



Marzia Beccaccioli

Dipartimento Di Biologia Ambientale, P.le Aldo Moro 5, 00185 Rome (Italy)

WORK EXPERIENCE

Research Fellow RTDA

Sapienza University of Rome, Department of Environmental Biology [2024 – current]

City: Rome

Country: Italy

PROJECT: Nuove tecnologie e metodologie per la tracciabilità delle filiere agroalimentari Centro Nazionale 2 - Spoke 9

Sapienza University of Rome, Department of Environmental Biology [2021 – 2024]

City: Rome

Country: Italy

PROJECT: “Sviluppo di Nuove Tecnologie Nell’agricoltura di Precisione per la Produzione Sostenibile di Genotipi di Patata con Elevate Qualità Nutrizionali (SOS TATA)” (AGR/12)

Course

LABORATORIO PER LO STUDIO DEI MATERIALI DI ORIGINE VEGETALE (3 CFU)

Laurea Triennale in Tecnologie per la conservazione ed il restauro dei Beni Culturali (L-43)

SUSTAINABLE CROP PROTECTION (3 CFU)

Laurea Magistrale in Biochemistry (LM-9)

PHYTOPATOLOGICAL BIOTECHNOLOGY (3 CFU)

Laurea Magistrale in Biotecnologie e Genomica per l'industria e l'ambiente (LM-8)

Fellowship for research activities

Sapienza University of Rome, Department of Environmental Biology [2019 – 2021]

City: Rome

Country: Italy

PROJECT: LIFE PRIMED (LIFE17/NAT/GR/000511)-Monitoring of ecosystem decline and impact of pests and pathogens

Grant for research activities

Sapienza University of Rome, Department of Environmental Biology [2018 – 2019]

City: Rome

Country: Italy

PROJECT: Healthiness control of fruit and vegetable products by mass spectrometry

EDUCATION AND TRAINING

PhD Programme (30° cycle) with mention of *Doctor Europaeus* in ENVIRONMENTAL AND EVOLUTIONARY BIOLOGY (curriculum "Botanical Sciences")

Sapienza University of Rome [12/02/2018]

Thesis: Lipid mediated cross-kingdom communication among hosts and pathogens

Traineeship – [11/02/2017- 26/07/2017]]Department of Genetics, Universidad de Cordoba, Spagna.

Master's Degree in Cell Biology

Sapienza University of Rome [21/10/2014]

Thesis: The oxylipins shape the pathogenic attitudes in *Fusarium verticillioides*, fungal maize pathogen

Bachelor's Degree in Biological Sciences

Sapienza University of Rome [14/12/2011]

LANGUAGE SKILLS

Mother tongue(s): **Italian** Other

language(s):

English

LISTENING B2 READING B2 WRITING B2

SPOKEN PRODUCTION B1 SPOKEN INTERACTION B1

Spanish

LISTENING A2 READING A2 WRITING A2

SPOKEN PRODUCTION A2 SPOKEN INTERACTION A2

DIGITAL SKILLS

R for statistics / Microsoft Excel / Microsoft Word / Microsoft Powerpoint / Outlook / Google Drive / Microsoft Office / Skype / Google Docs / LinkedIn / Zoom

CURRENT RESEARCH INTERESTS

Plant-Pathogen Interaction

Evaluation of signaling molecules (lipids, polysaccharides, proteins and toxins) involved during the interaction processes. The methodology approaches are based on the metabolomic profile by mass spectrometry, genetic manipulation of the microorganisms, and molecular biology technologies.

Control of pathogens and Mycotoxin mitigation

Use of natural compounds (fungi and plant extracts) to inhibit the phytopathogen growth or inhibit the mycotoxin synthesis. Studies at in vitro and in vivo (controlled conditions and open field).

Microbiome

Microbiome evaluation from different matrices (i.e. soil, plants, seeds, food) by cultivation techniques and metabarcoding by Next Generation Sequencing (NGS).

Biodeterioration of cultural heritage

Microbiology and targeted metagenomics for the study of microorganism impact on cultural heritage.

