



Ilaria Pertot

Nationality: Italian

WORK EXPERIENCE

01/02/2017 – CURRENT San Michele all'Adige, Italy

FULL PROFESSOR UNIVERSITÀ DI TRENTO - CENTER AGRICULTURE FOOD ENVIROMENT (C3A)

Teaching and research

Coordination of the Research Group in Plant pathology and applied microbiology

Address via E. Mach 1, 38010, San Michele all'Adige, Italy

01/11/2019 – 31/10/2022 San Michele all'Adige, Italy

COORDINATOR OF THE DOCTORAL SCHOOL 'AGRI FOOD AND ENVIRONMENTAL SCIENCES' UNIVERSITÀ DI TRENTO - CENTER AGRICULTURE FOOD ENVIROMENT (C3A)

Responsible of the Doctoral School

Head the Teaching Board

Coordinator of the training and administrative activities

01/06/2017 – 24/02/2022

HEAD OF THE CENTER AGRICULTURE FOOD ENVIRONMENT (C3A) UNIVERSITÀ DI TRENTO

01/01/2012 – 31/01/2017 S. Michele all'Adige, Italy

HEAD OF THE DEPARTMENT OF SUSTAINABLE AGRO ECOSYSTEMS AND BIO RESOURCES FONDAZIONE EDMUND MACH

Coordination of the Research Group in Plant pathology and applied microbiology (previously interaction in the agro ecosystem)

Website www.fmach.it

01/03/2005 – 31/01/2017

SENIOR RESEARCHER (R2, CCPL DELLE FONDAZIONI) FONDAZIONE EDMUND MACH

Coordination of the research group in plant pathology

Vice director of the SafeCrop Centre, a research center on low impact crop protection funded by the regional funding agency and later merged in Fondazione Edmund Mach (2004-2007)

15/04/1998 – 28/02/2005 S. Michele all'Adige, Italy

RESEARCHER - RICERCATORE DI PRIMA FASCIA, CONTRATTO PROVINCIA AUTONOMA DI TRENTO ISTITUTO AGRARIO DI S. MICHELE

Research in plant pathology and plant protection (apple, grapevine and soft fruits)

01/09/1996 – 14/04/1998 Udine, Italy

TECHNICIAN - ASSISTENTE TECNICO VI, AREA FUNZIONALE TECNICO-SCIENTIFICA UNIVERSITÀ DEGLI STUDI DI UDINE

Research in plant pathology (phytoplasma diseases), plant disease diagnosis

23/07/1994 – 31/08/1996 Udine, Italy

POST-DOC - BORSA DI STUDIO AND CO.CO. UNIVERSITÀ DEGLI STUDI DI UDINE

Grant from CIMMYT, Mexico C., Mexico (on virus diseases of cereals) and from Consiglio Nazionale delle Ricerche (progetto finalizzato RAISA) (on phytoplasma diseases)

● **LANGUAGE SKILLS**

Mother tongue(s): **ITALIAN**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	C1	C2	C2	C1	C2
FRENCH	B1	B1	A2	A2	B1
GERMAN	A1	A2	A1	A1	A1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

● **EDUCATION AND TRAINING**

05/11/1990 – 22/07/1994 Udine, Italy
PHD IN PLANT PATHOLOGY Università di Udine, Dipartimento di Biologia Applicata alla difesa delle piante

Research on phytoplasma disease of apple with a study period in 1993 at the Department of Environmental Science, Policy and Management, University of California, Berkeley, USA

Thesis Apple proliferation: epidemiology and control

17/09/1997
ABILITAZIONE ALLA PROFESSIONE DI AGRONOMO (NATIONAL QUALIFICATION AS AGRONOMIST)
Ministero dell'Istruzione

24/07/1990 Udine, Italy
LAUREA QUINQUENNALE IN SCIENZE AGRARIE, INDIRIZZO PRODUZIONE VEGETALE, ORIENTAMENTO PROTEZIONE DELLE PIANTE Università di Udine

Main subjects: Crop production, agronomy, plant protection, mycology, virology, plant physiology

Final grade 110/110 |

Thesis Quantification of the pH of cells in proptoplasts of Acer pseudoplatanus by means of acridine orange

