

06/04//2022

TEACHING ACTIVITY FOR PhD COURSES IN INDUSTRIAL CHEMISTRY, AA 2021-2022

COORDINATOR Prof.ssa Dominique Marie Roberto

| | Title | Date | Hour | Classroom | CFU |
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| Coordinator: Roberto Dominique Lecturers: Fondazione Sodalitas (15 h) Fanoni Aurelio Salvini Giovanni For third year PhD students in Chemistry and in Industrial Chemistry. Recommended | Youth and Enterprise Course for third-year PhD students. It is an orientation course with exercises and laboratory activities, designed and organized by the Sodalitas Foundation. The course is based on the centrality of the person; it is oriented in the perspective of Social Responsibility and Sustainability, according to the European guidelines of MIUR, with the aim of enhancing vocations and attitudes that distinguish the excellence of young people, as an added value of cross-skills. The method is based on a guided path of progressive experience in the logic of the world of work, through interactive, laboratory, relational modes, support films, company testimony and simulations. | 17-01-2022 19-01-2022 20-01-2022 | 09:00-14:00 09:00-14:00 09:00-14:00 | Online | 4 |
| Coordinator: Benaglia Maurizio Lecturers: Benaglia Maurizio Pirola Carlo Proserpio Davide | Literature and library research in industrial chemistry Course on the literature in industrial chemistry. The student learns to read and comment in a critical manner, articles in the field of industrial chemistry, in particular in organic (with Prof. Benaglia), inorganic (with Prof. Proserpio) and physical chemistry (with Prof. Pirola). | February Date to be decided with the professors | | | 2 |
| Coordinator: Bianchi Claudia Lecturers: Bianchi Claudia Dotelli Giovanni (POLIMI) | Life Cycle Assessment methodology Course on the environmental impacts of products and processes considering their life cycle from cradle to grave | 07-02-2022 08-02-2022 09-02-2022 11-02-2022 | 14:00-17:00 14:00-16:00 09:00-11:00 14:00-17:00 | 209 101 209 209 | 2 |

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| <p>Coordinator: Roberto Dominique</p> <p>Lecturers:</p> <p>Ghezzi Serena (12 h)</p> | <p>Graphic Communication of Scientific Research to elevate your Papers</p> <p>The course addresses all PhD students who want to learn new communication skills and master a useful tool to increase their research impact. Students will learn the basic rules of graphic communication and a language for many channels. The course will help them to make more appealing their reports and papers</p> | <p>26-04-2022</p> <p>27-04-2022</p> <p>02-05-2022</p> | <p>09:00-13:00</p> <p>09:00-13:00</p> <p>09:00-13:00</p> | <p>Online</p> | <p>2</p> |
| <p>Coordinator: Colombo Valentina</p> <p>Lecturer: Simon Billinge (Columbia University)</p> | <p>Description of the nanostructure of pharmaceuticals, priceless historical artefacts and materials for sustainable energy through x-rays and algorithms</p> <p>Nanoparticles and nanostructures are at the heart of next-generation technological solutions in the areas of sustainable energy, effective new drugs and environmental remediation. A key to making progress is being able to understand their structure, the arrangement of atoms in the nanoparticles and structures at the nanoscale. The course aims to give a general overview to students on the application of methods for the study of the local structure through the use of X-ray, neutron and electron diffraction. The lecturer will present the methods of analysis and some recent success stories in the field of sustainable energy, pharmaceuticals and conservation of cultural heritage.</p> | <p>16-05-2022</p> <p>17-05-2022</p> <p>18-05-2022</p> | <p>14:00-17:30</p> <p>14.00-17.30</p> <p>14.00-17.00</p> | <p>Aula G16</p> <p>Aula 209</p> <p>Aula G16</p> | <p>2</p> |
| <p>Coordinator: Speranza Giovanna</p> <p>Lecturers:</p> <p>Riva Sergio (a)</p> <p>Ubiali Daniela (b)</p> <p>Molinari Francesco (c)</p> <p>Mutti Francesco (d)</p> <p>Motterle Riccardo (e)</p> | <p>Biocatalysis in industrial processes</p> <p>Biocatalysis is a highly multidisciplinary topic based on the use of powerful and selective catalysts, the enzymes. Biocatalysis can be considered a sustainable solution to many chemical problems. At the end of the course the student learns the basics of biocatalysis, including techniques of enzyme immobilization, the use of enzymes in flow reactors, and the application of biocatalytic systems for the sustainable and efficient production of industrially relevant chemicals</p> | <p>(a) 17-05-2022</p> <p>(b) 30-05-2022</p> <p>(c) 31-05-2022</p> <p>(d) 06-06-2022</p> <p>(e) 07-06-2022</p> | <p>14:30-16:30</p> <p>14:30-16:30</p> <p>10:30-12:30</p> <p>10:30-12:30</p> <p>14:30-16:30</p> | <p>Aula B2</p> <p>Aula 110</p> <p>Aula 110</p> <p>Aula G16</p> <p>Aula 302</p> | <p>2</p> |
| <p>Coordinator: Gervasini Antonella</p> <p>Lecturers:</p> <p>Gervasini Antonella (a)</p> | <p>Ecofriendly materials for environment protection: air and water remediation processes</p> <p>The course aims to provide a specific and in-depth knowledge of chemical processes that employ solid inorganic materials as adsorbents and/or catalysts to control the emissions of environmentally hazardous chemical species. A special emphasis will be put on new and emerging catalytic technologies and on the development of eco-friendly materials for abatement of emissions in wastewaters and air.</p> <p>After approved course the Ph.D Student should be able to:</p> <ul style="list-style-type: none"> • identify the most prominent emissions of hazardous compounds and their health effects | <p>(a) 23-05-2022</p> <p>(b) 24-05-2022</p> | <p>14:30-17:30</p> <p>09:30-12:30</p> <p>14:30-16:30</p> | <p>Aula 110</p> <p>Aula 110</p> | <p>2</p> |