SCIENTIFIC ASSOCIATIONS

Member of SIPaV- Società Italia di Patologia Vegetale

MEMBERSHIPS

Member of SARA envimob srl (PMI)

BOOKS and CHAPTER

The Role of Aflatoxins in *Aspergillus flavus* resistance to stress / Reverberi, Massimo; Beccaccioli, Marzia; Zaccaria, Marco. - (2021), pp. 1-12. [10.5772/intechopen.99003].

PATOLOGIA VEGETALE MOLECOLARE. Il sensing dell'ospite / Reverberi, Massimo; Beccaccioli, Marzia. - (2022), pp. 192-197.

PATOLOGIA VEGETALE MOLECOLARE. Il lipid signalling nell'interazione pianta-patogeno / Scala, Valeria; Reverberi, Massimo; Beccaccioli, Marzia. - (2022), pp. 330-340.

PUBLICATIONS

1. Badiali, C. †, **Beccaccioli, M.** †, Sciubba, F., Chronopoulou L., Petruccelli V., Palocci C., Reverberi M., Miccheli A., Pasqua G., Brasili E. (2024) Pterostilbene-loaded PLGA nanoparticles alter phenylpropanoid and oxylipin metabolism in *Solanum lycopersicum* L. leaves. *Sci Rep* 14, 21941
<https://doi.org/10.1038/s41598-024-73313-y>
IF 3.8
2. Scala, V., Scortichini, M., Marini, F., La Montagna, D., **Beccaccioli, M.**, Micalizzi, K., ... & Reverberi, M. (2024) Assessment of Fatty Acid and Oxylipin Profile of Resprouting Olive Trees Positive to *Xylella fastidiosa* subsp. *pauca* in Salento (Apulia, Italy). *Plants* 13:. <https://doi.org/10.3390/plants13162186>
IF 4
3. Zjalic, S., Markov, K., Loncar, J., Jakopovic, Z., **Beccaccioli, M.**, & Reverberi, M. (2024) Biocontrol of Occurrence Ochratoxin A in Wine: A Review. *Toxins (Basel)* 16:. <https://doi.org/10.3390/toxins16060277>
IF 3.9
4. Cacciotti A, **Beccaccioli M***, Reverberi M (2024) The CRZ1 transcription factor in plant fungi: regulation mechanism and impact on pathogenesis. *Mol Biol Rep* 51:. <https://doi.org/10.1007/s11033-024-09593-4>
IF 2.6
5. Frezza C, De Vita D, Venditti A, Baldani C, Giampaoli O, Sciubba F, Bosco CD, Franceschin M, **Beccaccioli M**, Reverberi M, Percaccio E, Di Sotto A, Foddai S. (2024) Phytochemical analysis and biological activities of the aerial parts of *Odontites vulgaris* Moench. *Fitoterapia* 175:. <https://doi.org/10.1016/j.fitote.2024.105936>
IF 2.5
6. Montemurro, M., **Beccaccioli, M.**, Perri, G., Rizzello, C. G., Reverberi, M., & Pontonio, E. (2023) A chestnut-hemp type-II sourdough to improve technological, nutritional, and sensory properties of gluten-free bread. *Int J Food Microbiol* 404:. <https://doi.org/10.1016/j.ijfoodmicro.2023.110322>
IF 5.0
7. Torreggiani, A., **Beccaccioli, M.**, Verni, M., Cecchetti, V., Minisci, A., Reverberi, M., ... & Rizzello, C. G. (2023) Combined use of *Trametes versicolor* extract and sourdough fermentation to extend the microbiological shelf-life of baked goods. *LWT* 189:. <https://doi.org/10.1016/j.lwt.2023.115467>
IF 6.0
8. Benedetti, F., Kratter, M., Atanasio, P., Mura, F., **Beccaccioli, M.**, Scifo, J., ... & Rinaldi, T. (2023) Isolation of carbonatogenic bacteria for bioremediation. *J Cult Herit* 64:282–289.
<https://doi.org/10.1016/j.culher.2023.10.014>
IF 3.5
9. Monti, M. M., Mancini, I., Gualtieri, L., Domingo, G., **Beccaccioli, M.**, Bossa, R., ... & Ruocco, M. (2023) Volatilome and proteome responses to *Colletotrichum lindemuthianum* infection in a moderately resistant and a susceptible bean genotype. *Physiol Plant* 175:. <https://doi.org/10.1111/ppl.14044>
IF 5.4
10. Infantino A, Belocchi A, Quaranta F, Reverberi M, **Beccaccioli M**, Lombardi D, Vitale M. (2023) Effects of climate change on the distribution of *Fusarium* spp. in Italy. *Sci Total Environ* 882:. <https://doi.org/10.1016/j.scitotenv.2023.163640>
IF 8.2
11. Loncar, J., Bellich, B., Cescutti, P., Motola, A., **Beccaccioli, M.**, Zjalic, S., & Reverberi, M. (2023) The Effect of Mushroom Culture Filtrates on the Inhibition of Mycotoxins Produced by *Aspergillus flavus* and *Aspergillus carbonarius*. *Toxins (Basel)* 15:. <https://doi.org/10.3390/toxins15030177>
IF 3.9
12. **Beccaccioli M***, Moricca, C., Faino, L., Reale, R., Mineo, M., & Reverberi, M (2023) The Neolithic site “La Marmotta”: DNA metabarcoding to identify the microbial deterioration of waterlogged archeological wood. *Front Microbiol* 14:. <https://doi.org/10.3389/fmicb.2023.1129983>

