

TEACHING ACTIVITY FOR Ph.D. COURSES IN CHEMISTRY AND INDUSTRIAL CHEMISTRY, A.A. 2018-2019

CHEMISTRY

	Title	Date dd/mm/yy	Hour	Room	CFU
<p>Coordinator: Martinazzo Rocco</p> <p>Lecturers: Martinazzo Rocco (3 h) Bernardi Anna (4 h) Dragonetti Claudia (3 h)</p>	<p>Literature search in chemistry</p> <p>Course on the literature in chemistry. The student learns to read, understand and present to a public, in a critical manner, articles in the field of chemistry, in particular in physical chemistry, organic chemistry, inorganic chemistry</p>	<p>February 2019: date da concordare con gli studenti iscritti. Contattare il docente di riferimento entro la fine di gennaio (Anna Bernardi [Chimica Organica; il corso sarebbe martedì 12 febbraio dalle 14 alle 18], Claudia Dragonetti [Chimica Inorganica], Rocco Martinazzo [Chimica Fisica])."</p>			2
<p>Coordinator: Licandro Emanuela</p> <p>Lecturer: Clark Sarah (20 h)</p> <p>For second year PhD students (XXXIII cycle) in Chemistry and in Industrial Chemistry Recommended</p>	<p>Writing to communicate science: a practical workshop for students of chemistry area.</p> <p>Acquisition of the most important knowledge for a correct chemical science communication, both oral and written.</p>	<p>12 March 2019 13 March 2019 14 March 2019</p>	<p>9.00-17.00 9.00-13.00 9.00-13.00</p>		4

<p>Coordinator: Vasile Francesca</p> <p>Lecturers: Vasile Francesca (2 h, a) Tiana Guido (2 h, b) Potenza Donatella (2 h, c) Ragona Laura (2 h, d) Camilloni Carlo (2 h, e)</p>	<p>Applications of advanced NMR techniques</p> <p>The course provides to the students an introduction of advanced NMR techniques and their applications to different fields. The main themes of this course will be: a tutorial on interpretation of bidimensional spectra with case studies of small molecules , the conformational analysis of small molecules using NMR derived restraints, the analysis of molecular aggregates, the application of NMR to structural system biology and to the analysis of the interaction between ligands and macromolecules.</p>	<p>a) 4 March 2019 b) 6 March 2019 c) 18 March 2019 d) 21 March 2019 e) 28 March 2019</p>	<p>a) 14.30-16.30 b) 14.30-16.30 c) 14.30-16.30 d) 14.30-16.30 e) 14.30-16.30</p>	<p>a) b) c) d) e)</p>	<p>2</p>
<p>Coordinator: Falciola Luigi</p> <p>Lecturers: Falciola Luigi (1 h, a) Forni Alessandra (1 h, b) Vertova Alberto (1 h, c) Longhi Mariangela (1 h, d) Pifferi Valentina (2 h, e) Lev Ovadia (4 h, f,g)</p>	<p>Surface modification for electrocatalysis and electroanalytical applications</p> <p>Preparation of modified surfaces. Surface-target molecule interactions. Applications of the modified surfaces for electrocatalysis and electroanalysis.</p>	<p>a) 3 April 2019 b) 3 April 2019 c) 9 April 2019 d) 9 April 2019 e) 10 April 2019 f) 15 April 2019 g) 16 April 2019</p>	<p>a) 14.30-15.30 b) 15.30-16.30 c) 14.30-15.30 d) 15.30-16.30 e) 14.30-16.30 f) 14.30-16.30 g) 14.30-16.30</p>	<p>a) b) c) d) e) f)</p>	<p>2</p>
<p>Coordinator: Ragaini Fabio</p> <p>Lecturers: Reek Joost (4 h, a, b) Ragaini Fabio (6 h, c, d, e)</p>	<p>Innovative aspects in the chemistry of ligands for transition metals: synthesis, properties and use in catalysis.</p> <p>To acquire up-to-date competences on metal-ligand interactions and on how to take advantage of them.</p>	<p>a) 9 May 2019 b) 10 May 2019 c) 13 May 2019 d) 14 May 2019 e) 15 May 2019</p>	<p>14.30-16.30 14.30-16.30 14.30-16.30 14.30-16.30 14.30-16.30</p>		<p>2</p>