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| <p>Campisi Sebastiano (b) Lamonier Jean Francois (c) (d)</p> | <ul style="list-style-type: none"> • describe physico-chemical phenomena at solid-liquid and solid-gas interfaces responsible of the reactivity of the materials used in the reactive processes • describe the principles of adsorption processes for wastewater remediation • explain the role of the surface in environmental catalysis and identify advantages and constraints • describe the most important methods for abatement of volatile organic compounds and nitrogen-containing species vented from stationary/mobile applications • describe the steps involved in the design of novel eco-friendly catalysts • explain the concept of green production in the recent perspective of circular economy | <p>(c) 25-05-2022 (d) 26-05-2022</p> | <p>14:30-16:30</p> | <p>Online Online</p> | |
| <p>Coordinator: Minguzzi Alessandro Lecturers: Minguzzi Alessandro (a) Vertova Alberto (b) Falciola Luigi (c) Ignacio Sires Sadornil (d) Sonia Lanzalaco (d)</p> | <p>Electrochemical Technologies for the energy and the environment</p> <p>Students will learn the basics of applied and industrial electrochemistry. The 5 lectures will be dedicated to environmental treatments, energy conversion and storage devices, sensors and metal corrosion.</p> | <p>(a) 13-06-2022 (a) 14-06-2022 (b) 15-06-2022 (c) 16-06-2022 (d) 21-06-2022</p> | <p>14:30-16:30 14:30-16:30 10:00-12:00 10:00-12:00 10:00-12:00</p> | <p>Aula 206 Aula 209 Aula 504 Aula 206 Online</p> | <p>2</p> |
| <p>Coordinator: Prati Laura Lecturers: Prati Laura Villa Alberto Dimitratos Nikolaos</p> | <p>Treatment of biomass for biofuel</p> <p>Biomass and its conversion processes are the core of this course. The student will become familiar with the concept of biorefineries and sustainable new supply chains as well as bio- and renewable economy</p> | <p>16-06-2022 17-06-2022 20-06-2022 28-06-2022 29-06-2022 30-06-2022</p> | <p>14:30-16:30 14:30-16:30 14:30-16:30 14:30-16:30 14:30-16:30 14:30-16:30</p> | <p>Aula 207 Aula 207 Aula 207 Aula 207 Aula 207 Aula 207</p> | <p>2</p> |