Staff
Publications
Research Topics
Projects
AGRO-FOOD ECONOMICS & RURAL APPRAISAL

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MAIN RESEARCH TOPICS

1. Agro-food chain and system competitiveness, sustainability, governance, value distribution, innovation adoption and management
2. Sales, markets, marketing strategies of agro-food products and industry
3. Consumer purchasing and consumption behaviour
4. Economics of production factors and environmental resources, bioenergy and bioeconomy
5. Evaluation of rural and agricultural policy
6. Rural and territorial appraisal
CURRENT PROJECTS (1/2)

• (2017-2021) VALUMICS - Understanding food value chains and network dynamics, H2020
• (2016-2018) ICT-AGRI ERA-NET2 project funded by the EU and national funding agencies in the 7th EU FP "PAMCoBA - Precision Agriculture – Methodologies for Cost benefit analysis", ID 29743 coordinated by the University of Copenhagen (Denmark)
• (2016-2018) ICT-AGRI ERA-NET2 project funded by the EU and national funding agencies in the 7th EU FP "VAROS - Variable Rate Operations for Orchards", ID 29957, coordinated by the University of Aarhus (Denmark)
• (2015-2018) PROVIDE PROVIding smart DElivery of public goods by EU agriculture and forestry, H2020, (GA 633838)
• (2017-2021) LEGVALUE Fostering sustainable legume-based farming systems and agri-feed and food chains in the EU - H2020
CURRENT PROJECTS (2/2)

- FOODstars Innovative Food Product Development Cycle: Frame for Stepping Up Research Excellence of FINS, H2020, Twinning (GA no 692276)
- Support to R&I in Bio-based products and service, 2016/RTD/F2/OP/PP04541
- (2016-2017) INRES: analisi della filiera del biometano e del biogas per il recupero di sottoprodotti agro-alimentari
MAIN RESEARCH TOPICS

• Organic Agriculture and quality of products
• Non-food crops for biofuels and biorefinery
• Characterisation of agro-ecosystems
• Precision Agriculture
• Soil Hydrology
• Seed production and testing
(2017-2021) Dielectric Characterization of the Antarctica Polar Cap

(2014-2020) POR- FESR. Intelligent Monitoring for Safe Infrastructures

(2016-2020) LIFE AGROWETLANDS II. Smart Water and Soil Salinity Management in Agro-Wetlands


(2016-2018) ALADIN: Hydro-intelligent Agrifood


(2014-2020) PSR - BIODAPT: Adapting varietal mix and evolution population for wheat production in Emilia-Romagna region


(2014-2020) PSR- APPENBIO: healthy food from Appenines

(2014-2020) PSR- MACARENA: Mais, CAnapa, wheat and vegetables for reduction of inputs and nitrates in the water
CURRENT PROJECTS (3/3)

(2014-2020) PSR-PAD BIO: High dilution treatments for low input cropping systems

(2015-2018) ALBE: Sustainable technologies for the production of new elastomeric materials


FRUIT TREE & WOODY PLANT SCIENCES

STAFF

Luca Corelli
Grappadelli
Full Professor

Luca Dondini
Associate Professor

Ilaria Filippetti
Associate Professor

Luigi Manfrini
Assistant Professor

Brunella Morandi
Assistant Professor

Adamo Domenico Rombolà
Assistant Professor

Francesco Spinelli
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Stefano Tartarini
Associate Professor

Moreno Toselli
Associate Professor

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MAIN RESEARCH TOPICS

• Fruit tree ecology, ecophysiology and precision horticulture

• Fruit tree mineral and organic fertilization and water use efficiency

• Fruit tree and grapevine breeding and biotechnology

• Viticulture

• Fruit quality management
(2016-2019) EUFRUIT- EU fruit network facing 4 thematic areas for the competitiveness and innovation of the European Fruit sector supporting innovation through developing a framework for relevant stakeholders and it will establish a systematic approach for knowledge gathering and dissemination

(2011-2017) Cultural management for the control of Armillaria mellea on peach (agrarian consortium of the Ravenna Province)

(2014-2017) Evaluation of effects of yeast derivatives for foliar application on anthocyanin synthesis and on changes in berry transcripts on Sangiovese DANSTAR Ferment A.G

(2014-2018) Molecular, morphological and agronomic characterization of new variety - Cantina Collis

(2016-2017) Selection of new indices for grape water and nutritional status with the use of (UAV) Unmanned Aerial Vehicle FLYDRON I.S. Srl, Bologna (Italy)

