



Martina AMONGERO

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PROFILE

I am deeply interested in the study of topics that arise from epidemiological, biological and medical problems, valuing both the statistical modeling and the computational aspect, with particular focus on the applications of theoretical results on real data.

RESEARCH INTEREST

Bayesian hierarchical joint models, compartmental models, hidden Markov models, longitudinal models for recurrent events, stochastic differential equations.

EDUCATION

RESEARCH FELLOWSHIP

UNIVERSITÀ DI TORINO

Mentor: Prof. Pierpaolo De Blasi

Torino, Italy

September 2023 - Present

PH.D. IN PURE AND APPLIED MATHEMATICS

POLITECNICO DI TORINO & GSK VACCINES (SIENA)

Defense planned by spring 2024

Title: Statistical methods for longitudinal medical data with applications

Supervisor: Prof. Mauro Gasparini

Torino, Italy

November 2019 - Present

MASTER'S DEGREE IN MATHEMATICAL ENGINEERING

POLITECNICO DI TORINO

Title: Inference for stochastic differential equations models with random effects

Supervisor: Prof. Enrico Bibbona, Prof. Gianluca Mastrantonio

Torino, Italy

October 2017 - October 2019

BACHELOR'S DEGREE IN MATHEMATICS FOR ENGINEERING

POLITECNICO DI TORINO

Title: Smoothing estimates for the linear Schrödinger equation

Supervisor: Prof. Maria Vallarino

Torino, Italy

October 2014 - December 2017

RESEARCH VISITS

GHENT UNIVERSITY

DEPARTMENT OF APPLIED MATHEMATICS, COMPUTER SCIENCE AND STATISTICS

VISITING OF PROF. STIJN VANSTEELANDT

Ghent, Belgium

Fall 2022

PUBLICATIONS

PAPERS UNDER REVIEW OR IN PREPARATION

1. Martina Amongero, Gianluca Mastrantonio, Stefano De Luca, Mauro Gasparini (2023). ***Estimating the optimal time to perform a PET-PSMA exam in prostatectomized patients based on data from clinical practice.*** Submitted. arXiv : 2302.10861.
2. Martina Amongero, Gianluca Mastrantonio, Enrico Bibbona (2023). ***Extended analysis of the Covid-19 Italian data with the SIPRO model.*** In preparation.
3. Martina Amongero, Andrea Callegaro, Mauro Gasparini, Stijn Vasteelandt and other GSK collaborators (2023). ***How to estimate in vaccine efficacy in randomized recurrent event trials with informative censoring: an application to real data.*** In preparation.

