




ANNA SIMONETTO

PERSONAL INFORMATION



 Dipartimento di Ingegneria Civile, Architettura, Territorio, Ambiente e di Matematica
Università degli Studi di Brescia
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CURRENT JOB

2020/06/01 – oggi Type A fixed-term researchers (RTDA)
SSD: SECS-S/02 Statistics for experimental and technological research , SC: 13/D1 Statistics
Università degli Studi di Brescia, Dipartimento di Medicina Molecolare e Traslazionale (fino al 31/10/2021),
Dipartimento di Ingegneria Civile, Architettura, Territorio, Ambiente e di Matematica (dal 01/11/2021)

Research fellow

2016/06/01 – 2020/05/31 Research fellows focused on Statistical models to support the evaluation of agri-food systems
Università degli Studi di Brescia, Research reference: Prof. Gianni Gilioli
SSD: SECS-S/01 Statistics, SECS-S/02 Statistics for experimental and technological research, SECS-S/03
Economic statistics, SECS-S/05 Social statistics, AGR/15 Food and Technology science, BIO/07 Ecology

2015/07/15 – 2016/05/29 Research fellow on “ Development of statistical models for transgenerational analyses ”
Università degli Studi di Verona, Research reference Prof. Simone Accordini
SSD: MED/01 Medical statistics

2009/11/01 – 2015/06/30 Research fellows focused on Statistical methods for the estimation of latent variables
Università degli Studi di Brescia, Research references Prof. Maurizio Carpita, Prof.ssa Paola Zuccolotto, Prof.
Eugenio Brentari
SSD: SECS-S/01 Statistics , SECS-S/03 Economic Statistics e SECS-S/05 Social statistics

EDUCATION

2017/11 – 2020/03 PhD in “ Agri-food science, technology and biotechnology ” (XXXIII ciclo)
Thesis : *Quantitative models for biodiversity analysis in agroecosystems*
Tutor: Prof. Gianni Gilioli (AGR/11) – Co-tutor: Prof.ssa Lara Maistrello (AGR/11)
Università degli Studi di Modena-Reggio Emilia

2006/11 – 2010/09 PhD in “Statistics and Application” (XXII ciclo)
Thesis: “*Estimation Procedures for Latent Variable Models with Psychological Traits*”, tutor: Prof. Maurizio
Carpita
Università degli Studi di Milano-Bicocca

2004/10 – 2006/07 Master degree in “ Theories and Methods for Information Management ” (classe 100/s DM 509/99)
Thesis : “ *Data Mining models for predicting customer behaviour: the BresciaOnLine case* ”
Università degli Studi di Brescia, Facoltà di Economia
Grade: 110 cum laude

2004/10 – 2006/07 Bachelor in “ Economics and Management of Information and Communication ” (classe 17 DM 509/99)
Thesis : “ *Production planning: Application of the theoretical model for determining the economic lot (EOQ) to
management software for MRP systems (GIPROS)*”,
Università degli Studi di Brescia, Facoltà di Economia
Grade: 110 cum laude

RESEARCH PROJECT

INTERNATIONAL

2021-2024 Project: **Safeguarding agroecosystem's resilience under climate change through efficient pollination and sustainable beekeeping (SafeAgroBee)**
PRIMA Foundation
Role: Development of statistical models for the multidimensional assessment of bee health and the impacts of climate change on ecosystem services

- 2018-2019 Project : **Opportunities for a sustainable food-energy-water future in the Blue Nile Mountains of Ethiopia (NILE NEXUS)**
Role: Setting up the database for socio-economic data collection, data analysis, preparation of scientific reports
- 2016/06 – 2018/12/31 Project : **Collection of data and information on biology and control of vectors of *Xylella fastidiosa* (RC/EFSA/ALPHA/2015/01 e Amendement)**
Role: Design of experiments, definition of experimental protocols, data analysis, development and implementation in R of biomathematical and statistical models for the study of population dynamics of *Philaenus Spumarius*
- 2016/06/01 – 2018/12/31 Project H2020: **Aging Lungs in European Cohorts (ALEC)**
Role: Integration and harmonisation of transgenerational data to study transgenerational determinants and "preconception" risk factors. Development of a multilevel SEM model to identify parental and non-parental determinants and risk factors for asthma phenotypes and low lung function in offspring