(2014-2017) PRIN2012 Project VIRES: Molecular strategies to gain resistance to Sharka viruses (PPV) in peach and apricot
CURRENT PROJECTS (2/3)

(2017-2020) PRIN2015 Project ISIDE: Investigating self incompatibility determinants in fruit trees


(2014-2017) EU/FP7-APPLEGENIE: Predictive diagnostics based on gene expression for rapid assessment of crop load programs and bitter pit disorder in apple fruit

(2014-2017) PSR Emilia Romagna Region, Focus Area 4B: Innovative and sustainable control methods for emerging crop diseases (Fruttanova)

(2013-2017) EU/FP7-KBBE.2013.1.2-04: DROPSA-Strategies to develop effective, innovative and practical approaches to protect major European fruit crops from pests and pathogens
(2016-2019) Breeding of pear varieties and rootstocks (CIV)


(2016-2018) PSR Emilia-Romagna Region, Focus area 4B. Optimization of a dynamic system for sweet cherry protection against rain, hail and pests


(2012-2018) Optimisation of sweet cherry high density orchards. Vivai Salvi
Plant Variety Rights for:
• 15 sweet cherry cultivars (6 and 7 of the ‘Sweet’ and ‘Star’ series + Marysa)
• 1 plum cultivar (Black Glamour)
• 2 apple cultivars (Gold Chief and Primiera)
• 4 pear cultivars (Lucy Sweet; Early Giulia; Debby Green; Lucy Red)
• 1 kiwifruit cultivar (Dori)

n°MO20055A000211: DA-meter, non invasive method to monitor fruit quality and ripening

n°1393728: Kiwi-Meter non invasive method to monitor fruit quality and ripening in kiwifruit
FLORICULTURE AND HORTICULTURE

STAFF

Maria Eva Giorgioni
Associate Professor

Alberto Minelli
Assistant Professor

Francesco Orsini
Assistant Professor

Giorgio Prosdocimi Gianquinto
Full Professor

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MAIN RESEARCH TOPICS

- Urban horticulture systems (Rooftop farming, Indoor cultivation, artificial lights and simplified hydroponics)
- Environmental analysis and pollution
- Technical Landscape design, Ornamental Tree Assessment and turfgrass tests
- Ornamental pot plant growing under glass
- Low maintenance and xeriscape gardening (mulching, ground cover roses and perennial selection)
CURRENT PROJECTS

• **SUSTURBANFOODS** ([https://susturbanfoods.com/](https://susturbanfoods.com/))
  Integrated sustainability assessment of social and technological innovations towards urban food systems
  (Marie Skolodowska-Curie Action - MSCA).

• **Urban Green Train** ([http://www.urbangreentrain.eu/](http://www.urbangreentrain.eu/))
  Urban Green Education for Enterprising Agricultural Innovation
  (Erasmus+ KA2 - 2014-1-IT02-KA200003689)

• **HORTIS** ([http://www.hortis-europe.net/](http://www.hortis-europe.net/))
  Horticulture in Towns for Inclusion and Socialisation
  (LLP-GRUNDTVIG - 526476-LLP-1-2012-1IT-GRUNDTVIGGMP)

• Rose germplasm collection and valuation of landscaping roses under low maintenance conditions (15 year trials)
FOREST ECOLOGY AND SILVICULTURE

STAFF

Federico Magnani
Full Professor

Enrico Muzzi
Assistant Professor

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MAIN RESEARCH TOPICS

- Age dynamics of forest growth and C sequestration
- N deposition effects on forest ecosystems
- Remote sensing and modelling of forest C sequestration
- Photosynthesis and solar-induced fluorescence
- Reclamation of mineral soils in mines and quarries
CURRENT PROJECTS

• (2014-2017) Global change effects on the productivity and radiative forcing of Italian forests: a novel retrospective, experimental and prognostic analysis

• (2016-2019) Hydrological modelling of forest vegetation for the prediction of extreme rainfall impacts

• (1992-2018) Reclamation, revegetation and reforestation on feldspatic sands and clay soils

• (2010-2021) Reclamation, revegetation and reforestation on gipsy soils

• (2003-2018) Environmental monitoring of BO-FI highway construction
AGRICULTURAL GENETICS

STAFF

Elisabetta Frascaroli  
Assistant Professor  

Silvio Salvi  
Associate Professor  

Roberto Tuberosa  
Full Professor  

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MAIN RESEARCH TOPICS

- Dissection of the genetic make-up for root system architecture in durum wheat

- Molecular basis of inflorescence development and flowering time in cereals and of heat tolerance in durum wheat