PAPERS IN PEER REVIEW JOURNALS

1. Jacopo Burrello, Martina Tetti, Vittorio Forestiero, Vanessa Biemmi, Sara Bolis, Margherita Pomatto, Martina Amongero,..., Silvia Monticone (2022). ***Profiling circulating extracellular vesicle surface antigens in primary aldosteronism.*** In Journal of Hypertension, 40 (Suppl 1), e32.
2. Jacopo Burrello, Alessio Burrello, Elena Vacchi, Giovanni Bianco, Elena Caporali, Martina Amongero,..., Lucio Barile (2022). ***Supervised and unsupervised learning to define the cardiovascular risk of patients according to an extracellular vesicle molecular signature.*** In Translational Research, 244, 114–125.
3. Martina Amongero, Enrico Bibbona, Gianluca Mastrantonio (2021). ***Analysing the Covid-19 pandemic in Italy with the SIPRO model.*** In Italian Statistics Society - Book of Short Papers 2021, 1568–1573.
4. Jacopo Burrello, Martina Tetti, Vittorio Forestiero, Vanessa Biemmi, Sara Bolis, Margherita Alba Carlotta Pomatto, Martina Amongero,..., Silvia Monticone (2021). ***Characterization of Circulating Extracellular Vesicle Surface Antigens in Patients With Primary Aldosteronism.*** In Hypertension, 78 (3), 726–737.
5. Jacopo Burrello, Martina Amongero,..., Paolo Mulatero (2021). ***Development of a Prediction Score to Avoid Confirmatory Testing in Patients With Suspected Primary Aldosteronism.*** In The Journal of Clinical Endocrinology & Metabolism, 106 (4), 1708–1716.
6. Fabrizio Buffolo, Giovanni Cavaglià, Jacopo Burrello, Martina Amongero, Martina Tetti, Alessio Pecori, Elisa Sconfienza, Franco Veglio, Paolo Mulatero, Silvia Monticone (2021). ***Quality of life in primary aldosteronism: A prospective observational study.*** In European Journal of Clinical Investigation, 51 (3), e13419.
7. Jacopo Burrello, Alessio Burrello, Jacopo Pieroni, Elisa Sconfienza, Vittorio Forestiero, Martina Amongero, Denis Rossato, Franco Veglio, Tracy A Williams, Silvia Monticone, Paolo Mulatero (2020). ***Prediction of hyperaldosteronism subtypes when adrenal vein sampling is unilaterally successful.*** In European Journal of Endocrinology, 183 (6), 657–667.
8. Jacopo Burrello, Vanessa Biemmi, Michele Dei Cas, Martina Amongero, Sara Bolis, Edoardo Lazzarini, Sveva Bollini, Giuseppe Vassalli, Rita Paroni, Lucio Barile. (2020). ***Sphingolipid composition of circulating extracellular vesicles after myocardial ischemia.*** In Scientific Reports, 10 (1), 16182.

COLLABORATIONS

- Department of Applied Mathematics, Computer Science and Statistics, UGent, Ghent, Belgium.
- Department of Urology, San Luigi Gonzaga Hospital, Torino, Italy.
- Division of Internal Medicine and Hypertension, Dipartimento di Medicina, UniTO, Torino, Italy.
- Laboratory for Cardiovascular Theranostics, Cardiocentro Ticino Foundation, Lugano, Switzerland.

TEACHING EXPERIENCES

INTRODUCTION TO STATISTICS FOR HIGH SCHOOL

POLITECNICO DI TORINO

Teaching Assistant - 20h

Summer 2022

STATISTICS FOR BACHELOR'S DEGREE IN URBAN PLANNING

POLITECNICO DI TORINO

Teaching Assistant - 30h

Spring 2020, Spring 2021

STATISTICAL MODELING FOR MASTER'S DEGREE IN MATHEMATICAL

POLITECNICO DI TORINO

Teaching Assistant - 40h

Fall 2020, Fall 2021

INVITED TALKS, CONTRIBUTED TALKS & POSTERS

- **IBIG 2022**
Treatment policy estimands for recurrent event data with missing data: COPD vaccine case study using IPCW
Invited Talk
October 2022, Verona, Italy
- **RSS 2022**
Prediction of the Optimal Time to Perform PET-PSMA Exam in prostatectomized patients based on data from clinical practice
Contributed Talk
September 2022, Aberdeen, UK
- **CHEMICAL REACTION NETWORKS WOKSHOP**
Analysing The Covid-19 Pandemic In Italy With The SIPRO Model
Invited Talk
July 2022, Torino, Italy
- **4TH INTERNATIONAL CONFERENCE ON STATISTICS: THEORY AND APPLICATIONS**
Statistical Methods for Prediction of the Optimal Time to PET-PSMA Exam
Contributed Talk
June 2022, Prague, Czech Republic
- **PSI 2022**
Treatment policy estimands for recurrent event data with missing data: COPD Vaccine case study using IPWC
Contributed Talk
June 2022, Gothenburg, Sweden
- **DYNAMICAL SYSTEMS APPLIED TO BIOLOGY AND NATURAL SCIENCES 2022**
Analysing the Covid-19 pandemic in Italy with the SIPRO model
Contributed Talk
February 2022, online
- **BAYSM 2021**
Prediction of the optimal time to perform a PET-PSMA exam in prostatectomized patients based on data from clinical practice
Contributed Talk
September 2021, online
- **2ND CONFERENCE OF THE INTERNATIONAL SOCIETY FOR CLINICAL BIostatISTICS**
Prediction of the optimal time to perform a PET-PSMA exam in prostatectomized patients based on data from clinical practice
Contributed Talk
July 2021, online
- **2021 WORLD MEETING OF THE INTERNATIONAL SOCIETY FOR BAYESIAN ANALYSIS**
Prediction of the optimal time to perform a PET-PSMA exam in prostatectomized patients based on data from clinical practice
Contributed Talk, Poster
June - July 2021, online
- **50TH SCIENTIFIC MEETING OF THE ITALIAN STATISTICAL SOCIETY**
Analysing the Covid-19 pandemic in Italy with the SIPRO model
Contributed Talk
June 2021, online
- **EUROPEAN MEETING OF STATISTICIANS 2019**
Stochastic mixed model with different SAEM based algorithms
Poster
July 2019, Palermo, Italy

