

PERSONAL INFORMATION

Born in Bologna on 29 June 1965

Resident in Bologna

Email: stefania.mignani@unibo.it

Education

Degree in Statistical, Demographic and Actuarial Sciences from the University of Bologna, awarded in 1988 with highest honours (*110/110 cum laude*).

Academic Career

From 1990 to 1998, she was a Researcher in Statistics at the Department of Statistical Sciences “P. Fortunati” of the University of Bologna. She served as Associate Professor of Statistics in the same Department from 1998 to 2002 and has been Full Professor of Statistics at the University of Bologna since 2002.

Teaching Activities

She has taught continuously at the University of Bologna since 1994, holding courses in Bachelor’s and Master’s degree programmes, postgraduate Master’s programmes and PhD programmes.

She currently teaches:

- **Elements of Statistics**, Bachelor’s Degree Programme in International Development and Cooperation;
- **Statistical Methods for Data Mining**, Master’s Degree Programme in Statistics, Economics and Business;
- **Interpreting and Communicating Data**, Master’s Degree Programme in Statistical Sciences.

In recent years, she has also coordinated the University of Bologna Minor programme “**Interpreting Data**” and taught **Data Storytelling** as part of transversal skills activities.

Research Activities

Her research focuses on multivariate statistics, with particular emphasis on estimation methods and goodness-of-fit assessment for Item Response Theory models. Her studies have also examined the application of these models to the analysis of education systems, ranging from the measurement of competencies to models for complex data. Her more applied research has addressed gender differences in mathematics achievement, multilevel and longitudinal models, automated test assembly, and the evaluation of the quality of standardised tests.

She has been the scientific coordinator of several agreements between the Department of Statistical Sciences “P. Fortunati” and INVALSI, concerning test calibration and validation, the longitudinal linking of standardised assessments, the definition of proficiency-level metrics and, more recently, the development of a system for measuring young people’s digital competencies.

She collaborated with the Education research group within Partnership 9, “**Economic and Financial Sustainability of Systems and Territories.**” She was also a member of the team that won the Public Competition for Research Ideas promoted by INVALSI on the identification of students with severe knowledge deficits.

Her role as coordinator of the Scientific Degree Plan for Statistics has led her to explore the teaching of statistics at all levels of education.

In 2025, she became coordinator for the statistical area of the University of Bologna project **“EmpowHER STEM: Training for an Inclusive and Supportive School,”** funded by the Department for Equal Opportunities of the Presidency of the Council of Ministers. The project supports the professional development of teachers in STEM disciplines.

Institutional Roles and Academic Appointments

- Department Delegate for Data Literacy;
- Member of the University of Bologna Quality Assurance Board – Teaching and Learning Section;
- Member of the University Working Group for the revision of the survey on attending students’ opinions (OPIS).

Membership of Scientific and Editorial Committees and Learned Societies

- Member of the Italian Statistical Society;
- Member of IASE – International Association for Statistical Education;
- Member of the Scientific and Editorial Board of the open-access series **“INVALSI per la Ricerca”** since 2020;
- Editor-in-Chief of the journal **“Induzioni”** since 2014;
- Member of the INVALSI Scientific Council since 2024;
- Resident Corresponding Fellow of the Academy of Sciences of the Bologna Institute, Class of Moral Sciences.

Organisation of Scientific Conferences

In recent years, she has served on the scientific or programme committees of numerous national and international conferences, including the international annual conference of the Italian Statistical Society (SIS 2023), the conference of the Association for Applied Statistics (ASA 2021), the seminars **“INVALSI Data: A Resource for Research and Teaching”** in 2022, 2023 and 2024, the Annual Meeting of the Psychometric Society in 2022, and conferences organised by the Innovation & Society group, **Statistics and Data Science for Evaluation and Quality** (IES 2022 and 2025). She also served as Co-Chair of the Programme Committee for the ASA 2023 Conference.

Participation in National and International Conferences

She regularly presents research papers and invited talks at national and international conferences. Her most recent contributions include presentations at CMStatistics 2023, ASA 2023, IES 2023 and 2025, the STEM – Measurement in Education Conference in 2023, the Annual Meeting of the Psychometric Society in 2022 and 2026, the INVALSI seminars on research and teaching in 2023 and 2025, and the annual conferences of the Italian Statistical Society in 2023, 2025 and 2026.

Other Activities

She promotes training and outreach activities in statistics, data literacy and the responsible use of data. She coordinates interdisciplinary initiatives for students and collaborates with national scientific and educational institutions.