IF 4.0

13. **Beccaccioli, M.**, Pucci, N., Salustri, M., Scortichini, M., Zaccaria, M., Momeni, B., ... & Scala, V. (2022) Fungal and bacterial oxylipins are signals for intra- and inter-cellular communication within plant disease. *Front Plant Sci* 13:. <https://doi.org/10.3389/fpls.2022.823233>
IF 5.6
14. **Beccaccioli, M.**, Grottoli, A., Scarnati, L., Faino, L., & Reverberi, M. (2021) Nanopore hybrid assembly of *biscogniauxia mediterranea* isolated from *quercus cerris* affected by charcoal disease in an endangered coastal wood. *Microbiol Resour Announc* 10:. <https://doi.org/10.1128/MRA.00450-21>
IF N/A
15. Camponeschi, I., Montanari, A., **Beccaccioli, M.**, Reverberi, M., Mazzoni, C., & Bianchi, M. M. (2021) Light-Stress Response Mediated by the Transcription Factor KIMga2 in the Yeast *Kluyveromyces lactis*. *Front Microbiol* 12:. <https://doi.org/10.3389/fmicb.2021.705012>
IF 6.064
16. **Beccaccioli M**, Scala V, Reverberi M (2021) Communication with plants. *Encyclopedia of mycology*, 114-122.
IF N/A
17. **Beccaccioli, M.**, Salustri, M., Scala, V., Ludovici, M., Cacciotti, A., D'Angeli, S., ... & Reverberi, M. (2021). The effect of *Fusarium verticillioides* fumonisins on fatty acids, sphingolipids, and oxylipins in maize germlings. *International journal of molecular sciences*, 22(5), 2435
IF 6.208
18. Capotorti, G., Bonacquisti, S., Abis, L., Aloisi, I., Attorre, F., Bacaro, G., **Beccaccioli, M...** & Blasi, C. (2020) More nature in the city. *Plant Biosyst* 154:1003–1006. <https://doi.org/10.1080/11263504.2020.1837285>
IF 2.842
19. Antiga, L., La Starza, S. R., Miccoli, C., D'angeli, S., Scala, V., Zaccaria, M., **Beccaccioli, M.**, Reverberi, M. (2020) *Aspergillus flavus* Exploits Maize Kernels Using an “Orphan” Secondary Metabolite Cluster. *Int J Mol Sci* 21:8213
<https://doi.org/10.3390/ijms21218213>
IF 5.924
20. Temporiti, M. E. E., Frezza, C., **Beccaccioli, M.**, Gelardi, L., Bianco, A., Bonina, F. P., & Nielsen, E. (2020) Production of verbascoside and its analogues in in vitro cultures of *Verbascum thapsus* L. *Plant Cell Tissue Organ Cult* 140:83–93. <https://doi.org/10.1007/s11240-019-01712-5>
IF 2.711
21. Arcari, G., Di Lella, F. M., Bibbolino, G., Mengoni, F., **Beccaccioli, M.**, Antonelli, G., ... & Carattoli, A. (2020) A multispecies cluster of VIM-1 carbapenemase-producing enterobacterales linked by a novel, highly conjugative, and broad-host-range IncA plasmid forebodes the reemergence of VIM-1. *Antimicrob Agents Chemother* 64:. <https://doi.org/10.1128/AAC.02435-19>
IF 5.191
22. Grottoli, A., **Beccaccioli, M.**, Zoppis, E., Fratini, R. S., Schifano, E., Santarelli, M. L., ... & Reverberi, M. (2020) Nanopore Sequencing and Bioinformatics for Rapidly Identifying Cultural Heritage Spoilage Microorganisms. *Front Mater* 7:. <https://doi.org/10.3389/fmats.2020.00014>
IF 3.515
23. Ingallina, C., Capitani, D., Mannina, L., Carradori, S., Locatelli, M., Di Sotto, A., **Beccaccioli, M.** ...& Sobolev, A. P. (2020) Phytochemical and biological characterization of Italian “sedano bianco di Sperlonga” Protected Geographical Indication celery ecotype: A multimethodological approach. *Food Chem* 309:. <https://doi.org/10.1016/j.foodchem.2019.125649>
IF 7.514
24. Safari, N., Mirabzadeh Ardakani, M., Hemmati, R., Parroni, A., **Beccaccioli, M.**, & Reverberi, M. (2020) The potential of plant-based bioactive compounds on inhibition of aflatoxin B1 biosynthesis and down-regulation of aflR, aflM and aflP genes. *Antibiotics* 9:1–18. <https://doi.org/10.3390/antibiotics9110728>
IF 3.893

