

## Sara Sommariva

Fixed term researcher (RTDA)

### EDUCATION AND TRAINING

2017

**PhD in Mathematics and Applications**

Università di Genova, Genova, Italy

2013

**Master degree in Mathematics**

Università di Genova, Genova, Italy

2011

**Bachelor degree in Mathematics**

Università di Genova, Genova, Italy

### PROFESSIONAL HISTORY

2021-2022

**Postdoctoral researcher**

CNR-SPIN, Genova, Italy

2019-2021

**Postdoctoral researcher**

Department of Mathematics, Università di Genova, Genova, Italy

2020

**Data Scientist consultant**

Roche Italia, Monza, Italy

2017-2019

**Postdoctoral researcher**

Department of Neuroscience and Biomedical Engineering, Aalto University, Helsinki, Finland

### EXPERIENCE

#### MAIN SEMINARS

2025 A PCA-based tool for local sensitivity analysis of chemical reaction networks for proteomic analysis. Poster presentation at Data Science for Health and Biology Milan, Italy.

2024 Statistical approaches for understanding the brain through electrophysiological data: an overview Invited talk within “Math & Brain seminars” Padova, Italy.

2022 Mathematical tools for decision making modeling from M/EEG data: from source localization to functional connectivity estimation. Invited talk within “XXX Congresso annuale della Società Italiana di Psicofisiologia e Neuroscienze Cognitive” Udine, Italy.

**2022** Data neuroScience: Mathematical tools for investigating brain activity from electrophysiological data. Keynote lecturer within “Finnish mathematical days” Online.

**2021** Lasso-based estimation of the cross-power spectrum in linear inverse problems and its application to functional brain connectivity. Invited talk within “Inverse days” Tampere, Finland.

**2021** Mathematical model for gain and loss of function mutations in a chemical reaction network for colorectal cancer. Invited talk within “SIMAI 2020+2021” Parma, Italy.

**2021** Optimal regularization approaches for estimating the cross-power spectrum from magnetoencephalographic data. Invited talk within “SIMAI 2020+2021” Parma, Italy.

**2021** Meg/eeg Source Localization in Time and Frequency Domain using Sesame: a Semi-Analytic Bayesian Approach to Conditionally Linear Inverse Problems. Invited talk within “SIAM conference on computational science and engineering” Bologna, Italy.

**2019** Optimal regularization technique for the estimation of the crosspower spectrum in underdetermined, dynamical inverse problems. Plenary talk within “Inverse days” Jyväskylä, Finland.

#### SCIENTIFIC RESPONSIBILITY FOR RESEARCH PROJECTS ACCEPTED FOR FUNDING ON THE BASIS OF COMPETITIVE CALLS INVOLVING PEER REVIEW

##### **2023-Now** Task-leader

Project DHEAL-COM – CUP: D33C22001980001, funded by Ministero della Salute within Piano Nazionale Complementare al PNRR Ecosistema Innovativo della Salute

##### **2023-Now** Member

Project Computational mEthods for Medical Imaging (CEMI) – CUP: D53D23005830006 , funded by the Italian Ministry of University and Research, PRIN 2022.

##### **2022** PI

Project Metodi computazionali per la costruzione e l’analisi di modelli matematici in biomedicina – CUP: E55F22000270001, funded by Gruppo Nazionale per il Calcolo Scientifico, Istituto Nazionale di Alta Matematica

#### TEACHING OR RESEARCH POSITIONS (FELLOWSHIPS) AT FOREIGN UNIVERSITIES AND RESEARCH INSTITUTES

##### **2019-2024** Visitor researcher

Department of Neuroscience and Biomedical Engineering, Aalto University, Helsinki, Finland

#### PRIZES AND ACCOLADES FOR SCIENTIFIC ACTIVITY, INCLUDING MEMBERSHIP OF ACADEMIES

**2025-Now** Member of the European Network for Business and Industrial Statistics

**2023-Now** Member of the Società Italiana di Statistica

#### PARTICIPATION IN THE CREATION OF NEW BUSINESS ENTITIES (SPIN-OFFS), DEVELOPMENT, USE AND COMMERCIALISATION OF ACADEMIC PATENTS

**2021** Founding partner of the spin-off HoB s.r.l