

# GUIDO CONSONNI

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Curriculum Vitae (last updated September 2025)

Researcher unique identifier: ORCID 0000-0002-1252-5926

Websites:

- Personal: <https://guidoconsonni.github.io/guido-site/>

- Institutional: [http://docenti.unicatt.it/ita/guido\\_consonni/](http://docenti.unicatt.it/ita/guido_consonni/)

## EDUCATION

1973–1978: Laurea, Discipline Economiche e Sociali; Università L. Bocconi, Milan, Italy

1981–1983: Research Scholar, Dept. of Statistical Sciences, University College London, UK

## ACADEMIC APPOINTMENTS

Università Cattolica del Sacro Cuore (UCSC), Milan

2024–present: Adjunct Professor (Statistical Inference)

2011–2024: Full Professor of Statistics (retired November 1, 2024)

2019–2024: Head, Department of Statistical Sciences

Previous Institutions

1990–2011: Full Professor of Statistics, Università di Pavia

1987–1990: Associate Professor of Statistics, Università L. Bocconi, Milan

1982–1987: Assistant Professor of Statistics, Università L. Bocconi, Milan

1979–1981: Research Associate, Università L. Bocconi, Milan

## TEACHING AND SUPERVISION

- Taught undergraduate, graduate, and doctoral courses in Statistics, in Italy and abroad.
- Supervised ~50 MSc theses, 8 PhD students, and 7 postdoctoral researchers.
- Program Director, Master in Data Science for Management, UCSC (2016–2023); member of the executive board (2023-present).
- Program Coordinator, MSc in Data Analytics for Business, UCSC (2017–2024).

- Member of the Executive Board and Faculty, PhD program ECOSTATDATA, Univ. Milano-Bicocca (2012–2024).
- Faculty, PhD in Mathematics and Statistics, Univ. Pavia (2005–2010).
- External Examiner, PhD theses at Univ. Helsinki (2018) and Univ. Zurich (2022).

## RESEARCH

My research has largely focused on **Bayesian statistical inference**, especially from a methodological perspective. From a foundational viewpoint, I investigated the role of **invariance** in Statistics, with special reference to connections between statistical models and algebraic structures.

A substantial part of my early work concerned **prior distributions** in Bayesian inference. I studied **conjugate** priors and introduced their extension to **enriched conjugate** priors for multivariate exponential families. I also contributed to the development of **objective** priors, particularly reference priors for estimation. Priors for **model choice** have been a central theme: I introduced the notion of **compatible** priors and investigated **intrinsic** and **expected-posterior** priors for Bayesian model determination.

From a modelling perspective, I developed methods for **hierarchical** models, especially under partial exchangeability, leading to **partition** models for Bayesian clustering, with applications in meta-analysis. Another major strand of my work involves **graphical** models and **Bayesian networks**, with particular emphasis on **structural learning**.

More recently, I have pursued research on Bayesian **experimental design** and **replication studies**, motivated by applications in the medical and social sciences. Over the last years, my primary focus has been **causal inference** within the framework of Directed Acyclic Graphs (**DAGs**) with special reference to Bayesian **learning** of causal structures. I am also keenly interested in leveraging causal reasoning to foster more robust and explainable AI systems.

I have authored over 80 scientific publications, including ~50 articles in peer-reviewed journals (see my full list of publications).

## INVITED TALKS AND SEMINARS

Delivered 30+ invited talks and seminars at international conferences, workshops, and universities.

## HONORS

- Fellow, International Society for Bayesian Analysis (ISBA) (2024)
- Elected Member, International Statistical Institute (1993)

## VISITING POSITIONS

Athens University of Business and Economics, Greece; Universitat de Valencia, Spain; University of Helsinki, Finland; Texas A & M University, College Station, TX, USA; Rice University, Houston, TX, USA; University of Granada, Spain; University of Southampton, UK; Columbia University, New York, NY, USA; University of New Mexico, Albuquerque, NM, USA; York University, Toronto, Canada; University of Florida, Gainesville, USA; Université de Pau et des Pays de l'Adour, France (2007); University of Warwick, UK.

## FUNDED RESEARCH PROJECTS (since 2005)

- 2023–2025: Italian Ministry of Education (PRIN). Complex graphical models for biological network science. Local coordinator (UCSC unit).
- 2019–2023: Swiss National Science Foundation. Reverse-Bayes design and analysis of replication studies. Project partner (PI: Leonhard Held, Univ. Zurich).
- 2007–2009: Italian Ministry of Education (PRIN). Graphical models and latent class models with applications to education and health. National coordinator (PI).
- 2005–2007: Italian Ministry of Education (PRIN). Marginal models for categorical variables with application to causality. National coordinator (PI).

## SERVICE TO THE PROFESSION

### *Editorial Activity*

- Associate Editor, Statistics Surveys (2007–present)
- Associate Editor, Bayesian Analysis (2006–2009)
- Associate Editor, TEST (2005–2008)

### *Conferences and Committees*

- Invited tutorial speaker, Objective Bayes Conference, Athens (2025)
- Organizer/Chair of invited sessions and committees at ISBA World Meetings (2014, 2016, 2018, 2022, 2024)
- Chair, Objective Bayes Section, ISBA (2018–2019)
- Member, Scientific Committees of international conferences (1999–2016)

### *Peer Review of Scientific Papers*

Reviewed for: Annals of Statistics; Bayesian Analysis; Biometrika; Canadian Journal of Statistics; Journal of Computational and Graphical Statistics; Journal of Machine Learning Research; Journal of Multivariate Analysis; Journal of the American Statistical Association; Journal of the Royal Statistical Society (series A, B, C); Scandinavian Journal of Statistics; Statistical Science; TEST.

### *Peer Review of Research Projects*

European Union (FP6, FP7, H2020). National Research Councils: Israel, Canada, USA (NSF), Netherlands (NWO), Belgium (FWO), Switzerland (SNSF), Italy (VQR).

### *Professional Development & Community Engagement*

- Founder and Co-Director of the Applied Bayesian Statistics School (with F. Ruggeri), an international training initiative in Bayesian methods (2004–2021).
- Instructor of invited tutorials at international conferences in Statistics.
- Chair, Ad-hoc Committee on the Future of Scientific Conferences, International Society for Bayesian Analysis (2025–2028).

## **SCIENTIFIC SOCIETIES**

Royal Statistical Society; Institute of Mathematical Statistics; American Statistical Association; International Statistical Institute (Elected Member); International Society for Bayesian Analysis (Fellow); Società Italiana di Statistica.

## **SCIENTIFIC NETWORKS**

- Highly Structured Stochastic Systems (HSSS), ESF (1993–1995)
- COSTNET: European Cooperation for Statistics of Network Data Science, COST Action CA15109 (2016–2020)