● **DIGITAL SKILLS**

Google Drive | Zoom | Microsoft Office | Social Media | SPSS11, | GIMP (Image editor) | SAP

● **TEACHING - UNIVERSITY COURSES**

01/11/2003 – CURRENT
Patologia della vite, grapevine pathology - Bachelor in viticulture and oenology UNITN

01/11/2022 – CURRENT
The microbiome of the environment and agri-food products - Master Agrifood innovation management UNITN

01/11/2022 – CURRENT
Methods for the management and implementation of the innovation process in the company, entrepreneurship and innovative startups - Master Agrifood innovation management UNITN

01/08/2024 – CURRENT
Food and feed safety related to biological and chemical contaminants and animal welfare - Master Agrifood innovation management UNITN

01/11/2022 – 30/09/2024

Innovative and sustainable techniques for minor and speciality crops in the Alps - Master Agrifood innovation management UNITN

01/11/2017 – 31/10/2020

Microbiologia agraria, agricultural microbiology - Bachelor in viticulture and oenology UNITN

01/11/2014 – 31/10/2017

Bioagrofarmaci, biopesticides - Bachelor in viticulture and oenology UNITN

01/11/2013 – CURRENT

Regulations, Guidelines and Tools for an IPM implementation - Master Innovative approaches to IPM of Mediterranean Fruit and Vegetable Crops - CIHEAM Bari

Introduction to IPM Concepts and regulations

01/11/2013 – CURRENT

Conventional and Advanced Control Strategies of Pests and Diseases - Master Innovative approaches to IPM of Mediterranean Fruit and Vegetable Crops - CIHEAM Bari

Alternative control strategies plant diseases

01/11/2010 – CURRENT

Crop disease and pest management - Master Mediterranean Organic Agriculture - CIHEAM Bari

Introduction to plant diseases and their biological control

01/11/2016 – 31/10/2020

Entomology and Vineyard Safeguarding - Master in Italian Wine Culture - University of gastronomic sciences Pollenzo

01/11/2004 – 31/10/2005

Tecniche di difesa fitosanitaria e basso impatto, low impact plant protection techniques - Master Viticoltura, enologia e mercati vitivinicoli UNIUD

● **PROJECTS**

2018 – 2022

RELACS - European Commission Replacement of Contentious Inputs in organic farming Systems

[RELACS](#)

Funding agency: European Commission H2020-SFS-2016-2017 Sustainable Food Security – Resilient and resource-efficient value

Type of project: Research and Innovation action

Partners: Forschungsinstitut fuer Biologischen Landbau Stiftung, Fondazione Edmund Mach, Julius Kühn-Institut Bundesforschungsinstitut fuer Kulturpflanzen, International Federation of Organic Agriculture Movements European Union Regional Group, Scotland's Rural College, Kopenhavns Universitet, Universitaet Hohenheim, Centro Internazionale di Altistudi Agronomici Mediterranei, Institut Technique de l'Agriculture Biologique, Johann Heinrich von Thuenen Institut, Bundesforschungsinstitut fuer laendliche Raume, Wald und Fischerei, NIBIO-Norsk Instituti for Bioekonomi, Okologiai Mezogazdasagi Kutatointezet Kozhasznu non-profit KFT, Trifolio-M GmbH, SubstainTec GmbH, BiPA NV

Abstract: The overall objective of RELACS is to foster development and facilitate adoption of cost-efficient and environmentally safe tools and technologies, to phase out the dependency on and use of contentious inputs in organic farming systems. RELACS will reduce the use of copper and mineral oil, manure from conventional farms, provide alternatives to excessive use of anthelmintics in small ruminants, reduce antibiotic use in dairy cattle and moderate reliance on synthetic vitamins in cattle and poultry production. To pursue this aim, (i) RELACS will provide a comprehensive overview of the current use of and critical evaluation of the need for external inputs in organic plant and animal production. We aim to (ii) bring far developed (TRL≥6) alternatives to copper, mineral oils, and anthelmintics to the market, (iii) extend the use of farmer-driven techniques to reduce antibiotics to a wider range of EU regions, and (iv) develop and explore innovative approaches to reduce synthetic vitamin use and propose acceptable vitamin and plant nutrition sources, based on thorough systems analysis and R&D. (v) The products and management practices will be evaluated in different pedo-climatic and farming conditions in the EU and Mediterranean third countries. (vi) RELACS will develop implementation roadmaps by analysis of the socio-economic

conditions required for acceptance and adoption of alternatives and provide scientific support for relevant EU policies to develop fair, reliable and implementable rules. (vii) Rapid dissemination and adoption of techniques along the food value chain will be achieved via established dissemination structures in 12 European countries. RELACS builds on results of previous research projects and takes forward far advanced solutions. The multi-actor approach is the core of both, the consortium and the project, as RELACS was developed by involving actors and stakeholders from research, organic farmers, advisors and industry from the start.

