



PhD in FISICA / PHYSICS - 40th cycle

THEMATIC Research Field: SUSTAINABLE SENSORS FOR AGRITECH

Monthly net income of PhDscholarship (max 36 months)

€ 1400.0

In case of a change of the welfare rates during the three-year period, the amount could be modified.

Context of the research activity

Motivation and objectives of the research in this field

Transitioning to sustainable technologies is mandatory for our future. This is especially true in critical sectors of economy that will see a great increase in the use of electronics, sensors and networks, such as AgriTech. In line with UN's Sustainable Development Goals, this PhD scholarship aims at developing biodegradable and even edible sensors that can allow to reduce food waste, such as edible sensors for monitoring fruit ripening.

Methods and techniques that will be developed and used to carry out the research

The scholarship is offered within the "Technologies of Sustainability Flagship" of the Istituto Italiano di Tecnologia (<https://www.iit.it/en/web/guest/our-research>). The project will comprise the development of edible sensors for fruit ripening, to be realized at the Center for Nano Science and Technology of IIT in Milan, and of suitable predictive models of fruits ripening, to be developed in collaboration with the Data Science & Computation Facility of IIT in Genova.

Educational objectives

Expanding the knowledge in sustainable electronic materials for next generation sensors with low environmental impact; impedimetric sensing techniques; advanced machine learning techniques algorithms for the development of robust predictive models. Exposition to several different environments, from academia to industry.

Job opportunities

Sustainable technologies are in high demand. Obtaining a multidisciplinary PhD in sustainable sensors for AgriTech can therefore open a plethora of job opportunities in academia, in industry, industrial R&D and consulting.



Composition of the research group	1 Full Professors 2 Associated Professors 5 Assistant Professors 9 PhD Students
Name of the research directors	Mario Caironi, Sergio Decherchi,

Contacts
PI of Printed and Molecular Electronics: Mario Caironi, mario.caironi@iit. Coordinator of the Data Science & Computation Facility: Sergio Decherchi, sergio.decherchi@iit.it

Additional support - Financial aid per PhD student per year (gross amount)			
Housing - Foreign Students	1st year	2nd year	3rd year
	1000.0 € per student	1000.0 € per student	1000.0 € per student
	max number of financial aid available: 1, given in order of merit (only for students with scholarship)..		
Housing - Out-of-town residents (more than 80Km out of Milano)	1st year	2nd year	3rd year
	500.0 € per student	500.0 € per student	500.0 € per student
	max number of financial aid available: 1, given in order of merit (only for students with scholarship)..		

Scholarship Increase for a period abroad	
Amount monthly	700.0 €
By number of months	6

Additional information: educational activity, teaching assistantship, computer availability, desk availability, any other information
<p>Educational activities: Educational activities (purchase of study books and material, funding for participation to courses, summer schools, workshops and conferences). Financial aid per PhD student per 3 years: 5707,20 Euros.</p> <p>Teaching assistantship: There are various forms of financial aid for activities of support to the teaching practice. The PhD student is encouraged to take part in these activities, within the limits allowed by the regulations.</p> <p>Computer and desk availability: individual use computer and desk.</p>