

RENATO CASAGRANDI

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Born in 1969, Renato Casagrando is Professor of Ecology at the Department of Electronics, Information and Bioengineering, Politecnico di Milano where he currently serves the School of Civil and Environmental Engineering as Coordinator of the Environmental and Land Planning Engineering programs. He graduated in Electronic Engineering (PoliMI, 1996) discussing a master thesis on forest fire regimes (a core of which appeared in *The American Naturalist*) that was awarded the Italgas Prize "Idee per il futuro" (1998) as the best MSc dissertation at the national level on Environment and Energy. In 1999, Renato Casagrando obtained a PhD in Ecology (University of Parma) with a thesis on models for metapopulations, part of which has been published in *Nature*. He has been Visiting scholar in different international research centers, including MIT (2010), Princeton University (2009, 2000-2001), the Institute for Advanced Study of the Hebrew University of Jerusalem in Israel (2007), and the International Applied Systems Analysis in Austria (1997 and 1993). His main research interests are in the wide area of quantitative population biology. More precisely, he designs (possibly) mechanistic mathematical models and develops quantitative tools aimed at describing and analyzing spatiotemporal dynamics in ecology and epidemiology. Renato Casagrando has authored or coauthored around 70 papers appeared in peer-reviewed journals including *Nature*, *Proceedings of the National Academy of Sciences USA*, *Nature Sustainability*, *Ecology Letters*, *Journal of Ecology* and *The American Naturalist*. He's editorial board member of *Scientific Reports*.

Appointments held

2018-now: Chair of the Executive Committee of B.Sc. and M.Sc. Study Programs in Environmental Engineering at PoliMI, terms 2018-2020 and 2021-2023

2016-now: Professor of Ecology, DEIB, PoliMi

2006-2016: Associate Professor of Ecology, PoliMi

2002-2006: Assistant Professor, DEI, PoliMi

2000-2002: Postdoctoral Fellow and Lecturer, PoliMi

2000: Postdoctoral Fellow (Advisor Simon A. Levin), Department of Ecology and Evolutionary Biology (EEB), Princeton University (NJ, USA).

Awards and honors, national and international services

2020: Elected member of the scientific committee, WWF Italy

2018: Youthmappers Research Fellowship by USAID (as mentor of the student Michael Montani)

2018: Member of the Editorial Board of *Scientific Reports* and of *Mathematical and Computer Modelling of Dynamical Systems*

2018: DEIB Director's delegate for Sustainability

2016: Polisocial Award for the project MAPPING Schistosomiasis Transmission Risk in Saint Louis region, Senegal (MASTR-SLS)

2015: Invited editor for the *Proceedings of the National Academy of Sciences of the United States of America*

2015: D4D Health Prize, Data for Development Challenge by Orange

2005-2015: Reviewer of several research projects for NSF, ERC, Netherlands Organisation for Scientific Research

2010: Elected (2010-2012) and nominated (2013-now) member of the Council of the School of Civil and Environmental Engineering (Dean committee)

2008: Special contributor (together with Roger A. Powell only) to the development of the Movement Ecology paradigm that deserved a Special Feature in *PNAS* (see the leading article by Nathan et al. 2008)

2006: Founder and webmaster of the domain <http://www.ecologia.it> for the Italian Society of Ecology (SItE), hosted at PoliMI

2004: Invited lecture at the Gordon Research Conference on Theoretical Biology and Biomathematics, Tilton (NH, USA).

2001: Commentary article in *PNAS* by David Tilman on the work made during the PostDoc at Princeton and resulting in a companion *PNAS* paper (Norberg et al. 2001)

1998: Eni Award Fellowship "Ideas for a brighter future" (formerly Italgas Prize) for the best master thesis discussed in Italy on Energy and the Environment during the period 1996-98.

Recent research grants

2017-2020: Principal Investigator (PI) of the project HABITAT@SCUOLA, Fondazione Cariplo.

2016-2020: Member of the Working Group on Optimal Control of NTDs (Neglected Tropical Diseases) at NIMBioS (National Institute for Mathematical and Biological Synthesis), a National Science Foundation Synthesis Center at the University of Tennessee, Knoxville (USA).

2016-2019: PI at PoliMI of the H2020 project Ecopotential: Improving future ecosystem benefits through earth observation (EU PI: Antonello Provenzale)

2016-2019: PI of the Polisocial project MASTR-SLS (MAPPING Schistosomiasis Transmission Risk in the Saint Louis region, Senegal).

2010-2014: PI of the project "Climate Change Assessment in Small Pacific Islands States", involving MOX, IUSS & CMCC

2012-2016: CoCoNet - Towards COast to COast NETWORKS of marine protected areas (from the shore to the high and deep sea), coupled with sea-based wind energy potential, 7th EU Framework Programme

2012-2016: ECO2Clouds: Experimental Awareness of CO2 in Federated Cloud Sourcing, 7th EU Framework Programme

2011-2012: Project Fondazione Cariplo "Sulla strada della sostenibilità"

2010-2011: Seed project MISTI, Progetto Rocca at MIT, "Movement ecology at the microscale: experiments and models with predator-prey bacteria" (PI: Roman Stocker CO-PIs: Marino Gatto; Renato Casagrando)

2010-2013: Research group "Alpine galliformes" within the INTERREG-ALCOTRA

2008-2011: Project Interlink (MIUR #II04CE49G8) "Impacts of global climate change and consequences on management and conservation of natural resources"

Current teaching

Since 2019/20 - Graduate course on "Climate and Global Changes in the Age of Sustainable Development" for the Laurea Magistrale in Environmental Engineering (EnvEng) at PoliMI (Milano campus)

Since 2016/17 - Undergraduate course of "Urban Ecology" for the Laurea Urban Planning: Cities, Environment & Landscapes

Since 2010/11 - Undergraduate course of "Ecology" for EnvEng