



APPENDIX

PhD Programme	ANIMAL AND FOOD SCIENCE
Project title	Development of innovative techniques with high environmental sustainability for vegetable production in organic farming
Supervisor	Piergiorgio Stevanato
Project description	The general objective of the research is to develop innovative defense tools with high environmental sustainability for plant production in organic farming, contributing to the rationalization of phytosanitary products, enhancing ecosystem services with an environmental but also economic advantage through innovative tools of biological fight that determine the enhancement of biodiversity useful in the company, with the use of innovative biological formulations against adversities.
Foreign host institution	United States Department of Agriculture Sede legale e operativa Agricultural Research Service, 1701 Centre Avenue, Fort Collins, CO 80526, USA 3 months
Host institution in the national territory	Società Agricola Canal dei Cuori S.R.L., Sede legale: via de Ronconi 4, 45011 Adria, Rovigo; Sede operativa: via Padova 1655 Loreo, Rovigo 6 months



PhD Programme	CROP SCIENCE
Project title	Sustainable management of agrosystems as a basis for the improvement of ecosystem services on a large scale
Supervisor	Carmelo Maucieri
Project description	<p>The project falls within the theme of sustainable development. The goal is to test low-impact agronomic techniques characterized at the same time by positive externalities on the environment. Specifically, the aim is a sustainable management of the agro-system that allows for the accumulation of organic matter in the soil. This will allow on the one hand to fix atmospheric CO₂ with a positive impact on the fight against global warming and on the other to increase the water retention capacity of the soils with positive effects on the reduction of water outflows from cultivated fields following rainfall phenomena which are always more intense and irregular over time.</p> <p>The agronomic management of organic matrices and cover crops with both agronomic and environmental purposes require an unconventional methodological approach that integrates methodologies applied at various levels.</p>
Foreign host institution	<p>Aarhus University Sede Legale Nordre Ringgade 1 8000 Aarhus Sede operativa Department of Agroecology Blichers Allé 20, Postboks 50 DK-8830 Tjele 3 months</p>
Host institution in the national territory	<p>Consorzio di Bonifica del Veneto Orientale Sede Legale di San Donà di Piave Piazza Indipendenza 25 30027 - San Donà di Piave (Ve) Sede Operativa di Portogruaro Viale Venezia, 27 30026 - Portogruaro (Ve) 18 months</p>



PhD Programme	INDUSTRIAL ENGINEERING
Curriculum	Mechanical Engineering
Project title	Autonomous robotics 4.0 for the inspection of civil infrastructures and for the conservation of archaeological sites
Supervisor	Silvio Cocuzza
Project description	In this research, a rover will be developed with an integrated drone for the continuous monitoring of civil infrastructures and archaeological sites. The active dynamics of the first will stabilize the cameras and the instrumentation, while the flexibility of the second will allow you to reach the hidden sides for a complete 3D reconstruction of the inspected environments. The robotic system will be completely autonomous (it will not need any assistance during the performance of the task), because it will be equipped with cognitive mechatronics (the ability to know, make decisions and therefore best adapt to the situations it will encounter) so as to always capture images and videos accurate and repeatable. Fundamental condition for monitoring.
Foreign host institution	Johannes Kepler University Altenbergerstraße 69 4040 Linz (Austria) Sede operativa principale Institute of Robotics Department of Mechatronics Altenberger Straße 69 4040 Linz (Austria) 3 months
Host institution in the national territory	Fondazione Istituto Italiano di Tecnologia Sede legale e operativa Industrial Facility Via Morego 30 16163 GE 9 months