Role in the Project: WP leader

2016 – 2020

INTERFUTURE - Interactions-focused Network-Trained Researchers For Tomorrow's Unifying Research-Enterprise vision

INTERFUTURE

Funding agency: European Commission H2020 MSCA-ITN-2016

Type of project: Innovative Training Networks, European Industrial Doctorate

Partners: Fondazione Edmund Mach (IT), University of Reims Champagne-Ardenne (FR), University of Natural Resources and Life Sciences (AU), University of Newcastle (UK), University of Nottingham (UK), Università del Molise (IT), Desarrollo Agrícola y Minero, S.A.(Daymsa) (ES), Inoq GmbH (DE), BIPA (BE), BioBest (BE), Azotic Technologies Ltd (UK)

Abstract: The Directive 2009/128/EC sets rules in EU for the sustainable use of pesticides to reduce the risks and impacts of pesticide use on people's health and the environment. Among the listed actions there is the promotion of low pesticide-input management including non-chemical methods. In parallel several chemical active ingredients have been banned because of toxicity concerns. The result is that growers are left with few control tools against pests. On the other hand most of the available alternative control methods have several limitations, especially in term of efficacy. Several new ideas are not reaching the industry and are confined in the academic world. The concept behind this EIT is to explore new approaches to identify new cutting edge solutions for pest control based on new non classical approaches in strict collaboration with industrial partner and to train 10 highly skilled early stage researchers (ESR) through a doctoral programme that integrates 5 academic research with concept-driven product development in 5 EU companies with a strong curriculum in development and innovation within a large interdisciplinary environment. Microorganisms are often used so far as replacement of chemical active ingredients. The innovative aspect of this EID is to base the new pest control solutions on interactions of microorganisms with plants and insects rather than using them as plant protection products. Microorganisms' unsurpassed inclination towards the association with eukaryotic macro-organisms determines traits and qualities in the host that harbours them. Microbial symbionts' ability to profoundly transform their living habitat paves the way for unexplored outlooks in the ability to use microbial symbioses as sustainable and renewable tools to improve production and quality in agriculture. Microorganisms are key players in shaping several insect's

Role in the Project: Project coordinator

2012 – 2016

COFREE - Innovative strategies for copper-free low input and organic farming systems

Funding agency: European Commission, 7th FP-KBBE-2011

Type: Collaborative project

Partners: JULIUS KUHN-INSTITUT bundesforschungsinstitut fur kulturpflanzen (DE), Forschungsinstitut fur biologischenlandbau stiftung (CH), Fondazione Edmund Mach (IT), Stichting dienst landbouwkundig onderzoek (NL), Benaki phytopathological institute (GR), Institut national de la recherche agronomique (FR), Instytut Ochrony Roslin - panstowowy instytut badawczy (PL), Institut technique de l'agriculture biologique (FR) Centro di sperimentazione agraria e forestale Laimburg (IT), Louis Bolk instituut (NL) Universitaet kassel (DE), AKINAO SAS (FR) Agro-levures et derives SAS ALD (FR), Bio fruit advies BV BIFA (NL), CERADIS BV (NL), FYTOFEND SA (BE), Trifolio-M GmbH (DE), E-NEMA gesellschaft fuer biotechnologie (DE)