<p>Coordinator: Tessore Francesca</p> <p>Lecturers: Caramori Stefano, Università di Ferrara (4 h, a, b) Minguzzi Alessandro (2 h, c) Tessore Francesca (2 h, d) Villa Alberto (2 h, e)</p>	<p>Chemistry for Energy 2.0</p> <p>The aim of the course is provide PhD students an interdisciplinary cross section of the most innovative topics in the field of energy (photovoltaics, photoelectrochemistry, biomass valorization...)</p>	<p>a) 25 June 2019 b) 25 June 2019 c) 2 July 2019 d) 4 July 2019 e) 9 July 2019</p>	<p>a) 10:30-12:30 b) 14:30-16:30 c) 14.30-16.30 d) 14.30-16.30 e) 14.30-16.30</p>	<p>a) b) c) d) e)</p>	<p>2</p>
<p>Coordinator: Passarella Daniele</p> <p>Lecturers: Mori Mattia (UNISI, 2 h, a) Minassi Alberto (UNITO, 2 h, b) Vanetti, E (TEVA, 2h, c) Dallavalle Sabrina (UNIMI, 2 h, d) Papeo G (NervianoMS, 2 h, e)</p>	<p>Natural Products: Synthetic and Medicinal Chemistry</p> <p>To highlight: i) the importance of the synergistic collaboration across the organic and medicinal chemistry areas for accelerating the rational identification and design of lead compounds; ii) the importance of natural products as scaffolds for drug discovery; iii) advances in the multidisciplinary field of discovery and development of bioactive compounds; iv) advances in Total Synthesis of natural products.</p> <p>a) Computer-aided discovery and optimization of Hedgehog pathway inhibitors inspired by natural products b) Terpens: chemistry and exploitation c) Fermentative processes for the production of antitumor molecules d) Synthesis and biological activity of natural-derived topoisomerase inhibitors: <i>focus on camptothecin</i> e) Synthesis of marine pyrrole alkaloids</p>	<p>a) 17 June 2019 b) 18 June 2019 c) 1 July 2019 d) 9 July 2019 e) 11 July 2019</p>	<p>a) 14.30-16.30 b) 14.30-16.30 c) 14.30-16.30 d) 14.30-16.30 e) 14.30-16.30</p>	<p>a) b) c) d) e)</p>	<p>2</p>
<p>Coordinator: Lo Presti Leonardo</p> <p>Lecturers: Lo Presti Leonardo (2 h, a) Merlini Marco (1 h, b) Gianotti Valentina (to be confirmed; 3 h, c) Alvaro Matteo (2 h, d) Sello Guido (2 h, e)</p>	<p>Making experiment and theory talking together: A multidisciplinary approach for materials science</p> <p>The main focus is on Design of Experiment (DOE) techniques and related statistical methods. The students will be made aware of what are the best strategies to design an experiment aimed at obtaining the maximum amount of information with the minimum allocation of resources. Moreover, we will provide insights on what strategies can be applied to make a theoretical model fully comparable with experimental observations, and how to plan an experiment in order to check a theoretical prediction or hypothesis.</p>	<p>a) 3 July 2019 b) 4 July 2019 c) 4 July 2019 d) 5 July 2019 e) To be announced, 20 June–10 July 2019</p>	<p>a) 10:30-12:30 b) 9:30-11:30 c) 11:30-13:30 d) 10:30-12:30 e)</p>	<p>a) b) c) d) e)</p>	<p>2</p>

