



PhD in INGEGNERIA GESTIONALE / MANAGEMENT ENGINEERING - 37th cycle

**Thematic Research Field: FOOD RECOVERY AND REDISTRIBUTION: DECISION-MAKING
INSTRUMENTS**

Monthly net income of PhDscholarship (max 36 months)

€ 2600.0

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**

World is progressing at a slow pace towards the target that the 2030 Agenda of the United Nations has established for food and nutrition security. Nearly 9% of the global population is undernourished (FAO 2020), while about 7% of EU-27 inhabitants cannot afford a quality meal every second day (Eurostat 2021). At the same time, large volumes of food waste are created every year along the food supply chain. Since today surplus food generation can be prevented at the origin only to a limited degree, food recovery and redistribution (FR&R) is progressively recognized as a key component of food security policy.

The research project aims at fostering the full exploitation of FR&R potential in high-income countries. In order to enhance the diffusion and impact of FR&R practices, public and private decision-makers should be equipped with knowledge instruments that capitalize on new research results and adapt to heterogeneous environments.

Two specific research objectives will be proposed to the PhD student. First, new types of food and nutrition insecurity are affecting the urban dwellers. Municipalities should be offered appropriate guidance when they design and monitor FR&R partnerships across different urban contexts. Special attention should be paid to the role of non-profit organizations (Hanssen et al. 2015, Chaboud and Daviron 2017, Galli et al. 2019, Arcuri 2019, Lohnes 2020). Second, the Food Waste Hierarchy (FWH) is the



	<p>most diffuse framework for identifying the alternative recovery routes. Nonetheless, the FWH is not sufficient to back corporate decision-makers in the choice between FR&R and other surplus food destinations, nor it clarifies the logics through which innovative solutions may be developed for redistribution, recycling and other recovery options (Hanson and Mitchell 2017, Melacini et al. 2017, Albizzati et al. 2019, Ciulli et al. 2020, Teigiserova et al. 2020). Business managers along the food supply chain should be equipped with a toolbox that bridges the main lessons learnt from good practices in surplus food management with drivers such as product characteristics, firm characteristics, supply chain stage, type of final beneficiaries.</p>
<p>Methods and techniques that will be developed and used to carry out the research</p>	<p>The project will be conducted by the means of multiple research methods. First, the review of scientific and grey literature will be widely employed to develop the decision-making instruments. Secondly, an in-depth and rigorous application of qualitative research methods is advisable given the normative nature of the research. Case studies, participatory workshops and focus groups, action research and active observation appear to suit the research objectives.</p>
<p>Educational objectives</p>	<p>The involved PhD student will learn (i) to understand and analyse the context in which FR&R takes place; (ii) to design and conduct original qualitative research with public and private stakeholders in an international environment; (iii) to develop and disseminate instruments that make the research results usable by non-research decision makers.</p>
<p>Job opportunities</p>	<p>Upon PhD completion, the candidate will work in interdisciplinary research groups engaged with sustainability-oriented transformation, also as a team leader.</p> <p>Public sector agencies and international organizations engaged with the design of innovative food policies are also a prospect employer, along with consulting companies that advise agri-food companies on sustainable innovation.</p>



Composition of the research group	6 Full Professors 1 Associated Professors 2 Assistant Professors 0 PhD Students
Name of the research directors	Paola Garrone, Marco Melacini, Alessandro Perego

Contacts	
<i>paola.garrone@polimi.it</i>	

Additional support - Financial aid per PhD student per year (gross amount)	
Housing - Foreign Students	--
Housing - Out-of-town residents (more than 80Km out of Milano)	--

Scholarship Increase for a period abroad	
Amount monthly	566.36 €
By number of months	6

Additional information: educational activity, teaching assistantship, computer availability, desk availability, any other information
<p>The PhD candidate will have the opportunity to attend courses on Management Engineering methods, sustainability-oriented innovation and agri-food sustainability at Politecnico di Milano and other Universities and research centres. He/she will be supervised by the research director through frequent meetings, and will receive feedbacks on his/her intermediate during regular meetings with the Doctorate board and scientific conferences. The candidate will be involved in some teaching and communication activities, which are seen as a major opportunity to practice with dissemination of own and other relevant research results. He/she will be offered a desk in the Food Sustainability Lab office (Department of Management Engineering building).</p> <p>The Food Sustainability Lab research projects that are related to the PhD research topics include the Food Sustainability Observatory (https://www.osservatori.net/it_it/osservatori/food-sustainability), Neighbourhood Hub Against Food Waste (http://www.foodpolicymilano.org/hub-spreco-municipio9), URBAL: Urban-Driven Innovations For Sustainable Food Systems, FOOD TRAILS: Building pathways towards FOOD 2030-led urban food policies (https://www.foodpolicymilano.org/food-trails/), ESPERA - Circular Economy and Sustainability in the Mantuan PGI pear supply chain (https://www.agrifood.tech/analisti-ed-esperti/prevenire-gli-sprechi-valorizzare-le-eccedenze-il-progetto-espera-e-la-filiera-della-pera-mantovana-igp/).</p> <p>The research group has a wide network of partners in the public, private and non-profit sectors. It cooperates with several academic groups and research centres, such as CIRAD Montpellier, Laurier Centre for Sustainable Food Systems at the Wilfrid Laurier University in Waterloo, Canada; the National Research Institute on Agronomy (INRA); EStà - Economia e Sostenibilità; Chair Unesco World Food Systems; Cardiff University; Wageningen University; Roskilde</p>



University; the Institute of Photonics and Nanotechnologies of CNR of Milan, the Center for Engineering and Agri-food Transformations of Milan (CREA-IT.MI) and the University of Milan - Department of Sciences and Environmental Policies (UNIMI ESP).

Funding for educational activities: 1st year: 1200 euros per student, 2nd year: 1200 euros per student, 3rd year: 1200 euros per student.

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.

Desk availability: shared use

Computer availability: individual use