ATTENDEES

CONFERENCES AND WORKSHOPS

- **ITALIAN BAYESIAN DAY**
Participation
September 2023, Sapienza Università di Roma, Italy
- **ROUSSEUW PRIZE AWARDED TO CAUSAL INFERENCE**
Participation
October 2022, Ghent and Leuven, Belgium
- **BAYESIAN INFERENCE IN STOCHASTIC PROCESS**
Participation
May 2021, online
- **IBIG FORUM 2021**
Participation
October 2019, online
- **BAYESIAN YOUNG STATISTICIANS MEETING 2020**
Participation
November 2020, online
- **IBIG FORUM 2020**
Participation
October 2020, online
- **IBIG FORUM 2019**
Participation
October 2019, Milano, Italy

SCHOOLS AND COURSES

- **DOSE-FINDING AND ADAPTIVE METHODS IN CLINICAL RESEARCH**
PROFESSOR: THOMAS JAKI, PAVEL MOZGUNOV
Politecnico di Torino
May 2023
- **DESIGN AND ANALYSIS OF CLINICAL TRIALS**
PROFESSOR: IAN WHITE
Ghent University, Belgium
January 2023
- **CAUSAL INFERENCE**
PROFESSORS: BALLARINI VERONICA AND ALESSANDRA MATTEI
Università degli studio di Trento, Italy
July 2022
- **THE ANALYSIS OF LONGITUDINAL DATA**
PROFESSOR: RICHARD J. COOK, DAVID FAREWELL
Università di Milano-Bicocca, Italy
November 2021
- **INNOVATIONS IN BAYESIAN TRIALS**
Cytel and Novartis
Fall 2021
- **THE POPULATION DYNAMICS OF INFECTIOUS DISEASES**
PROFESSOR: PIERO MANFREDI
Università di Padova, Italy
July 2021
- **KALMAN FILTER AND STATE SPACE MODELS**
PROFESSOR: JAN KOOPMAN
Università di Padova, Italy
July 2021
- **SIMULATION AND INFERENCE IN POPULATION GENETICS**
PROFESSOR: PAUL JENKINS
Università di Torino, Italy
Spring 2021
- **JOINT MODELS UNDER THE BAYESIAN APPROACH**
PROFESSOR: DIMITRIS RIZOPOULOS
ISCB 2020, France
Spring 2021
- **MODELING FOR BIODIVERSITY AND ECO-EVOLUTIONARY DYNAMICS**
PROFESSOR: JULIANO SARMENTO CABRAL
Politecnico di Torino, Italy
February 2020

SKILLS

PROGRAMMING LANGUAGES *Experienced:* R *Familiar:* Julia | C | C++ | Matlab | Python | Mathematica | Excel
LANGUAGES *Native:* Italian *Fluent:* English level B2