NATIONAL, LOCAL

- 2015/07/15 – now Participation in 18 national and local projects
Role: Definition of experimental protocols, data analysis, eco-epidemiological models, time series models, generalised linear models for studying the influence of environmental variables on biodiversity, assessment models for scenario analysis, habitat suitability models, population dynamics models, questionnaire validation models

SCIENTIFIC PROJECTS AND COLLABORATIONS (NON-COMPETITIVE CALLS)

- 2020-now Progetto Dispens@- la salute nel piatto (health on your plate), promoted by University of Brescia with the aim of disseminating scientifically sound knowledge on the relationship between food and health and practical suggestions for improving everyday nutrition (<https://dispensa.unibs.it/>)
- 2019 Scientific expert, Working Group "Xylella Pest Risk Assessment" (Plant Health Panel- Mandate 2018-0020), European Food Safety Authority (EFSA).
- 2018-now Member of the Observatory on Food Consumption and Gastronomic Professions of the University of Brescia

TEACHING ACTIVITY

TEACHING ACTIVITY AT UNIVERSITY LEVEL

- A.A. 2020-oggi "Statistics for research" (SECS-S/02)
2 CFU- 24 hours frontal teaching
Degree in Dietistics (UNIBS)
"Laboratory of Predictive Microbiology" (MED/50)
1 CFU- 24 hours frontal teaching
Degree in Prevention Techniques in the Environment and Workplaces (UNIBS)
- A.A. 2019-oggi Ecology" course (BIO/07)- Seminar 6 hours: Statistical methodologies in ecology
Degree in Sustainable Agricultural Systems (UNIBS)
- A.A. 2018-oggi Risk assessment in the food chain" course
6 hours- School of Specialisation: Hygiene and Preventive Medicine- 2nd year (UNIBS)
- A.A. 2012-2015 "Statistics for Finance" course (SECS-S/01) 9 CFU
Supplementary teaching: 40 hours
Degree in Management (UNIBS)
- A.A. 2011-2012 Course in "Market Analysis and Research" (SECS-S/03) 6 CFUs
Supplementary teaching : 20 hours
Degree in Marketing, Consumption and Communication (IULM)
- A.A. 2010-2012 Course in "Forecast Analysis" (SECS-S/01) 6 CFU
Supplementary teaching: 40 hours
Degree in Business Consultancy and Liberal Professions (UNIBS)
- A.A. 2009-2011 Course of "Models for Data Mining" (SECS-S/01) 5 CFU
Supplementary teaching : 50 hours
Degree in Business, Market and Information (UNIBS)

TEACHING ACTIVITIES AT NATIONAL/INTERNATIONAL RESEARCH INSTITUTES OR HIGHER EDUCATION INSTITUTIONS

- 2019/05-2020/05 Trainings on Environmental Risk Assessment under the various legislation within EFSA's remit and as a component of EFSA's risk assessments.

Module: ERA's at EFSA with special reference to current practise for Invasive Pest Species

14 ore, European Food Safety Authority (EFSA)

Role: Lecturing on quantitative models for assessing spread and impact from the spread of invasive species, development of the R-shiny application for tutorials by course participants

