

CURRICULUM VITAE  
PROF. MARCO FORNACIARI DA PASSANO

Marco Fornaciari da Passano, a graduate in Agricultural Sciences from the University of Perugia, qualified as an Agronomist, has been an employee of the University of Perugia since 1990 (as Researcher, Associate Professor and now Full Professor of Environmental and Applied Botany. He has been a Member of the Integrated Academic Senate of the University of Perugia, Secretary of the Working Group Phenology and Biorhythms of the Italian Botanical Society, Bursar of the Italian Botanical Society. Representing the University of Perugia, he was a Member of the Board of Directors of the Consortium for Research and Applications of Innovative Technologies (C.R.A.T.I.). He was Coordinator of the International Master's Degree Course in Olive Growing and Elaboration jointly organised by the University of Perugia and the International Olive Council. From 2012 to today he is Director of the Centro Appenninico del Terminillo C. Jucci of the University of Perugia. He is a Member of the Scientific Council of the Interuniversity Centre for Research on Pollution and the Environment - CIRIAF and of the Aggregate Section of the Research Centre on Climate and Climate Change (CRC). He is currently Delegate for International Relations of the Department of Civil and Environmental Engineering. He is currently Scientific Coordinator of the Life CLIVUT Project (LIFE18 GIC/IT/001217).

TEACHING ACTIVITIES

The first part of the activity was carried out within the Degree Courses of the former Faculty of Agriculture of the University of Perugia (General Botany, Applied Biology to Agro-Food Plants and Plant Biology and Applied Botany. From A.A. 2003/2004 to A.A. 2010/2011 at the Faculty of Humanities of the University of Perugia, as Head/Teacher, she held the teaching of Biology of Restoration in the Degree Course in Science of Historical Artistic Heritage Archival, Book and Musical Heritage. From the AA 2016/2017 to date, at the Department of Civil and Environmental Engineering of the University of Perugia, he is Head/Teacher of the Lectures of: Environmental Bio-monitoring in the Engineering for the Environment and Territory Course), Green in the Design Course, Green Architecture (Building Engineering-Architecture Course) and Plant Ecology for Environmental Engineering (Civil and Environmental Engineering Course).

Over the years (1995-2019), he was a Member of the Lecturing Teams of the European Courses in Aerobiology, organised by the International Association on Aerobiology, which were held in Spain, Austria, England and the Netherlands. He has served on International Doctoral Commissions in Cordoba (Spain) and Murcia (Spain). He is a member of the International Doctoral College in Civil and Environmental Engineering, coordinated by the Department of Civil and Environmental Engineering of the University of Perugia.

#### SCIENTIFIC ACTIVITIES

The main lines of research have been directed towards the study of topics within the scope of Environmental and Applied Botany such as Phenology and biorhythms on various plant species and on indicator plants for the study of climate change. Some research, conducted in collaboration with teams from other Italian and foreign Universities and Research Centres, has concerned studies on the biology of reproduction to understand the phenomena of self-sterility and interfertility, particularly in the species *Olea europea* L. (Olive tree).

Much of the research activity concerned the field of Aerobiology and in particular on biological material dispersed in the atmosphere (pollens and fungal spores) with various implications. Initially, the focus was on the study of the dynamics of pollen presence in the atmosphere with particular reference to allergenic species, and possible modelling of flowering and its implications with allergic phenomena. Subsequently, the investigations were applied in the agricultural sphere, for the study of the relations between anthesis and climate for the identification of the main variables involved (epochs of induction, dormancy break, thermal forcing, etc.) both regionally and nationally, and then internationally with the involvement of other Equipes (Spain University of Cordoba and Tunisia Institut de l'Olivier). The research experience also conducted in the European context (MARS Pilot Project, 1990) concerned the possibility of developing predictive models for final production in olive fruit, starting from the quantity of pollen emitted into the atmosphere during flowering.

Recent aerobiological experiments in both Italy and Spain have focused on particles of fungal origin for their implications on the preventive conservation of works of art and human health. Investigations were conducted in the context of painting exhibitions of particular value (Perugino, Pinturicchio and Signorelli) and with a high flow of visitors, to check for possible alarm thresholds. Surveys were also carried

out in other art conservation environments (Theatres, Crypts, Historical Libraries, Archives, etc.) due to the high value of the goods contained therein and their proper conservation. In the period 1991-1998 he was part of the Research Team at the University of Perugia in the National Projects MURST 40% and 60% and CNR.

He was part of the Research Team of the University of Perugia in the Research Contracts with the Joint Research Centre in Ispra (JRC) on "Comparative study on aerobiological monitoring methods" as part of the M.A.R.S. European Pilot Project (no. 88/503/EEC).

Subsequently, as Head of the Phenology and Biorhythms and Applied Aerobiology Laboratories, he coordinated various Projects and Conventions at regional, national and international level.

Recently, following his affiliation with the Department of Civil and Environmental Engineering, he has been conducting team investigations on some parameters of growth and development of tree species in urban areas to measure indicators of CO<sub>2</sub> sequestration, absorption of atmospheric particulate matter, and cooling/shading capacity, in order to provide useful indications for ecosystem services of green policy for the mitigation of the effects of climate change in urban areas.

