



ENGINEERING FOR ENERGY AND ENVIRONMENT

Director prof. Danilo Monarca

Annex A

Principal investigator	<b>Marco Barbanera</b>
Curriculum	Energy and engineering system
Action	GREEN
Scientific area	ING-IND/11
The PhD course will last	3 years
Research Topic	Strategies of valorization of off-specification compost
Summary of the research topic	The project aims at recovering and valorizing the stabilized organic fraction (FOS) produced by the separate flow mechanical-biological treatment (MBT) plants of municipal waste. The results obtained will be used to create a process model through the Aspen plus software in order to evaluate the technical and economic feasibility on a large scale.
Period in the private sector (months)	12
Research period abroad (months)	6
Language of the interview	English
Target (Research outcomes to be achieved during the PhD period)	<ul style="list-style-type: none"><li>- At least 1 scientific publication in a national or international journal</li><li>- At least 1 participation in a national or international conference</li></ul>



Principal investigator	<b>Andrea Luigi Facci</b>
Curriculum	Energy and engineering system
Action	GREEN
Scientific area	ING-IND/08
The PhD course will last	3 years
Research Topic	“ Green Hydrogen as a tool for the energy transition”
Summary of the research topic	The project aims to study the integration of electrolytic and biological processes for the production of hydrogen from electrical renewables and from organic polymer matrices. This strategy will allow an enhancement of the processes of energy recovery from waste materials and on the other hand an easy accumulation of hydrogen from renewable electrical sources.
Period in the private sector (months)	12
Research period abroad (months)	6
Language of the interview	English
Target (Research outcomes to be achieved during the PhD period)	<ul style="list-style-type: none"><li>- At least 1 scientific publication in a national or international journal</li><li>- At least 1 participation in a national or international conference</li></ul>



Principal investigator	<b>Giuseppe Calabrò</b>
Curriculum	Biosystem and environment
Action	GREEN
Scientific area	ING-IND/31
The PhD course will last	3 years
Research Topic	“Innovative fusion reactor design for spherical tokamaks”
Summary of the research topic	Among the energy sources of the near future, magnetic confinement fusion is one of the most promising for the realization of energy production plants as a safe and sustainable source. The objective of the project is the implementation of an experimental device (STEP) aimed at providing a prototype of a commercially viable fusion plant.
Period in the private sector (months)	12
Research period abroad (months)	6
Language of the interview	English
Target (Research outcomes to be achieved during the PhD period)	<ul style="list-style-type: none"><li>- At least 1 scientific publication in a national or international journal</li><li>- At least 1 participation in a national or international conference</li></ul>



Principal investigator	<b>Andrea Colantoni</b>
Curriculum	Biosystem and environment
Action	GREEN
Scientific area	AGR/09
The PhD course will last	3 years
Research Topic	“Innovative machine for cultivation and harvesting of energy crops for biofuels”
Summary of the research topic	The project has as its objective the development of innovative machines for the cultivation and harvesting of energy crops for the production of biofuels in particular for the recovery of contaminated land even on small areas.
Period in the private sector (months)	12
Research period abroad (months)	6
Language of the interview	English
Target (Research outcomes to be achieved during the PhD period)	<ul style="list-style-type: none"><li>- At least 1 scientific publication in a national or international journal</li><li>- At least 1 participation in a national or international conference</li></ul>



Principal investigator	<b>Ines Delfino</b>
Curriculum	Biosystem and environment
Action	GREEN
Scientific area	FIS/07
The PhD course will last	3 years
Research Topic	“Optical methods for the detection of phenolic pollutants”
Summary of the research topic	The project aims to develop optical methods for the detection of phenolic pollutants that are particularly dangerous because of their ability to remain in the environment for long periods and their toxicity.
Period in the private sector (months)	6
Research period abroad (months)	6
Language of the interview	English
Target (Research outcomes to be achieved during the PhD period)	<ul style="list-style-type: none"><li>- At least 1 scientific publication in a national or international journal</li><li>- At least 1 participation in a national or international conference</li></ul>



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