Abstract: The proposed project aims to develop innovative methods, tools and concepts for the replacement of copper in European organic and low input fruit, grapevine, potato, and tomato production systems. Copper-free production systems will be achieved by (i) providing alternative compounds, (ii) 'smart' application tools and (iii) by integrating these tools into traditional and novel copper-free crop production systems. The copper-free apple, grapevine, potato and tomato production systems will be (iv) evaluated in a multi-criteria assessment with respect to agronomic, ecologic and economic performance. CO-FREE will also develop strategies to develop (v) 'smart' breeding goals by development of crop ideotypes and (vi) foster consumer acceptance of novel disease-resistant cultivars by consumers and retailers. By involving farmers, advisors, plant protection industry, policy makers and researchers as well as the stakeholders of the European organic and low input sector (food supply chain, retailers, producers associations), CO-FREE will ensure a rapid development, dissemination and adoption of the copper replacement strategies. The multidisciplinary consortium proposed for the project includes 11 academic and 10 industry (all SMEs) partners from 11 European countries. All partner institutions are leaders in their respective fields and/or are leading providers of advisory services to farmers, retailers, policy makers and other stakeholders in the organic and low input sector.

Role in the Project: Workpackage leader WP 6 Development of copper-free grapevine production systems

2010 – 2015

PURE - Pesticide Use-and-risk Reduction in European farming systems with Integrated Pest Management

Funding agency: European Commission, 7th FP-KBBE-2011

Partners: Institut national de la recherche agronomique (FR), Rothamsted research limited (UK), Aarhus universitet (DK), Julius Kuhn institut bundesforschungsinstitut für kulturpflanzen (DE), Stichting dienst landbouwkundig onderzoek (NL), Wageningen universiteit (NL), Consiglio nazionale delle ricerche (IT), Kmetijski institut slovenije - agricultural institute of Slovenia (SLO), Scottish crop research institute (UK), Fondazione Edmund Mach (IT), Instituto valenciano de investigaciones agrarias (ES), Instytut Ochrony Roslin - Panstwowy instytut Badawczy (PL), Debreceni egyetem (HU), JRC -joint research centre- European commission (BE), Videncentret for landbrug (DK), Association de Coordination Technique Agricole (FR), BAYER CROPSCIENCE (DE), BIOTOP SAS (FR), Natural plant protection SAS (FR), Burkard manufacturing company limited (UK), BLGG agroxpertus B.V. (NL), INRA transfert S.A. (FR)

Abstract: To meet both the worldwide demand for food security and new environmental needs, agriculture must increase food production and quality while decreasing its ecological footprint. Ensuring sustainability and competitiveness with reduced pesticide inputs is a major challenge. PURE will provide integrated pest management (IPM) solutions and a practical toolbox for their implementation in key European farming systems (annual arable and vegetable, perennial, and protected crops) in which reduction of pesticide use and better control of pests will have major effects. PURE will exploit recent advances in emerging technologies, plant-pest-enemies interactions, soil and landscape ecology and pest evolution to feed IPM solutions with innovative diagnostic and decision support systems, physical devices and bio-products, strategies for ecological pest regulation and improved durability of control methods. For each selected farming system, PURE will combine existing methods with new tools and technologies into novel IPM solutions addressing the biological, agronomical and economical diversity in Europe. IPM solutions will range from easy to adopt combinations of tactical control methods to more ambitious solutions involving strategic changes at farm level. PURE will test the efficacy, practicability and relevance of IPM solutions under the agro-ecosystems and farming conditions of the main broad European regions by on-station and on-farm experiments and will perform a comparative assessment of their environmental, economic and social sustainability. By jointly involving researchers and the key actors of pest management (farmers, advisors, policy makers and actors of the food supply chain) in design and assessment, PURE will facilitate the adoption of these innovative IPM solutions.

Role in the Project: Workpackage leader WP 6 IPM solutions to reduce pesticides reliance in grapevine

2008 – 2012

ENVIROCHANGE - Global change and sustainable management of agriculture in highly developed mountain environment

Funding agency: FU Provincia autonoma di Trento

Partners: Fondazione Edmund Mach, Fondazione Bruno Kessler, Università degli studi di Trento, Eidgenössische Technische Hochschule Zürich (ETHZ) (CH), Volcani Center (IL)

