

First name/Surname: Andrea Sabia
Telephone: +39 3475718062
E-mail: andrea.sabia@phd.unipd.it
Nationality: Italian
Date of birth: 1/10/1997
Place of birth: Padua, Italy



Education:

- Research fellowship: “Isolation and characterization of *Nicotiana tabacum* and *Solanum lycopersicum* lines expressing the Flavodiiron proteins of the moss *Physcomitrium patens*” (6 months, 2023)
- PhD student in Animal and Food Science (2023-)
- M. Sc. Master’s in Industrial Biotechnology (2020-2023)
- B. Sc. Bachelor’s in Biotechnology (2017-2020)

Research areas:

- Plant biotechnology
- Molecular biology
- Phytomanagment
- Bioremediation

Brief description of Ph.D project:

Per- and polyfluoroalkyl substances (PFAS) have emerged in the last decades as persistent environmental contaminants with detrimental impacts on ecosystems and human health. This PhD research project aims to initially highlight the current state of research on the detection, bioremediation, and phytomanagement of these compounds, with a focus on agricultural soil, water, and crops; and then

attempting to develop new scientific approaches potentially applicable in the future on a global scale so as to solve this public health issue. PFAS contamination in agricultural settings indeed, poses unique challenges due to the potential entry of these persistent compounds into the food chain. Detection methods, such as advanced analytical techniques and biosensors, are essential for monitoring PFAS contamination, while bioremediation strategies leverage the natural abilities of microorganisms to degrade or immobilize PFAS, offering eco-friendly and cost-effective solutions. Similarly, phytomanagement, involving the use of specific plant species to accumulate, transform, or stabilize PFAS, is an innovative approach to mitigate contamination. Understanding the interplay between detection, bioremediation, and phytomanagement is crucial for developing sustainable solutions. These future applications entail the development of innovative technologies, policies, and practices to safeguard agro-environments against PFAS contamination, presenting a holistic approach to address this pressing issue.

Supervisor:

Professor Antonio Masi

Publications:

<https://www.researchgate.net/profile/Andrea-Sabia>