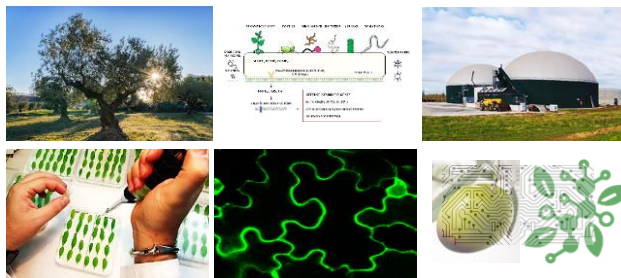


**PHD FELLOWSHIP OPPORTUNITY IN PLANT SCIENCE
- SAPIENZA UNIVERSITY-
ROME ITALY**



In the PhD course in 'Cellular and Developmental Biology,' 40th cycle, at the Department of Biology and Biotechnology 'C. Darwin' (https://phd.uniroma1.it/web/CELL-AND-DEVELOPMENTAL-BIOLOGY_nD3489_EN.aspx), applications are invited from graduates (maximum by the end of October 2024) for a funded PhD studentship on the following topic:

“Exploring plant cell wall potential to boost crop protection against pests and upcycle agro-industrial waste into immunostimulants”

The project aims to explore the interactions between plants and microorganisms, with a particular focus on the role of the cell wall. A multidisciplinary approach will be adopted, encompassing molecular biology, green chemistry, glycobiology, plant pathology, industrial process engineering, and computer science. Starting from the analysis of the *Arabidopsis*-*Botrytis* model system and progressing towards economically significant pathosystems such as olive trees affected by *Xylella* and grapevines affected by *Botrytis*, the project aims to identify correlations between cell wall characteristics and the resistance/susceptibility of crops. Through the integration of circular economy principles and green chemistry, the project aims to optimize the use of by-products from agro-industrial processes for the development of plant biostimulants and bioprotectants. Collaboration with biorefineries, the utilization of artificial intelligence, and the integration of nanomaterials will guide the research towards eco-innovative solutions for sustainable crop protection.

The research activity is supported by various basic and applied research projects including:

- ROME TECHNOPOLE: <https://www.rometechnopole.it/>
- REACH-XY: Research actions for reducing the impact on agricultural and natural ecosystems of the harmful plant pathogen *Xylella fastidiosa*
- INWASTE: digital and biotechnological refining of olive mill wastes in phytovaccines

The PhD student candidate will have the opportunity to interact with several companies involved in these projects.

The PhD candidate will undertake the activities outlined in the PhD program under the supervision of Prof. Vincenzo Lionetti. The main research activities will be conducted at the Plant Physiology Lab of Sapienza University of Rome. Participation in national and international conferences is foreseen, providing the opportunity to become a skilled communicator. The opportunity for a research experience abroad will be available. Additionally, the PhD student have an annual budget allocated for conferences and other formative activities.

The call for application will be published by May 2024 and the selection will end by June 2024

You are enthusiastic and self-motivated person and have a particular interest in plant biotechnology and circular economy. You enjoy close collaboration with industrial experts. You have a creative mind and look forward to work at the cutting-edge of plant science. Finally, you are a team player and a pleasant colleague who enjoys being part of an interdisciplinary team of plant scientists. You have a master's degree in Biological Science, Biotechnology, Chemistry, Agricultural and Food Sciences or similar.

Do you recognize yourself in this profile, would you like to know more and express interest in participating in the selection? Please contact vincenzo.lionetti@uniroma1.it.