RESEARCH TOPICS

- 2016- now **Dynamic models based on differential equations (ODE and PDE) for studying the dynamics of complex biological phenomena with particular reference to**
 - Eco-epidemiological models for the transmission of human, animal and plant diseases.
 - Mechanistic models based on physiological responses to environmental drivers ('Physiologically-based models') to interpret and predict population dynamics. Application to the study of plant pests and disease vectors.
 - Models describing life cycle strategies (development, mortality and fertility functions) from experimental or field data on population dynamics.
 - Simulation models for risk assessment and risk management in the context of Pest Risk Assessment (PRA) and Environmental Risk Assessment (ERA)
 - Models for the analysis of spatial population dynamics (estimation of diffusive kernels and reaction-diffusion systems for the analysis of spatio-temporal dynamics in continuous and discrete time)
 - Development and optimisation of codes in the R and Matlab languages for the implementation of models for the study of the dynamics of biological systems

- 2015- now **Statistical methods applied to risk assessment**
 - Growth models applied to predictive microbiology. Applications to food safety (e.g. growth/inactivation curves of microorganisms in food matrices).
 - Multilevel statistical models for human health risk assessment in subjects exposed to stressors (e.g. exposure to environmental contamination).
 - Structural equation models aimed at analysing the role of risk factors in the onset of specific diseases, integrating biomarkers and genetic information and assessing the transgenerational component.

- 2012- now **Data mining models applied to spatial data**
 - Raster-based classification and regression models. Collective event monitoring applications based on telephone data analysis
 - Association and clustering models for pattern identification. Application to the analysis of structural and functional biodiversity in agro-ecosystems and to the analysis of species distribution considering ecological factors that condition it

- 2006- now **Models for latent variables and composite indicators**
 - Multivariate data analysis and models with latent variables, in particular structural equation models. Application to holistic assessment of bee health, procedural fairness assessment, knowledge acquisition in schools, multidimensional food quality assessment, and migration assessment
 - Implementation of methods and models for constructing composite indicators from ordinal variables

Foreign Languages

| | COMPREHENSION | | ORAL | | WRITTEN |
|---------|---------------|---------|-------------|------------|---------|
| | Listening | Reading | Interaction | Production | |
| English | C1 | B2 | B2 | B2 | B2 |
| French | B1 | B2 | B1 | B1 | A2 |

Digital skills

Software for statistical analysis

- R: advanced user, programming autonomy
- Matlab: independent user
- Stata: independent user
- Mplus: independent user

- Good knowledge of relational databases, referential integrity rules and management of large data stores
- Meteorological databases (regional services, MeteoNetwork, NCEP GDAS/FNL)
- Georeferenced databases (e.g. regional geoportals containing information on land use, soil characteristics, location of production activities)

COMMUNICATION

CHAIR

- 2019/09** Chair “ASA 2019 Scientific conference on Statistics for Health and Well-being”, 25-27/09/2019, Brescia
Invited session: Decision support data: the role of data in policy development

INVITED SPEAKER

- 2019/11** Meeting on “ Milk and dairy products: assessing consumer attitudes and health impacts ”, 08/11/19, Montichiari e 22/11/2019, Piacenza
Talk: *Market analysis and evaluation of consumption drivers in the dairy sector*
- 2013/06** Invited Speaker al 47° International conference of the Italian Statistical Society "Advances in Latent Variables- Method, Models and Applications", 19-21/06/13, Brescia, Italy
Talk: *Evaluation of human capital in education-based perspective*
- 2012/05** Invited Speaker al 46th International Conference of the Italian Statistical Society, 20-22 June 2012, (Università La Sapienza di Roma)
Talk: *Formative and reflective models to determine latent construct*

SCIENTIFIC SOCIETY

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|-------------|---|
| 2021-now | Member of The International Environmetrics Society (TIES) |
| 2020-Now | Ordinary member of Società Italiana di Statistica |
| 2016 - 2018 | Member of della Società Italiana di Scienze Sensoriali |
| 2011 - 2015 | Corresponding member of Società Italiana di Statistica |

I hereby authorize the use of my personal data in accordance to the GDPR 679/16- "European regulation on the protection of personal data".

Brescia, 01/03/2022