He is co-author of the software called "TREEGEST" of which UNIPG is the exclusive owner and which is protected through the application for registration of computer programme at the SIAE (Italian Society of Authors and Publishers) no. D000016225 of 06/08/2021.

### Research Projects

The main Projects and Agreements, of a competitive nature, in which you have participated as Head/Coordinator of an Operational Unit or of the Project itself, with regard to the lines of research indicated, are listed below:

- POM A31 – MISURA 2 – Progetto per la realizzazione e sperimentazione di una Rete multiregionale per le previsioni di raccolta della produzione olivicola. 1999-2002. MiPAAF.
- “TAI Innovative agronomy techniques for the improving of the agricultural productions and that of environmental compatibility”. 2002-2005. MIUR
- PRIN 2006 – Studio della megametogenesi e della fertilità per un aumento della produzione di qualità in *Olea europaea*. MIUR

- "Pilot Project for studying the relationships between flowering and olive production in Mediterranean countries". 2008. CFC (Common Fund for Commodities, Amsterdam)
- "M.I.C.E.N.A." Project, an integrated model for the evolution of the natural and agricultural ecosystems in relation to climate change in the Mediterranean basin. 2009. MiPAAF
- "Studio dell'impatto del clima sull'andamento fenologico di specie guida all'interno di Giardini Fenologici attraverso monitoraggio in situ, modellistica e camere digitali". 2010. 020.0146. Fondazione Cassa di Risparmio di Perugia.
- "Osservazioni fenologiche e analisi strumentali su Piante Guida per studiare gli adattamenti morfo-fisiologici dei vegetali". 2012. 0140.021. Fondazione Cassa di Risparmio di Perugia.
- Erasmus+ "European broaded Agriculture by Multifunctional Activities" Centro Appenninico del Terminillo e Partners europei. 2016-2019. EBAMA 2.0. E.U.
- Analisi e valutazione delle condizioni ambientali e del potenziale di conservazione del Patio de los Oleos della Cattedrale di Sevilla (Spagna). (R.FIUS 3751/0451) 2018-ad oggi
- Analisi e valutazioni delle condizioni ambientali della Biblioteca della Istitucion Colombina de Sevilla (Spagna). 2018-ad oggi.
- Raccolta Dati e studio dei contaminanti ambientali per lo sviluppo di strategie di contenimenti controllo di contaminanti ambientali presso il Laboratorio Clinicos de Contencion de Micobacterias Bioseguridad de nivel 3/4 (R. FIUS 3621/0451). 2018-ad oggi.
- Attività di indagini aerobiologiche per il monitoraggio ambientale in Baviera e successive elaborazioni per gli influssi sulla salute dell'uomo e le relazioni con i parametri meteorologici e l'andamento del clima. 2019-2021. Zentrum Allergie & Umwelt Center of Allergy & Environment München (Germany).
- LIFE CLIVUT - Climate Governance and Information Project application (LIFE18 GIC/IT/001217). Attività di censimento botanico, di elaborazione modelli per la valutazione dei servizi ecosistemici forniti da diverse specie vegetali arboree al fine di limitare gli effetti dei cambiamenti climatici in aree urbane. 2019-2023. UE
- Valutazione impatti ambientali relativi all'ampliamento della discarica per rifiuti non pericolosi di Borgo Giglione - 2021-2022. Trasimeno Servizi Ambientali Spa.

- Contratto per attività di ricerca nell'ambito del Biomonitoraggio ambientale. Indagine floristica, analisi auto-ecologiche e fito-cenologiche nelle aree interne ed esterne allo Stabilimento. 2021-2022. CHIMET S.p.A.
- Progetto MANN-ECOvalors – Monitoraggio in ambienti museali del Museo Archeologico di Napoli. 2021-2023. Università Tor Vergata Roma.

As Director of the Centro Appenninico del Terminillo, he directs and coordinates the activities of projects contracted with public bodies and private companies, among which the most recent are reported:

- “VAPESAB Creazione del Campo Catalogo di Peperoncino con messa a dimora di più di 800 varietà/cultivar appartenenti alle principali 5 specie conosciute al Mondo” – Coordinamento scientifico delle attività inerenti il Centro Appenninico del Terminillo di Rieti, per prove di coltivazione di diverse specie e cultivar di peperoncino, tecniche di breeding e studi sulla piccantezza. 2010-2013. PSR Lazio.
- “PEPIC - La Filiera del Peperoncino Piccante”. Coordinamento scientifico per la valorizzazione del peperoncino “sabino” attraverso una caratterizzazione botanica, genetica, fitosanitaria, produttiva e nutrizionale. 2014-2017. MiPAAF.
- “Luppolo.it” - Coordinamento scientifico delle attività inerenti la valutazione in termini agronomici e qualitativi dell’adattabilità di luppoli internazionali ai diversi terroirs. 2017-2018. CREA - FRU (Roma)
- “FRAMONT Aspetti produttivi e qualitativi della fragolicoltura di montagna nel Lazio”. 2018-2020. ARSIAL CREA – OFA.
- “SEMI DELLA FIORITA DI CASTELLUCCIO. Cernita e caratterizzazione con moltiplicazione di semi della fioritura di Castelluccio”. 2017-2020. PRS Umbria 2014720 Misura 13.2.2.
- "PROAROM 2 Produzione sostenibile di specie aromatiche in pieno campo nel territorio laziale: indagini preliminari sulla produttività e sulla sostenibilità del sistema". 2020-2023. ARSIAL e CREA-AA.
- "Realizzazione degli interventi finalizzati allo studio dell'introduzione nella pianura reatina della coltivazione della patata da industria" 2021 ad oggi. PIZZOLI S.p.a.

