

CURRICULUM VITAE

GIANNI GILIOLI

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University of Brescia
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Mobile:

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EMPLOYMENT HISTORY:

2010-present, **Assistant Professor**, School of Medicine, Department of Molecular and Translational Medicine, University of Brescia, Brescia, Italy.
2000-2010, **Assistant Professor** in Ecological Entomology and Applied Entomology (AGR11), Agricultural Faculty, Mediterranean University of Reggio Calabria, Reggio Calabria, Italy.
1998-2000, **External consultant**, Department of Mathematics, University of Parma, Parma, Italy.
1996-1998, **Post-doc in Mathematics**, Department of Mathematics, University of Parma, Parma, Italy.

EDUCATION:

PhD in Animal Biology (1995), Department of Experimental Evolutionary Biology, University of Bologna, Bologna, Italy. Dissertation defended in October 1995, title "The use of Individual-based Models in the analysis of aggregative and reproductive strategies of Collembola".
Training for the qualification to the profession of Biologist (1991-1992), Natural History Museum, University of Parma, Parma, Italy.
Degree in Biological Sciences (1991), Faculty of Mathematical, Physics and Natural Sciences, University of Parma, Grades: 110/110 cum laude. Dissertation: "Cooperative strategies and their function in a simulated population", supervisor: Prof. V. Parisi, Natural History Museum, University of Parma, Parma, Italy.
High School. Technical Institute, Salò (Brescia), Italy, Grades: 60/60.

LANGUAGES:

Italian, English.

CHRONOLOGY AND AREAS OF RESEARCH EFFORTS:

2009-present. Pest Risk Analysis and Environmental Risk Assessment of invasive species: activity performed as a member of the Scientific Panel on Plant Health (PLH) of the European Food Safety Authority (EFSA) (www.efsa.europa.eu); Models for the analysis of population dynamics and spread of invasive species; Evaluation of the impact of invasive species based on the analysis of ecosystem services.
2007- present. Ecological analysis and impact of biotechnology in agriculture: Physiologically-based population models for the analysis of GM crops and their pests. Ecological methods for the analysis and quantification of the environmental impact of GMOs
2006-present. Monitoring and modeling environmental impacts of chemical pollutants: with particular reference to pesticides. Modeling population dynamics of bioindicators (honeybees) in terrestrial

habitats and analysis of abiotic degradation, bioconcentration and biotransformation in water environments.

- 2003-present. Models for the management of spatially-structured population: Spatially explicit physiologically-based demographic models (lattice models) for potential establishment and spread of invasive alien species; Probabilistic model for the pathway analysis of invasive alien species; Metapopulation models for the design and assessment of management strategies of endangered species and large-scale pest population; Information theory-based approaches are used to rank intervention strategies; Cost-benefit analysis and optimization methods in ecosystem management.
- 2002- present. Eco-epidemiological models: Epidemiological models based on ecological approach for human (e.g. malaria, human trypanosomiasis) and animal (e.g. bovine theileriosis, animal trypanosomiasis) disease transmission; models for vectors population dynamics; Role of environmental forcing variables, environmental heterogeneity, scale and hierarchy in epidemiological systems; Stability analysis and evolutionary properties in epidemiological systems.
- 2001-present. Parameter estimation for ecological models: Methods for the estimation of development, mortality and fecundity rate functions, and predator-prey functional response based on population dynamics field data; Use of macroscopic and microscopic simulation models, stochastic models, time series and Bayesian methods for parameter estimation.
- 2000-present. Field methods for integrated pest management: Development of optimal sampling scheme; Analysis predator-prey and host-parasitoid population system regulation mechanisms in with particular reference to biological control; Study of functional response in predator-prey system; Agro-ecosystem analysis and design of ecosystem management schemes for sustainability and optimal use of ecosystem services and ecological infrastructures.
- 1998-present. Human health and sustainable development in Sub-Saharan Africa: Environmental, social and economic capitals management strategies for poverty alleviation and human health improvement; Prevention and control of arthropod-transmitted diseases in livestock (tick-borne diseases, tsetse-trypanosomiasis) and humans (malaria, sleeping sickness); Design and implementation of community-based adaptive ecosocial system management scheme for sustainable rural development including intensive biofarming, habitat restoration, food security, cooperative enterprises; Bio-economic modeling and analysis of the evolving eco-social systems; Development and implementation of multidimensional assessment schemes for agricultural sustainability.
- 1994-present. Development and implementation of simulation models and software packages to support pest management and agricultural production activities.
- 1993-present. Mathematical models of single population dynamics and simple trophic web: Deterministic and stochastic models of poikilotherm structured population, physiologically-based demographic models (PBDMs) for the analysis of single-species and multi-trophic system dynamics; Derivation and analysis of lumped parameter models; Individual-based models and Markov chains models.
- 1990-1995. Behavioral-ecology: Analysis on the mechanisms, dynamics and functional role of the spatial distribution in animal population; Field and laboratory analysis of aggregation of soil and inter-tidal organisms; Study of evolution and role of aggregative behavior using individual-based models and game-theory.

TEACHING:

- 2008-present. **Environmental Risk Assessment in Agricultural Biotechnology**, Faculty of Medicine, University of Brescia, Brescia, Italy.
- 2004-present. **Ecology, Ecological Entomology and Plant protection**, Faculty of Agriculture, Mediterranean University of Reggio Calabria, Reggio Calabria, Italy.
- 2001-2002. **Zoology**, Faculty of Agriculture, Mediterranean University of Reggio Calabria, Reggio Calabria, Italy.
- 2000-present. **Organization and teaching of courses to train Field ecologists, Technicians in IPM, Agro-ecosystem managers** in Italy, Ethiopia and Kenya.
- 1992-1994. **Modeling methods in Biology** in a Biophysics Course, Faculty of Science, University of Parma, Parma, Italy.