INDUSTRIAL CHEMISTRY

	Title	Date	Hour	Room	CFU
Coordinator: Albanese Domenico Lecturers: Albanese Domenico (4 h, a, b) Adamo Mauro (6 h, c, d)	Phase Transfer Catalysis: a valuable tool for green sustainable chemistry The course will give to the students the knowledge useful to find the optimal conditions to carry out processes and reactions with low environmental impact, by using phase transfer catalysis.	a) 26 March 2019 b) 29 March 2019 c) 4 April 2019 d) 5 April 2019	a) b) c) d)	a) b) c) d)	2
Coordinator: Chiarello Gian Luca Lecturers: Chiarello Gian Luca (4 h, a,b) Ferri Davide (3h, c) Grunwaldt Jan-Dierk (3h, d)	Spectroscopic techniques in heterogeneous catalysis The course will illustrate to the students the main spectroscopic techniques for the characterization of heterogeneous catalysts and for the study of reaction mechanisms. In particular, Fourier Transform Infrared (FT-IR), UV-vis, X-ray Photoelectron Spectroscopy (XPS) and X-ray Absorption Spectroscopy (XAS) will be illustrated..	a) 20 March 2019 b) 22 March 2019 c) 29 March 2019 d) 5 April 2019	a) b) c) d)	a) b) c) d)	2
Coordinator: Rondinini Sandra Lecturers: Rondinini Sandra (1h, a) Innocenti Massimo (3h, b) Gervasinini Antonella (2h,c) Cappelletti Giuseppe (2h, d) Minguzzi Alessandro (2h, e)	Surface treatments and investigations techniques The course is devoted to discuss the principles and tools that govern material science. The series of lectures are organized with the aim of providing the most actual and advanced techniques for establishing the key surface properties to be exploited, the relevant preparation techniques and the key characterization/investigation methodologies. a) 01/03/2018 14:30 – 15:30 - Fundamental aspects of electrolysis: a brief introduction to electrolytic processes, current/potential control, current distribution and operational conditions, energy consumption (Sandra Rondinini) b) 05/03/2018 14:30 – 17:30 -Electrochemical surface control for renewable energy (Massimo Innocenti) c) 14/03/2018 14:30 – 16:00 - Surface characterization by using molecular probes: spectroscopic, calorimetric, and thermal analysis techniques of study. Examples on acidity of solid acid catalysts (Antonella Gervasini) d) 15/03/2018 14:30 – 16:00 - Thin layer depositions (Giuseppe Cappelletti) 18/03/2018 14:30 – 16:00 - Advanced spectroscopies for surface characterization (Alessandro Minguzzi)	a) 1- March 2019 b) 5 March 2019 c) 14 March 2019 d) 15 March 2019 e) 18 March 2019	a) 14:30-15:30 b) 14:30-17:30 c) 14:30-16:00 d) 14:30-16:00 e) 14:30-16:00	a) b) c) d) e)	2

<p>Coordinator: Colombo Valentina</p> <p>Lecturers: Colombo Valentina (3 h, a) Casati Nicola - PSI Institute, CH (4h, b, c) Scavini Marco - Unimi (3h, d)</p>	<p>X-ray Powder Diffraction and its Applications on Advanced Materials</p> <p>Characterization and properties of molecular and polymeric compounds in the solid state. In particular, in this course, the characterization of solid phases will be treated through advanced powder diffraction techniques (X-rays -laboratory and synchrotron - neutrons). Furthermore, the solid state properties of advanced materials of energetic and environmental interest will be described.</p>	<p>a) 10 April 2019 b) 15 April 2019 c) 16 April 2019 d) 8 May 2019</p>	<p>a) 14:30-17:30 b) 14:30-16:30 c) 14:30-16:30 d) 14:30-17:30</p>	<p>a) b) c) d)</p>	<p>2</p>
<p>Coordinator: Seneci Pierfausto</p> <p>Lecturers: Seneci Pierfausto (4 h, a,e) Felder Eduard (2h, b), Summa Vincenzo (2h, c) Allegrini Pietro (2h, d)</p>	<p>Discovery and process chemistry in the pharmaceutical industry: various perspectives</p> <p>The course will show to the student the importance for the pharmaceutical industry of the organic chemistry applied to the discovery of new active compounds and to their production in large scale with a reasonable cost.</p>	<p>a) 18 June 2019 b) 18 June 2019 c) 20 June 2019 d) 20 June 2019 e) 21 June 2019</p>	<p>a) 13.30-15.30 b) 15.30-17.30 c) 13.30-15.30 d) 15.30-17.30 e) 13.30-15.30</p>	<p>a) b) c) d) e)</p>	<p>2</p>
<p>Coordinator: Maggioni Daniela</p> <p>Lecturers: Puntes Victor (Barcellona, 4 h, a, b) Orsini Francesco (UniMi, Dip fisica, 2 h,c) Arosio Paolo (UniMi, Dip fisica, 2 h, d) Delli Castelli Daniela (UniTo, 2 h, e)</p>	<p>Nanoparticles for biomedicine</p> <p>The aim of the course is to show different kinds of nanoparticles used in biomedicine. In addition to their synthesis, the main characteristics required to be used in medical imaging and biomedicine will be illustrated.</p>	<p>a) 24 June 2019 b) 25 June 2019 c) 26 June 2019 d) 27 June 2019 e) 28 June 2019</p>	<p>a) 14:30-16:30 b) 14:30-16:30 c) 14:30-16:30 d) 14:30-16:30 e) 14:30-16:30</p>	<p>a) b) c) d) e)</p>	<p>2</p>
<p>Coordinator: Maurizio Benaglia (10 h)</p>	<p>Literature and library research in industrial chemistry, in particular organic chemistry</p> <p>It is a course on the literature on industrial chemistry. The student learns to read and comment in a critical manner articles in the field of industrial chemistry, in particular in organic chemistry</p>	<p>1st seminar: 18 February 2019 2nd seminar: 23 September 2019</p>	<p>13.30 - 18.30 13.30 - 18.30</p>	<p></p>	<p>2</p>
<p>Coordinator: Davide Proserpio (10 h)</p>	<p>Literature and library research in industrial chemistry, in particular in inorganic chemistry.</p> <p>It is a course on the literature on industrial chemistry. The student learns to read and comment in a critical manner articles in the field of industrial chemistry, in particular in inorganic chemistry.</p>	<p>1st seminar: February 2019 (5 h) date da concordare con gli studenti iscritti. 2nd seminar: September 2019 (5 h)</p>	<p></p>	<p></p>	<p>2</p>