He has served on the Scientific or Organising Committees of numerous International and National Congresses and Stages. These include:

- 6° Congresso Internazionale di Aerobiologia. Università degli Studi di Perugia. 6-12 Novembre 1998.
- 93° Congresso della Società Botanica Italiana. Università della Calabria. 20-27 Ottobre 1999.
- "Master in Olive Growing and Oil Technology" - Junta de Andalucia Cordoba, Jaen (Spain). 2-28 Novembre 2000.
- Stage didattico di Biologia Riproduttiva "Impollinazione: aspetti biologici, ecologici, ed agronomici". Università di Napoli Federico II. 20-27 Novembre 1999.
- Convegno Nazionale "Castagno 2001". Marradi (Firenze). 25-27 Ottobre 2001.
- 15° Congresso della Società Internazionale di Biometeorologia tenutosi a Kansas City (USA). 28 ottobre-3 novembre 2002.
- XI International Palynological Congress. Granada, Spagna. 4-9 giugno 2004.
- 99° Congresso della Società Botanica Italiana. Università degli Studi di Torino. 22-24 settembre 2004.
- 100° Congresso della Società Botanica Italiana. Università degli Studi di Roma "La Sapienza". 22-24 settembre 2004.
- 17th International Congress of Biometeorology ICB 2005. Garmisch-Partenkirchen, Bavaria, Germany, 5-9 September 2005.
- The 8th International Congress on Aerobiology. Neuchatel, Switzerland, 21-25 August 2006, Switzerland, FDHA.
- 101° Congresso della Società Botanica Italiana, Caserta, 27-29 Settembre 2006.
- Second International Seminar "Biotechnology and Quality of Olive Tree Products Around the Mediterranean Basin", Marsala-Mazara del Vallo, 5-10 November 2006.
- 10° Convegno Nazionale di Agrometeorologia - AIAM 2007, 29-30 Maggio Isola Capo Rizzuto (KR) – 31 Maggio Lorica(CS).
- Conferenza Nazionale sui Cambiamenti Climatici. Roma 12-13 Settembre 2007. FAO.
- 102° Congresso della Società Botanica Italiana, Palermo, 26-29 Settembre 2007.
- First Symposium on Horticulture in Europe, Vienna, 17-20 February 2008.
- 4th ESA - European Symposium on Aerobiology, Turku, Finland, 12-16 August 2008.

- I Convegno nazionale dell'olivo ed olio, Portici (NA) 1-2 ottobre 2009.
- Third International Seminar "Pour un secteur oléicole rénové rentable et compétitif en Méditerranée". 15 - 19 décembre 2009, Sfax - Tunisie.
- 15° Convegno Nazionale di Agrometeorologia AIAM 2012. Palermo, 5-6-7 Giugno 2012.
- European Geosciences Union General Assembly 2012, Vienna, 22-27 April 2012.
- XIV OPTIMA Meeting, Palermo c/o Giardino Botanico dell'Università di Palermo, via Lincoln, 2A, Palermo, 9-15 September 2013.
- 17° Convegno Nazionale di Agrometeorologia. Role of agrometeorology in the new agricultural policies, Roma, 10-12 Giugno 2014.
- XVIII Simposium Científico-Técnico EXPOLIVA, Jaén (Spain), 10-12 May 2017, Foro del Olivar y el Medio Ambiente.
- 113° Congresso della Società Botanica Italiana, 12-15 settembre 2018; Campus Universitario, Università degli Studi di Salerno - Fisciano (SA)
- 114° Congresso della Società Botanica Italiana, Padova, 4-5-6 Settembre 2019.
- 115° Congresso della Società Botanica Italiana, Online, 9-11 settembre 2020
- JRC Joint Research Centre of the European Commission Online Expert Workshop, Towards EU wide modelling, monitoring and forecasting of olive yields and production, 7 and 9 June, 2021
- XIII Congresso Nazionale SISEF, ALBERI-FORESTE-BIODIVERSITÀ: dal new green deal alla farm to fork strategy. Orvieto (TR), 30 Maggio - 2 Giugno 2022

He systematically collaborates as Referee and/or Reviewer with international scientific journals, including: *Aerobiologia*;

- Applied Science;
- Climate;
- Forests;
- Remote Sensing.

He has authored and co-authored about 192 scientific publications, with 33 articles in the last 10 years, with 836 citations in the last 15 years and an H index in the last 15 years of 17.

Perugia, 1 Agosto 2022

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