25. Speckbacher, V., Ruzsanyi, V., Martinez-Medina, A., Hinterdobler, W., Doppler, M., Schreiner, U., **Beccaccioli, M.**,... & Zeilinger, S. (2020) The Lipoxygenase Lox1 Is Involved in Light-and Injury-Response, Conidiation, and Volatile Organic Compound Biosynthesis in the Mycoparasitic Fungus *Trichoderma atroviride*. *Front Microbiol* 11:2004 <http://doi.org/10.3389/fmicb.2020.02004>
IF 5.640
26. Scala, V., Pietricola, C., Farina, V., **Beccaccioli, M.**, Zjalic, S., Quaranta, F., ... & Iori, A. (2020) Tramesan Elicits Durum Wheat Defense against the Septoria Disease Complex. *Biomolecules* 10:608 <http://10.3390/biom10040608>.
IF 4.879
27. Parroni, A., Bellabarba, A., **Beccaccioli, M.**, Scarpari, M., Reverberi, M., & Infantino, A. (2019) Use of the secreted proteome of *Trametes versicolor* for controlling the cereal pathogen *Fusarium langsethiae*. *Int J Mol Sci.* <https://doi.org/10.3390/ijms20174167>
IF 4.556
28. **Beccaccioli M**, Reverberi M, Scala V (2019) Fungal lipids: Biosynthesis and signalling during plant-pathogen interaction. *Front Biosci - Landmark.* <https://doi.org/10.2741/4712>
IF 2.747
29. Scala, V., Grottoli, A., Aiese Cigliano, R., Anzar, I., **Beccaccioli, M.**, Fanelli, C., ... & Sanseverino, W. (2017) Careful with that axe, gene, genome perturbation after a PEG-mediated protoplast transformation in *Fusarium verticillioides*. *Toxins (Basel).* <https://doi.org/10.3390/toxins9060183>
IF 3.273
30. Scala, V., **Beccaccioli, M.**, Dall'Asta, C., Giorni, P., & Fanelli, C. (2015) Analysis of the expression of genes related to oxylipin biosynthesis in *Fusarium verticillioides* and maize kernels during their interaction. *J Plant Pathol.* <https://doi.org/10.4454/JPP.V97I1.001>
IF 1.038
31. Ludovici, M., Ialongo, C., Reverberi, **M.**, **Beccaccioli, M.**, Scarpari, M., & Scala, V. (2014) Quantitative profiling of oxylipins through comprehensive LC-MS/MS analysis of *Fusarium verticillioides* and maize kernels. *Food Addit Contam - Part A Chem Anal Control Expo Risk Assess.* <https://doi.org/10.1080/19440049.2014.968810>
IF 1.802