- Applications of mutagenesis in crop molecular genetics and breeding

- Location of quantitative trait loci (QTL) in complex mapping populations

- Genetic analysis of cold tolerance in maize
CURRENT PROJECTS

• (2017-2020) Project FSoV (Soutien à l’obtention Végétale) Development of phenotypic and genotypic tools for improving the breeding of resistance to two durum wheat mosaic viruses
• (2016-2019) Beachell-Borlaug grant to dissect the genetic basis of heat tolerance in durum wheat.
• (2013–2017) Watbio - developing drought-tolerant biomass crops for Europe grant agreement FP7-311929
• (from 2017) Genetics of root development in maize DIPSA - KWS collaborative research agreement
• (2017) GERmplasm Registration: Maize inbred line Bo23 with high cold tolerance and agronomic performance for early sowing (Reg. No. GP-599, PI 677346)

PATENT
Claudio Caprara
Associate Professor

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MAIN RESEARCH TOPICS

- Energy production systems from agro-forestry biomass and agro-energy chains
- GIS-based territorial models for renewable energy
- Mechanical harvesting and analysis of the interactions between mechanical tools and agricultural products
- Monitoring of agricultural mechanization and logistics in agroforestry systems
RURAL CONSTRUCTION & ENVIRONMENTAL LAND MANAGEMENT

STAFF

Stefano Benni
Assistant Professor

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**MAIN RESEARCH TOPICS**

- Design criteria and models for new farm, agroindustrial and livestock buildings, and adaptation of existing buildings: Precision Livestock Farming
- Environmental monitoring and control and energy efficiency in farm and livestock buildings, agri-food facilities, and greenhouses
- Landscape quality criteria in rural building design, planning of green areas
- Land survey, representation, analysis and modeling; land-use and landscape planning of rural and periurban areas
- Environmental assessment of plans, analysis of landscape impact of extra-urban structures and infrastructures
CURRENT PROJECTS

• (2016-2017) **Performance analysis of innovative photovoltaic systems with storage, suitable for farm and agro-industries, depending on environmental conditions and energy demand profiles** Protesa, SACMI Group

• (2016-2018) **Analysis of building dynamics in rural areas** FCRI

• (2016-2018) **Processes of participative design and planning** FCRI

• (2016-2018) **Energetic audit in farm and agri-food sector** FCRI

• (2016-2017) **Landscape enhancement and contextualization of functional areas in farm wineries through design of open spaces** Branchini Farm Winery

• (2014-2017) **Enhancement and requalification of green infrastructures for mobility** BENICOMUNI SRL

• (2014-2018) **Green arrangement of roundabouts: compositive, architectural and agronomic aspects** Area Blu s.p.a.

• (2016-2018) **Design of enhancement and requalification of wood areas** Unione Comuni Modenesi Area Nord

AGRICULTURAL ENTOMOLOGY

STAFF

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Maria Matilde Principi
Emeritus Professor

Fabio Sgolastra
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MAIN RESEARCH TOPICS

- Agroecology and landscape management to improve biological control of pests
- Apidology
- Biology and rearing techniques of entomophagous insects
- Insect physiology and biochemistry
- Sustainable control of native and exotic insect pests and side effects of insecticides
CURRENT PROJECTS

• (2014-2017) **Coobeeration**: Mediterranean CooBEERation: a network for beekeeping, biodiversity and food security. Project co-funded by EU
• (2016-2017) **ISA Topic 2016**: Insects as food for humans, tradition, present and future
• (2016-2018) **DIFESA MAIS**: Development of sustainable techniques for pest control in maize. - Focus Area 4B. PSR, Emilia-Romagna Region.
• (2016-2018) **MACARENA**: Maize & Vegetables using Hemp as trap crop. Reduction of cropping inputs also with *Triticum* spp.

HOME PAGE
• [http://www.entom.unibo.it/](http://www.entom.unibo.it/)
• [http://www.bulletinofinsectology.org/](http://www.bulletinofinsectology.org/)
PLANT PATHOLOGY

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MAIN RESEARCH TOPICS

- Plant fungal, bacteria, phytoplasma and viruses: epidemiology, identification and characterization
- Molecular characterization and functional genomics of the plant pathogen interaction
- Fruit diseases and latent infections
- Postharvest diseases and physiological disorders
- Plant disease management and control
CURRENT PROJECTS (1/2)

(2017) Verifica dell'eventuale presenza del giallume europeo delle drupacee in 3 nuovi impianti di albicocco situati in provincia di Trento e valutazione del fenomeno del "recovery" (finanziato dalla FEM)

(2017) Evaluation of two different formulations to control Fusarium diseases on durum wheat (Fusarium Head blight) and related effects on grain mycotoxin content (DON) (funded by Syngenta Italia S.p.A.)

