

PERSONAL INFORMATION

Silvio Tundo

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WORK EXPERIENCE

01/02/2024 – Present

Type B fixed term Researcher AGRI-05/B - PLANT PATHOLOGY

Department of Land, Environment, Agriculture and Forestry (TESAF) and Department of Agronomy, Food, Natural Resources, Animals and Environment (DAFNAE), University of Padua.

29/07/2019 – 31/01/2024

Type A fixed term Researcher AGRI-05/B - PLANT PATHOLOGY

Department of Land, Environment, Agriculture and Forestry (TESAF), University of Padua.

01/01/2018 – 28/07/2019

Research grant AGRI-05/B - PLANT PATHOLOGY

Department of Land, Environment, Agriculture and Forestry (TESAF), University of Padua.

01/11/2017 – 31/12/2017

Research grant BIOS-02/A - PLANT PHYSIOLOGY

Department of Agriculture, Forestry and Soil Sciences (DAFNE), University of Tuscia, Viterbo (Italy).

EDUCATION AND TRAINING

11/06/2015

PhD in Plant Biotechnology

University of Tuscia, Viterbo (Italy) in joint supervision with Aix-Marseille Université, Marseille, France.

25/02/2011

Master of Science Degree in Agricultural Sciences and Technologies

University of Tuscia, Viterbo (Italy)

TEACHING EXPERIENCE

A.Y. 2024/25

Phytosanitary Biotechnologies

School of Agricultural Sciences and Veterinary Medicine, Master of Science Degree in Biotechnologies for Food Science, University of Padua. Credits: 6.

A.Y. 2019/20 – 2023/24

Sustainable Management of Plant Diseases

School of Agricultural Sciences and Veterinary Medicine, Master of Science Degree in Sustainable Agriculture, University of Padua. Credits: 6.

A.Y. 2022/23

Laboratory of Plant Pathogens Management in Organic Crops

School of Agricultural Sciences and Veterinary Medicine, First cycle degree in Organic Crop Management, University of Padua. Credits: 3.

A.Y. 2016/17

Plant Physiology and Principles of Plant Biotechnology

Department of Agriculture, Forestry and Soil Sciences (DAFNE), First cycle degree in Agricultural and Environmental Sciences, University of Tuscia, Viterbo (Italy). Credits: 6.

A.Y. 2016/17 – 2017/18

Plant Biotechnology for Stress Control

Department of Agriculture, Forestry and Soil Sciences (DAFNE), Master of Science Degree in Biotechnologies for Agriculture, Environment and Health, University of Tuscia, Viterbo (Italy). Credits: 6.

RESEARCH PROJECTS

22/02/2024 – 29/07/2024

Progetto PON “Gestione sostenibile delle malattie mediante l’impiego di nuovi preparati a base di lievito e di estratti vegetali”, Ricerca e innovazione 2014-2020, Azione n. IV.6 “Contratti di ricerca su tematiche Green”. Role: Principal Investigator.

01/01/2022 – 31/12/2023

MEPOME: Managing the Emerging POMEgranate pathogens by exploiting biological control;

funded by the University of Padua. prot. BIRD212700. Role: Principal Investigator.

30/09/2021 – 31/12/2022

Regione Veneto project on pomegranate disease monitoring and management, Role: Principal Investigator

RESEARCH PERIODS ABROAD

18/01/2016 – 18/07/2016

Institut des Sciences Moléculaires-ISM2, Aix-Marseille Université (Torno subito program).

22/09/2014 – 22/12/2014

Institut des Sciences Moléculaires-ISM2, Aix-Marseille Université (PhD joint supervision).

01/12/2011 – 29/02/2012

Institut des Sciences Moléculaires-ISM2, Aix-Marseille Université (Post-graduate fellowship).

ADDITIONAL INFORMATION

Research activity

The research activity is focused on plant-pathogen molecular interactions. We study glycosidase inhibitors and their role in conferring resistance to fungal infections. We also investigate the effects of both biotic and abiotic stresses on plant health, as well as management strategies to mitigate their impact. A key line of work involves characterizing different yeast extracts for their ability to increase tolerance to major grapevine diseases and to water stress. Another research area explores sustainable approaches to managing emerging pomegranate pathogens, with special attention to how abiotic stress influences their aggressiveness. Finally, our group is examining synthetic peptides derived from the natural peptaibol trichogin, assessing their potential to protect crops such as tomato, bean, grapevine, and rice against fungal, bacterial, and oomycete pathogens.