		date da concordare con gli studenti iscritti.			
Coordinator: Carlo Pirola (10 h)	Literature and library research in industrial chemistry, in particular in physical chemistry. It is a course on the literature on industrial chemistry. The student learns to read and comment in a critical manner articles in the field of industrial chemistry, in particular in physical chemistry.	1 st seminar) 18 february (2 h) 21 february (3 h) 2nd seminar: 15 july (2 h) 18 july (3 h)	14.30-16.30 14.30-17.30 14.30-16.30 14.30-17.30		2
Coordinator: Maddalena Pizzotti CORSO SODALITAS Salvatore Mura, Fondazione Sodalitas: (20h) <i>In italian, For third year PhD students (XXXII cycle)</i> Recommended	GIOVANI E IMPRESA E' un corso di orientamento con esercitazioni ed attività di laboratorio, progettato ed organizzato da Fondazione Sodalitas Il corso si fonda sulla centralità della persona, è orientato alla cultura d'impresa nell'ottica della Responsabilità Sociale e della Sostenibilità, secondo gli indirizzi Europei del MIUR, con l'obiettivo di valorizzare vocazioni e attitudini che distinguono le eccellenze dei giovani, come valore aggiunto delle competenze trasversali. Il metodo si basa su un percorso guidato di esperienza progressiva nelle logiche del mondo del lavoro, attraverso modalità interattiva, laboratoriale, relazionale, filmati di supporto, testimonianza aziendali e simulazioni. Il corso si articola su due moduli: "Comportamenti e professionalità" e "Il lavoro e i giovani". 1° Modulo - "Comportamenti e professionalità" La motivazione La comunicazione e le relazioni interpersonali - La comunicazione verbale e non verbale - L'assertività	20 May 2019	8.30-13.30		4
	1° Modulo - "Comportamenti e professionalità" (fine) I rapporti col gruppo l'organizzazione - Il gruppo di lavoro nell'organizzazione - La creazione del valore - L'orientamento al cliente La soluzione dei problemi - L'analisi - Le soluzioni	21 May 2019	8.30-13.30		
	2° Modulo "Il lavoro e i giovani" -Protagonisti del proprio futuro -Il rapporto di lavoro -Lavoro autonomo - attività d'impresa -Esercitazione "La scelta del lavoro"	22 May 2019	8.30-13.30		

2° Modulo “Il lavoro e i giovani” (fine)

- Il Curriculum Vitae come strumento di “appeal” personalizzato per destinazione
- Il colloquio di lavoro
- la simulazione del colloquio di selezione
- Dibattito e valutazione sui contenuti del corso
- Chiusura dei lavori e consegna degli attestati di partecipazione

23 May 2019

8.30-13.30