(2016-2019) Innovative strategies applied to sustainable protection against emerging pathogens and pest of horticultural crops in Emilia Romagna - Regional funding


(2017-2018) Support for analyses of plant propagating material for plant pathogenic organisms - Regional funding
CURRENT PROJECTS (1/2)


(2016-2018) Sustainable fruit farming (founded by Emilia Romagna region - EU contribution)

(2016-2019) Sustainable viticulture (founded by Emilia Romagna region - EU contribution)

(2016-2019) Diseases, pests and weeds resistance (founded by Emilia Romagna region - EU contribution)
AGRICULTURAL CHEMISTRY

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Claudio Marzadori
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MAIN RESEARCH TOPICS

- Management of soil organic matter in agricultural and natural ecosystems
- Indexes of chemical and biochemical quality of soils
- Nutrients cycling in agroecosystems
- Behavior, transformation and mitigation of pollutants in soil and water
- Fertilizing and biostimulant capacity of agro-industrial byproducts
CURRENT PROJECTS

• (2017-2019) Agronomic valorization of biosolids of urban origin

• (2014-2017) Laboratory characterization and evaluation of the effects of several humic-based products on soil and rhizosphere
  SIPCAM SpA

• (2016-2017) Compost: Study of its amendment, nutrient and carbon sink actions COREPLA

• (2018-2020) RM@Schools3.0. Raw Matters Ambassadors at Schools
  EIT RawMaterials EU http://www.eitrawmaterials.eu

PATENTS
• USE OF MESOPOROUS SILICA. Italian Industrial Patent application
  2016 No.102016000072535 of 12/07/2016
PEDOLOGY

STAFF

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Livia Vittori Antisari
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MAIN RESEARCH TOPICS

- Soil genesis, evolution and conservation in natural, agricultural and human-impacted ecosystems

- Hydromorphic and subaqueous soils, monitoring of water and soils, water-soil and water-sediment interactions

- Soil carbon sequestration, carbon and nutrients stocks in agricultural and forestry soils

- Pedological studies in historic-cultural context and paleopedology

- Impact of engineered nanoparticles on the environment and organisms; soil security and human health assessment in polluted ecosystems
CURRENT PROJECTS

- (2016-2019) **LIFE AGROWETLAND II** Smart water and soil salinity management in agro-wetlands

- (2016-2017) **Soil aggregates stability related to soil properties and erosion assessment through** $^{137}$Cs on the Antonine Wall site in Balmuildy, Scotland

- (2014-2020) **C sequestration in mountain soils in Mt Cimone (North Apennines)**

- (2016-2018) **Characterization and evaluation of potentially polluted sediment (Marradi, Tuscany)**

- (2013-2017) **Reclamation of mining soils and monitoring of translocation of pollutants from soil to vegetables**

- (2013-2020) **Monitoring of hydromorphic and subaqueous soils in saltmarshes of Marano lagoon (Adriatic Sea)**
MAIN RESEARCH TOPICS

- Characterization of microrganisms isolated from agroenvironmental matrixes
- Microbial ecology of the gastrointestinal tract of man and animals
- Ecology, biodiversity and biotecnology of probiotics for plants and animals
- Water and soil microbiology
- Antimicrobial activity of natural compounds
CURRENT PROJECTS

• (2015-2018) **Focus on gut microbiota in irritable bowel syndrome**

• (2017) **Beneficial compound of bifidobacteria: in vitro study**

• (2017-2018) **Natural compounds and cultural heritage deterioration**

• (2014-2018) **Microbial ecology of non human primates**

• (2015-2018) **Traditional fermented milk: characterization and application**

• (2015-2018) **Enriching the diversity of cultivated plants through a multi-actor approach (DIVERSIFOOD), H2020 GA 633571**

• (2016-2019) **Adaptation of variety mixtures and evolutionary populations of common wheat for organic farming in the Emilia-Romagna region (BIOADAPT) Emilia-Romagna Region (Italy)- (European) Rural Development Programme- EIP-AGRI**
- Biology and ecology of plant species and communities
- Environmental restoration and green infrastructures
- Ectomycorrhizal fungal communities
- Truffle biology, ecology, genetic and cultivation
- Medicinal mushrooms
CURRENT PROJECTS

• (2016–2017) Restoration of the plant communities of coastal sand dunes (ENI and A.C. Reggiani)

• (2016-2020) Smart water and soil salinity management in agrowetlands (LIFE15 ENV/IT/000423)