 17-19).

Invited talk (with T.K.H. Nguyen): "Structure learning of undirected graphical models for count data".

2023

Salerno: *CLADAG 2023* (September 11-13). Discussant for session: Statistical methods for the health sciences.

Roma: *International Association for Mathematics and Computers in Simulation 2023* (September 11-15).

Invited talk (with T.K.H. Nguyen): "Structure Learning of Graphs for Count Data, with an application to single-cell RNA sequencing data".

INSTITUTIONAL ACTIVITIES

2021-2024 Chair of the PhD Course in Statistical Sciences, University of Bologna, Italy.

2018 University of Padova Evaluation Committee of grant proposals.

2017- Member of the Committee for Innovative Doctoral Education, University of Padova, Italy.

2015–2018 Vice Head, Department of Statistical Sciences, University of Padova, Italy.

2013 University of Padova Evaluation Committee of grant proposals.

2012–2017 Chair of the PhD Course in Statistical Sciences, University of Padova, Italy.

2012–2015 Representative of Macroarea 3 in the Board of the Assembly of Directors of the Graduate Schools of the University.

2008–2018 Member of the School Board of the PhD School in Statistical Sciences, University of Padova.

2007–2012 Chair of the degree course “Statistica e Tecnologie Informatiche”.

2005–2007 Member of the Scientific Committee, Area 15, University of Padova.

2001–2004 Member of the Scientific and Teaching Board of the Computing Center, University of Padova.

ADDITIONAL INFORMATION

Participation in Journal Editorial Boards:

2023 – Biometrical Journal: Editor

2019–2022 Biometrical Journal: Associate Editor

2008–2014 Environmetrics: Associate Editor

1995– Referee for: Journal of the Royal Statistical Society - Series B, Journal of the Royal Statistical Society - Series C, Journal of the American Statistical Association, Electronic Journal of Statistics, Statistics in Medicine, Statistical Methods in Medical Research, Annals of Applied Statistics, Biometrika, Environmetrics, Statistical Methods and Applications, Metron, American Journal of Epidemiology, IEEE Transactions on Pattern Analysis and Machine Intelligence, IEEE Transactions on Nanobiosciences, The Computer Journal.

Organization of international scientific conferences:

She participated in the organization of the IV International Summer School on Computational Statistics, directed by the International Association for Statistical Computing and hosted at the Department of Statistical Sciences (June 23 – July 4, 1997), and in the organization of the 19th International Workshop on Statistical Modelling (Florence, July 4-8, 2004). He was a member of the Faculty of the School "Statistics for Functional Genomicists and Functional Genomics for Statisticians" (Florence, May 9-13, 2005), of the Program Committee for the interim meeting of the Italian Statistical Society (2005) "Statistics and Environment" (Messina, September 21-23, 2005), and of the Scientific Committee for the VI National Congress of the Italian Society of Biometry (Pisa, June 20-22, 2007). He organized the specialized session "Complexity Analysis of Environmental Systems: The Contribution of Statistical Models" (interim meeting of the Italian Statistical Society, 2005).