



# PhD in CHIMICA INDUSTRIALE E INGEGNERIA

## CHIMICA / INDUSTRIAL CHEMISTRY AND CHEMICAL ENGINEERING - 39th cycle

**THEMATIC Research Field: INDUSTRIAL CHEMISTRY AND CHEMICAL ENGINEERING.**

Monthly net income of PhDscholarship (max 36 months)
<b>€ 1400.0</b>
In case of a change of the welfare rates during the three-year period, the amount could be modified.

Context of the research activity	
<b>Motivation and objectives of the research in this field</b>	Topics: 1. methods and criteria for industrial processes and plants design and operation, including safety and environmental aspects; 2. industrial plant design and control by computer-based mathematical modeling and simulation methods; 3. microscopic-scale analysis of industrial processes through thermodynamics, kinetics and transport phenomena methodologies; 4. synthesis, characterization, transformation technology and application of substances; 5. design of chemical and/or biological material; 6. characterization of products and materials.
<b>Methods and techniques that will be developed and used to carry out the research</b>	The research will be carried out using both experimental and computational facilities. Laboratory-scale apparatus data will be interpreted by suitable mathematical models implemented in computer codes. The use of advanced analytical devices and literature survey will be an essential part of the work.
<b>Educational objectives</b>	The main objective is to give to the student the tools to design and manage chemical synthesis, chemical processes and industrial plants, and to allow him/her to develop in a self-sufficient way new technological applications and to create and characterize new products and services.
<b>Job opportunities</b>	



	The Research Doctors will be able to find a natural location in process companies and both in private and public companies and institutes, operating in the field of research, design, production, formation, control and consultant services.
<b>Composition of the research group</b>	14 Full Professors 36 Associated Professors 6 Assistant Professors 61 PhD Students
<b>Name of the research directors</b>	Prof. Carlo Cavallotti

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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	700.0 €
By number of months	6

Additional information: educational activity, teaching assistantship, computer availability, desk availability, any other information	
<p><b>Individual budget for research (5.700 euro):</b>  1<sup>st</sup> year: 1.900 euro; 2<sup>nd</sup> year: 1.900 euro; 3<sup>rd</sup> year: 1.900 euro</p> <p><b>Teaching assistantship (availability of funding in recognition of supporting teaching activities by the PhD student):</b> there are various forms of financial 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 regulation.</p>	