Abstract: Social, economic and ecological change is accelerating in highly developed (anthropised) Alpine areas such as Trentino, changes that combined with the effects of the predicted climate change threaten to alter crop quality, the distribution of existent species, enhance the invasions of exotic species, and cause changes in land use and cover that will reduce biodiversity. Mountain regions and their steep slopes and sharp gradients make them highly diversified, but fragile ecosystems that are exploited for natural resources and used for recreation activities. In addition, globalization is contributing to the marginalization mountain communities and lessening the competitiveness of the farming sector. Nevertheless the agriculture continues to play a vital role in preserving the environment and landscape. The alpine agriculture has strengthened its multifunctional role as provider of a mix of private goods and public services, most of them are crucial for the tourism sector. Currently, agriculture plays a key role in Trentino's economy and in the preservation of its environmental capital. Predicted increases in temperature and decreases in precipitation due to climate change will add complexity and uncertainty to the agriculture system, threaten its sustainable management and have a negative impact on the environment, and hence on tourism. The impact of climate change on the melting of glaciers, reduced water availability, decreased biodiversity, and on plant stress and yield are well known, but climate change will also influence crop quality and dynamics of pest and diseases. Furthermore, competition from a global agriculture will further hamper the development of sustainable approaches to counteract global change. Scenarios and methods of analysis to cope with the multiple factors of global change are being developed and will be required to translate the current knowledge on climate change at the mega scale into local economic scenarios at the local level, a requirement for making sound policy decisions for environmental protection and sustainability. This project will: 1. Assess the short-term impact of climatic change on agriculture at the regional level (Trentino) focusing on quality and pest management that are more likely to be influenced by climate change in the short term. 2. Assess the biophysical and socio-economic impacts of climate change on the region with special attention devoted to evaluating the economic impact on farmer profitability and on community welfare. 3. Evaluate autonomous adjustments and adaptation

strategies made by farmers to global change. 4. Evaluate the economic, environmental and social sustainability of selected adaptation strategies.

Role in the Project: Project coordinator

2004 – 2007

REPCO- Replacement of Copper Fungicides in Organic Production of Grapevine and Apple in Europe

Funding agency: European Commission - 6th FP

Project type: Specific targeted research project

Partners: Plant Research International (NL), Staatliches Weinbauinstitut (DE), Research Institute of Organic Agriculture (FiBL), Swiss Federal Institute of Technology Zürich (CH), Istituto Agrario di San Michele all'Adige (IT), Groupe de Recherche en Agriculture Biologique (FR), Applied Plant Research (NL), The Royal Veterinary and Agricultural University (DK), Danish Institute of Agricultural Sciences (DK), ECOVIN (DE), BioFruitAdvies (NL), Prophyta (DE)

Abstract: The objective of REPCO is to replace copper fungicides in organic agriculture by new measures for control of downy mildew (*Plasmopara viticola*) in grapevine and scab (*Venturia inaequalis*) in apple. Both major European organic crops strongly depend on copper fungicides with application of a total of 38 kg copper per ha permitted between 2002 and 2006. Permitted amounts will be reduced stepwise during the following years (Council Regulation (EEC) 2092/91, Annex II) to avoid environmental risks. In European countries where copper fungicides are already out of use, production of organic apples suffers severe economical problems because of insufficient scab control. Potentiators of resistance, organically based fungicides and biocontrol agents will be screened and evaluated in grapevine and apple. The risk of pathogen evolution during use of novel control measures will be estimated to allow the development of sustainable strategies. Effects of crop management practices in organic agriculture on overwintering of *V. inaequalis* will be assessed. Novel disease control measures and knowledge will be integrated into organic management systems. 'Pipeline' products already under development elsewhere will be included and where necessary optimised in their use. Implementation by end-users and industries qualified for commercialisation of project findings will be strongly emphasised. SME partners will ensure a strong link between end-users and research. At the end of the project several compounds and biocontrol agents will be delivered to qualified industries for development of products for use in organic agriculture. Additionally, knowledge of integrated use of control measures will be delivered to organic growers. Knowledge and material will be exchanged with ongoing projects on potato late blight control in organically grown potato. The project will thus strongly support EU policies to replace the use of copper fungicides in organic agriculture in the nearby future.