International conferences

- Bolzonello A., Tundo S., Vivarelli L., Poussereau N., Choquer M., Bruel C., Vincenzi S., Marangon M., Battisti I., Masi A., Sella L. and Favaron, F. Bioactivity of the chitin-binding domain (CBD) from a major grapevine chitinase against *Botrytis cinerea*. Oral presentation. International Symposium on Plant Pathogenic Sclerotiniaceae (*Botryscleromoni*), Thessaloniki, Greece, 25-30 May, 2025.
- Tundo S., Sella L., De Zotti M., Bolzonello A., Musetti I., Fodil S., Baccelli I., Favaron F. A perspective for the use of synthetic analogs of the natural peptaibol trichogin GA IV as biopesticides. Oral presentation. 12TH International Congress of Plant Pathology, Lyon, France 20-25, August, 2023.

Awards

Franca Rasi Caldogno 2017 award conferred by the Italian Society of Plant Biology (SIBV) for the best doctoral thesis in Plant Biology.

Memberships in scientific societies

- Italian Society of Agricultural Genetics (SIGA).
- Italian Phytopathological Society (SIPaV).

Recent publications

Citations

Courses

Certifications

- Bolzonello, A., Battisti, I., Tundo, S., Pais Da Cunha, A.T., Marangon, M., Vincenzi, S., Masi, A., Sella, L., Poussereau, N. and Favaron, F. (2025), *Botrytis cinerea* protease activity removes the chitin-binding domain of a major grapevine chitinase, abolishing its antifungal activity. *Physiol. Mol. Plant Pathol.*, 138: 102651. <https://doi.org/10.1016/j.pmpp.2024.102651>
- Tundo, S., Bolzonello, A., Meggio, F., Pitacco, A., Sella, L., Favaron, F. and Solla, A. (2025), Drought, Waterlogging and Co-Infection Influence the Severity of *Coniella granati* and *Phytophthora palmivora* in Pomegranate and the Biocontrol Efficacy of *Bacillus amyloliquefaciens*. *Plant Pathol.*, 74: 1187-1196. <https://doi.org/10.1111/ppa.14058>
- Fodil S., De Zotti M., Tundo S., Gabbatore L., Vettorazzo I., Luti S., Musetti R., Sella L., Favaron F., Baccelli I. (2024). Multiple lysine substitutions in the peptaibol trichogin GA IV enhance the antibiotic activity against plant pathogenic *Pseudomonas syringae*. *Pesticide Biochemistry and Physiology*, 201: 105901. <https://doi.org/10.1016/j.pestbp.2024.105901>.
- Bolzonello A., Morbiato L., Tundo S., Sella L., Baccelli I., Echeverrigaray S., Musetti R., De Zotti M., Favaron F. (2023). Peptide analogs of a *Trichoderma* peptaibol effectively control downy mildew in the vineyard. *Plant Disease*, 107:2643-2652. <https://doi.org/10.1094/PDIS-09-22-2064-RE>.
- Caracciolo R., Sella L., De Zotti M., Bolzonello A., Armellini M., Trainotti L., Favaron F., Tundo S. (2023). Efficacy of *Trichoderma longibrachiatum* Trichogin GA IV Peptaibol analogs against the Black Rot Pathogen *Xanthomonas campestris* pv. *campestris* and other Phytopathogenic Bacteria. *Microorganisms*, 11(2): 480. <https://doi.org/10.3390/microorganisms11020480>
- Fanelli G., Kuzmanović L., Giovenali G., Tundo S., Mandalà G., Rinalducci S., Ceoloni C. (2023). Untargeted metabolomics reveals a multi-faceted resistance response to *Fusarium Head Blight* mediated by the *Thinopyrum elongatum* Fhb7E locus transferred via chromosome engineering into wheat. *Cells* 12(8):1113. <https://doi.org/10.3390/cells12081113>.
- Busato I., Bertaiola O., Tundo S., Guamerio C., Lucchetta M., Sella L., Pressi G., Favaron F. (2022).

Phytocomplex obtained from *Salvia officinalis* by cell culture technology effectively controls the grapevine downy mildew pathogen *Plasmopara viticola*. *Plants-Basel*, 11 (20): 2675. <https://doi.org/10.3390/plants11202675>.

- Tundo S., Mandalà G., Sella L., Favaron F., Bedre R., Kalunke R.M. (2022). Xylanase inhibitors: defense players in plant immunity with implications in agro-industrial processing. *Int. J. Mol. Sci.* 23, 14994. <https://doi.org/10.3390/ijms232314994>.
 - Mandalà G., Ceoloni C., Busato I., Favaron F., Tundo S.(2021). Transgene pyramiding in wheat: combination of deoxynivalenol detoxification with inhibition of cell wall degrading enzymes to contrast Fusarium Head Blight and Crown Rot. *Plant Sci.* 313,111059. <https://doi.org/10.1016/j.plantsci.2021.111059>.
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