1987-1995. Organization of **didactic and training series at the Natural History Museum** with emphasis on vertebrate evolution, adaptation, and biogeography (University of Parma, Parma, Italy).

STUDENTS COMPLETING DEGREES:

2 Ph.D completed

40 MS

Second reader on 2 MS and 2 Ph.D

PUBLICATIONS

More than 230 publications in international peer reviewed journals, in Italian journal, chapters in international books, national and international conference proceedings.

REVIEWER:

Ecological Modelling, Ecology and Society, Journal of Applied Entomology, Insect Science, African Journal of Biotechnology, IOBC Bulletin, Human Ecology Review, Applied Mathematical Modelling, Italian Journal of Agrometeorology, Bulletin of Insectology.

BOARD MEMBER:

Member of the Scientific Panel on Plant Health (PLH) of the European Food Safety Authority (AFSA) (<http://www.efsa.europa.eu>).

Member of Praxis Ethiopia, an international alliance of scientists whose goal is to apply professional expertise to the problems of extreme poverty in Ethiopia (<http://www.praxisethiopia.org/>).

Member of the CASAS-Italia (Centro per l'Analisi dei Sistemi Agricoli Sostenibili-Italia), Perugia, Italy.

Member and treasurer of CASAS-Global an NGO providing low cost analysis of complex ecosystem, agricultural and health problems worldwide for the benefit of populations and governments in developing economies (<http://cnr.berkeley.edu/casas/index.php>).

Member of scientific committee of the Yeha Natural Resource Management Institute for Eastern Africa (YNRMI-EA), Addis Ababa, Ethiopia (<http://ynrmi.org/research.htm>).

Member of the International Society for Ecological Modelling (ISEM) (<http://www.isemna.org/>)

Member of the European Society for Mathematical and Theoretical Biology (<http://www.esmtb.org/news/news.htm>).

Member of the Italian Society of Ecology (<http://www.societaitalianaecologia.org/>).

Member and secretary of the GRIMPP (Italian Research Group on Modelling for Plant Protection) (<http://www.grimpp.it/>).

Member of the Italian Association for Plant Protection (Associazione Italiana per la Protezione delle Piante) (<http://www.aipp.it/home.cfm?>).

Member of the Italian Entomological Society (<http://www.socentomit.it/>).

COLLABORATIVE RESEARCH

Scientific activity of Dr. Gilioli is done in collaboration with Researchers of many Universities, Research Institutions, Organizations and Extension Services.

University and Research Organizations:

CNR-IMATI (Institute for Applied Mathematics and Informatics), Milan, Italy; DIPSA (Department for Agro and Urban Systems Protection and Biodiversity Valorization), University of Milan, Italy; Department of Agriculture and Environmental Sciences, University of Udine, Udine, Italy; Department of Environmental Science, Policy and Management, University of California, Berkeley, USA; Centre for International Health, University of Bergen, Bergen, Norway; Institute for Social Sciences in Agriculture, Gender and Nutrition, University of Hohenheim, Germany; Department of Plant Protection, University of Sassari, Italy; Department of Science and Technology for the Environment and Landscape, University of Campobasso, Italy; CNR-ISAAC (Institute of Atmospheric Sciences and Climate), Rome, Italy; Department of Environmental Sciences, University

of Viterbo, Italy; International Centre of Insect Physiology and Ecology (ICIPE), Nairobi, Kenya; Yeha Natural Resource Management Institute for Eastern Africa, Addis Ababa, Ethiopia (YNRMI-EA), B.E.A. Foundation, Addis Ababa, Ethiopia; Green College, Oxford University, GB; University of Neuchâtel, Switzerland; Millennium Institute, Arlington, USA; Addis Ababa University, Addis Ababa, Ethiopia.

Extension Services:

S.A.R., Sardegna, Italy; A.R.S.S.A. Abruzzo, Italy; Servizio Fitosanitario Regione Emilia Romagna, Italy; Istituto Nazionale di Apicoltura, Bologna, Italy; Amt für Natur und Umwelt, Chur, Switzerland.

NGOs

BioVision Foundation, Stanley Thomas Johnson Foundation, HELVETAS, Swiss Development Cooperation, Austrian Development Cooperation.

RESEARCH APPOINTMENTS

2001-2006, Visiting scientist ICIPE (International Centre of Insect Physiology and Ecology), Nairobi, Kenya.

2007-2009, Associated Researcher at CNR-IMATI (Institute for Applied Mathematics and Information Technology), Milan, Italy.

2008-present, Adjunct Professor, Faculty of Medicine, University of Brescia, Brescia, Italy

2009-present, Expert of the Scientific Panel on Plant Health (PLH) of the European Food Safety Authority (EFSA) (<http://www.efsa.europa.eu>).

REFERCES:

Prof. A.P. Gutierrez, Professor Emeritus University of California at Berkeley, 203a Mulford Hall, Berkeley, CA 94720, U.S.A., Tel.: 1 510 642-9186; Email: casas.global@berkeley.edu

Prof. J.C. van Lenteren, Professor Emeritus in Entomology, WU Plant Sciences, Laboratory of Entomology, PO Box 8031, 6700EH Wageningen; Email: joop.vanlenteren@wur.nl

Prof. P. Luciano, Professore Ordinario in Entomologia Generale e Agraria (AGR11), Università di Sassari, via E. De Nicola 1, 07100 Sassari (Italy) Tel.; +39-079-229202; Email: pluciano@uniss.it

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