Role in the Project: WP leader (Integration of control measures)

2004 – 2008

Syrtox - Mechanism of action of metabolites of *Pseudomonas* spp. and their potential use in biological control

Funding agency: FU Provincia autonoma di Trento

Type: Research project

Partners: FBK & CNR-IBF, IASMA-FEM, Università di Napoli "Federico II", Univ. della Basilicata

Abstract: *Pseudomonas syringae* is a gram negative bacterium with a double identity: it is an agent of phytopathogenicity for many cultivars, but is also a biocontrol agent. Its application as antagonist in agriculture has reached the commercial level in many Countries, among which USA, but not yet in Italy. Responsible of both these activities are some secondary metabolites, known as lipodepsipeptides (LDP), which are largely produced in culture. SyrTox proposes to clarify some of the mechanisms through which the bacterium exerts its antagonist activity and to use this knowledge to widen the field of application of the bacterium and its metabolites as biocontrol agents. A similar perspective exists also for *P. tolaasi* and *P. reactans*, which use LDP to attack edible mushrooms and have similar antagonistic activity. The project will study in particular the biosynthesis and mechanism of action of the lipodepsipeptides produced by the pseudomonades, to gain a deeper knowledge of their antibiotic activity. Clarifying the main biosynthetic pathways could allow the production of structural analogues of the metabolites, with more interesting biological activity, and a better understanding of the structural implications. Another important aspect of this proposal is the search for a convenient natural model system, of easy preparation and storage. Such new system should permit the selection of the most effective metabolites and the determination of the best conditions of application via laboratory tests. We intend to develop a new protocol, using phytopathogens in culture or directly collected in the field, during the proper season. The protocol will then be extended to the isolation of the pathogen plasma membrane, and to find the correct storage conditions which will guarantee its availability in time, for in vitro tests. Finally, the persistence of these metabolites in the treated fruits (pre- and post-harvest) and in the fruit products (juices, fruit salads, jams, distillations) will be carefully determined, to exclude the existence of any possible related risks.

Role in the Project: Partner

2003 – 2007

SafeCrop Centre - Centre for Research and Development of crop protection with low environment and consumer-health impact

Funding agency: FU Provincia autonoma di Trento

Partners: Istituto Agrario di S. Michele all'Adige IASMA, Swiss Federal Institute of Technology Zurich ETHZ (CH), Agricultural Research Organization ARO, The Volcani Center (IL), Institut National de Recherche Agronomique INRA (FR), Swedish University of Agricultural Sciences (SW), Federal Biological Research Centre for Agriculture and Forestry (DE).

Abstract: Consumer and environmental concerned agencies require a change from hard plant protection strategies to soft, environmentally safe control strategies. Hard strategies are based on the exclusive use of single however highly efficacious, control agent (chemical synthetic pesticide) often with a high toxic potential to non target organisms; soft strategies are based on agents giving usually inconsistent often insufficient results. Soft strategies need to combine synergistically various control agents and employment methods to ensure sufficient and consistent effect and durability. Soft strategies are based on natural products such as biological control agents (BCA) or highly specific strategies such as mating disruption by pheromones. Collateral effects and effects on non target organisms are assumed to be weak until absent. Soft strategies however need coordination during development and at application time of the various plant protection disciplines. They require a much higher know-how both during development and application. This centre should excel for innovative research oriented toward the technologies for reducing chemical inputs in agriculture and using low impact plant protection methods. Part of its activity will focus on the constraints that hamper the vast scale application of such technologies and strategies: i. lack of reliability of the effect; ii. high costs of product registration; iii. need for adaptation to local and crop specific characteristics and therefore small marginal market. The policy of the Centre will be that all research has to lead to sustainable, low or zero impact control strategies; therefore a second part of the Centre is oriented toward questions such as unwanted side effects, environmental and food contamination by agents employed in soft control strategies. Currently research efforts in the domain of the Centre are distributed world wide in small units and targeted to a single product or a single question. This Centre with its clear orientation will promote collaboration among internationally renowned research institutions to create synergies of knowledge. Research at the Centre will fill knowledge gaps and foster new innovative ideas thereby attracting young scientist. It will serve as centre for education and continuous learning in the field of soft control strategies of pest and diseases of agricultural crops fostering future collaborative research worldwide.

Role in the Project: Vice-director and coordinator of one of the three research units

2002 – 2005

AGRIBIO - Agricoltura biologica: strategie innovative per la difesa delle colture (Organic agriculture: innovative strategies to protect crops)

Funding agency: Provincia autonoma di Trento

Partners: Istituto Agrario di San Michele all'Adige, ITC-CeFSA, Università degli studi di Udine, Università degli Studi di Trento, Eidgenössische Technische Hochschule Zürich (ETHZ) (CH), Università del Molise

Abstract: The main goal of the project is finding new plant protection strategies in organic agriculture, which must be reliable and easily utilised by farmers. Up to now in applied organic farming the approach to pest control has not been far different from the traditional one: when pests are present they are treated with pesticides, that in this case are naturally derived products. A rapid degradation and/or no strong efficacy are the main characteristics of natural substances and this makes the pest control in organic agriculture very hard to achieve. The project, according to biological control principles, will study natural mechanisms which regulate pest populations in the agro-ecosystem, not only using them directly against parasites, but also to prevent high levels of pest population in the crop. The studies will be mainly focused on insects and fungal pathogens control. Some model systems on important crops will be analysed. The relevant aspect to be focused about fungal pathogens control is isolating and use a pool of micro-organisms with different activities (overwintering inoculum reduction, resistance induction and direct action against the pathogen) inside a fully integrated strategy. Traditional and innovative technologies will be applied to isolate, identify and evaluate new potential antagonists of pathogens. Their action mechanism will be thoroughly analysed with high throughput assays. A rapid quantitative PCR based method for evaluating antagonist activity will be made ready. A based-on-antagonists control strategy will be directly experienced in field. With regard to the insects control it is necessary finding out some biologically active compounds (semiochemicals) which can regulate the insect behavior (IBR) and reduce pest populations. The study shall be carried out as follows: isolating and identifying chemical structure of active substances by GC-MS, GC-FITR, PTR-MS; demonstrating a kairomonal activity measuring the electro-physiological (AEG and EAD/GC) and behavioural (wind-tunnel and olfactometer) quali-quantitative response; setting-up diffusion systems for monitoring and direct control in the field.

Role in the Project: Project coordinator

● EDITORSHIP OF SCIENTIFIC JOURNALS

2012 – CURRENT

Phytopathologia mediterranea - Editor in the editorial board

2014 – CURRENT

Journal of Plant Diseases and Protection - Editor in the editorial board

2010 – 2014

IOBC Bulletin Editor of the IOBC-wprs Bulletin WG biocontrol and integrate pest management of pathogens

● MEMBERSHIP IN SCIENTIFIC COMMITTEES

16/12/2021 – CURRENT

Member of the Scientific Committee of CREA - Consiglio per la ricerca in agricoltura e l'analisi dell'economia agraria

[CREA](#)

Member of the Scientific Committee of Competence Centre for Plant Health - Free University of Bozen-Bolzano

[Competence Centre for Plant Health](#)

● MEMBERSHIP AND ROLES IN SCIENTIFIC SOCIETIES

2008 – 2021

IOBC-wprs International Organisation for Biological Control and integrated pest management

[IOBC-wprs](#)

Vice-President (2014-2021)

Convenor (head) of the working group 'Biological and integrated control of plant pathogens' (2008-2014)

1996 – CURRENT

Membership SIPaV Società Italiana di Patologia Vegetale

[SIPaV](#)

● VISITING SCIENTIST

2003 – 2008

Volcani Center, Det Dagan, Israel

In the frame of the SafeCrop Center, 12 Short Term Scientific Missions (1-2 weeks) to carry out research in the field of biofungicides

13/04/2008 – 10/05/2008

Swiss Federal Institute of Technology, Zurich (ETHZ), Switzerland

Short Term Scientific Mission in the frame of COST Action 864 Combining traditional and advanced strategies for plant protection in pome fruit growing to identify potential genes involved in the recognition between *Venturia inaequalis* and apple

2013 – 2016

BiPA and Belchim Crop Protection (industries), Londerzeel, Belgium

Secondment in the frame of the EU IAPP project INNOVA to carry out R&D activities in the field of biopesticides, the secondment also included short term visits to Gembloux Agrobiotech, University of Liege and resulted in the genome sequencing and metabolite characterization of two candidate active ingredients for biofungicides (*Bacillus amyloliquefaciens* and *Lysobacter capsici*)

(02/04/2013 - 03/07/2013, 01/10/2013 - 07/01/2014, 01/05/2016 - 20/06/2016)

● **PATENTS**

WO/2009/116106 Trichoderma atroviride SC1 for biocontrol of fungal diseases in plants WO 24.09.2009 C12N 1/14 PCT/IT2008/000196

WO/2014/173906 A new bacterial Lysobacter capsici strain and uses thereof WO 30.10.2014 C12R 1/64 PCT/EP2014/058151

WO/2014/044723 Treatments of powdery mildews in plants WO 27.03.2014 C12R 1/645 PCT/EP2013/069405

WO/2011/018739 Use of a composition for treatment and/or prophylaxis of plants and relative composition WO17.02.2011 A01N 63/02 PCT/IB2010/053552

● **TECHNOLOGY TRANSFER**

Decision support system In collaboration with MPA solutions, Trento, Italy

Development of DSS to optimize pesticide treatments on grapevine – Models of rain fastness and persistence for the pesticides are developed by I. Pertot into a web-based systems in collaboration with the industry.
Funded by Legge provinciale 6/99

Decision support system in collaboration with R&D system s.r.l, Rovereto, Italy

Development of a DSS to reduce the user of copper in organic agriculture - Models of rain fastness and persistence of copper in organic agriculture are developed by I. Pertot into a web-based systems in collaboration with the industry.
Funded by Legge provinciale 6/99

Biofungicide in collaboration with Belchim crop Protection/Bipa, Londerzeel, Belgium

Scale up and Registration of Trichoderma atroviride SC1, Preparation of the dossier for approval of the active ingredient according Reg 1107/2009. Scale up of the production with suppliers.

● **ORGANIZATION OF LARGE EVENTS**

26/03/2019

FUTURE IPM 4.0 - Bioprotection: instructions for use

FICO Eataty World, Bologna, Italy
Organizers: FEM and IBMA Italia
Role: head of the organizing committee and member of the scientific committee

15/10/2017 – 20/10/2017

Future IPM 3.0

PalaCongressi - Riva del Garda, Italy
Organizers: FEM, Research center of Laimburg, University of Trento, University of Bolzano, University of Innsbruck
Co-organizers: IOBC-wprs, IBMA
Participants: 503 (from 28 countries)
Role: head of the organizing committee and member of the scientific committee

19/03/2013 – 21/03/2013

Future IPM in Europe

PalaCongressi - Riva del Garda, Italy
Organizers: FEM, Research center of Laimburg
Co-organizers: IOBC-wprs, IBMA,
Participants: 564 (from 37 countries)
Role: head of the organizing committee and member of the scientific committee

18/06/2006 – 23/06/2006

5th International workshop on grapevine downy and powdery mildew

S. Michele all'Adige, Italy

Organizer: IASMA

Participants: 120 (from 21 countries)

Role: co-head of the organizing committee (with Gessler C.) and member of the scientific committee.

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09/06/2004 – 13/06/2004

Management of plant diseases and arthropod pests by BCAs and their integration in agricultural systems

S. Michele all'Adige, Italy

Organizer: IASMA

Joint meeting of the 'Biological Control of Fungal and Bacterial Plant Pathogens' Working group, 'Integrated Control In Protected Crops, Temperate Climate' Working group and 'Integrated control in Protected Crops, Mediterranean Climate' Working group

Participants: 164 (from 24 countries)

Role: head of the organizing committee and member of the scientific committee

Scientific publications of Ilaria Pertot

From Scopus 21/08/2024 (173 Documents; h-index = 44, citations = 6,081)

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From youth engagement to policy insights: Identifying and testing food systems' sustainability indicators
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- Consapevole che le dichiarazioni false comportano l'applicazione delle sanzioni penali previste dall'art. 76 del D.P.R. 445/2000, il sottoscritto dichiara che le informazioni riportate nel seguente curriculum vitae, redatto in formato europeo, corrispondono a verità.

- Autorizzo il trattamento dei miei dati personali ai sensi del Regolamento UE 679/2016

(General Data Protection Regulation - GDPR) e D.Lgs. 196/2003, come modificato dal D.Lgs. 01/2018

Ilaria Pertot 05/10/2024

A handwritten signature in black ink, appearing to read 'Ilaria Pertot', with a stylized, cursive script.