



CORSO DI DOTTORATO IN SCIENZE E TECNOLOGIE DELLA CHIMICA E DEI MATERIALI

SUMMARY OF THE EDUCATIONAL ACTIVITY

OPENING LECTURE (2023):

SPEAKER	UNIVERSITY/RESEARCH CENTER/COMPANY	TITLE/TOPIC	DATE	PROPOSER
James Clark	University of York (UK)	Green Chemistry	16 febbraio 2023	L. Banfi

CONFIRMED TYPE "A" COURSES – 2023

TEACHER	UNIVERSITY/RESEARCH CENTER/COMPANY	TITLE/TOPIC	DATE	PROPOSER
Massimo Dondio	Fondatore e Chief Operating Officer di Aphad, Srl, Buccinasco (MI)	Approaches for ADME parameters characterization during the drug discovery phase	da febbraio – marzo 2023	T. Bandiera
Lian Yu	Università del Wisconsin, Madison (USA)	Molecular crystals and glasses: better drugs and organic electronics through materials science		D. Cavallo
Roman Krahne	IIT	Scientific communication skills	21 e 28 febbraio 2023	R. Krahne
Mario Cuoco	CNR-SPIN, Salerno	Topological materials		D. Marré
Silvia Picozzi	CNR-SPIN, Chieti	Introduction to Density Functional Theory		D. Marré
Elena Petricci	Università di Siena	The luxury of sustainability: a green love affair of woollen bubble soap and other scraps	24/03/23	L. Moni
Frederico Alabarse	Elettra Sincrotrone, Trieste	Diffraction under high pressure conditions	27/03/23 – 20/04/23	M. Pani
Chiara Bisio	Università degli Studi del Piemonte Orientale, Alessandria	Nanostructured materials for the decontamination of toxic chemical agents		D. Peddis
Marco Beleggia	Università di Modena e Reggio Emilia, Modena	Electron phase microscopy		D. Peddis A. Comite
Francesco Scotognella	Politecnico di Milano, Milano	Ultrafast spectroscopy as a tool to study nanomaterials	6 e 13 febbraio 2023	M. Prato
Roberto Millini	ENI, S.p.A.	CO ₂ emission reduction: an overview on carbon capture, utilization and storage technologies	prima metà maggio 2023	P. Riani
Mauro Gemmi	IIT, Pontedera (PI)	How to determine the crystal structure of nanocrystals: 3D electron diffraction		P. Solokha

TYPE "B" COURSES – 2023

COURSE	CFU	TEACHERS	ENGLISH
Crystalline solids: electronic correlations, instabilities and order	2	S. Artyukhin (IIT)	YES
Design and synthesis of protein-kinase inhibitors as anticancer agents	2	S. Schenone (UniGe)	YES
DNA nanotechnology	2	D. Garoli (IIT)	YES
Drug discovery: an introduction to the process leading to new small-molecule drugs	2	A. Armirotti (IIT), T. Bandiera (IIT), F. Bertozzi (IIT), M. De Vivo (IIT), S. Giroto (IIT), B. Grimaldi (IIT), D. Russo (IIT), R. Scarpelli (IIT), M. Veronesi (IIT)	YES
Elementary electronic structure of solids	3	L. Manna (IIT)	YES
INN and IUPAC nomenclature of organic drugs	2	G. Grossi (UniGe)	On request
Introduction to nanobiosensors	2	M. Salerno (IIT)	YES
Introduction to nanophotonics and nanofabrication	3	M. C. Giordano (UniGe)	YES
Molecular markers of food quality and genuineness	2	R. Boggia (UniGe), F. Turrini (UniGe)	On request
Multivariate analysis of chemical data	3	M. Casale (UniGe), C. Malegori (UniGe), P. Oliveri (UniGe)	On request
Optoelectronics of nanomaterials	2	I. Kriegel (IIT), D. Baranov (IIT), F. Di Stasio (IIT)	YES
Patent and bibliographic databases searching in medicinal chemistry	2	C. Brullo (UniGe), P. Fossa (UniGe)	YES
Perspectives on bioinorganic chemistry	2	S. De Negri (UniGe)	YES
Polymeric nanocomposites	2	O. Monticelli (UniGe)	YES
Process intensification	3	A. Servida (UniGe)	YES
Science at Large Scale Facilities: Neutron and Synchrotron Light sources	2	A. Martinelli (CNR-SPIN)	
Single crystal diffraction at work	2	P. Solokha (UniGe)	
The Rietveld method: fundamentals and applications	2	C. Artini (UniGe)	On request
Water soluble nanoparticles	2	T. Pellegrino (IIT)	YES

TYPE "B" COURSES – 2024 (to be confirmed)

COURSE	CFU	TEACHERS	ENGLISH
Aspects of soft matter	2	A. Relini (UniGe)	On request
Atomic force microscopy, theory and practice	2	M. Salerno (IIT)	YES
Catalysts and adsorbents	2	G. Busca (UniGe), E. Finocchio (UniGe)	YES
Design of magnetic nano-architecture	2	D. Peddis (UniGe)	On request
Experimental design	3	M. Grotti (UniGe), R. Leardi (UniGe)	YES
Fundamentals of scanning electron microscopy	2	P. Riani (UniGe)	YES
Fundamentals of spectral imaging	2	C. Malegori (UniGe), P. Oliveri (UniGe)	YES
Innovative pharmaceutical dosage forms: preparation and control methods	2	S. Baldassari (UniGe), G. Caviglioli (UniGe), G. Zuccari (UniGe), E. Russo (UniGe)	YES
Instrumental techniques for trace elements determination in pharmaceuticals, food products and environmental samples	2	G. Drava (UniGe)	Slides in english
Introduction to functional ceramic materials. Structure, properties, preparation and applications	2	V. Buscaglia (CNR)	YES
Introduction to polymer physical chemistry and characterisation techniques	2	N. Tirelli (IIT)	YES
Mathematical methods for chemistry	2	M. Ottonelli (UniGe)	Slides in English
Optical properties of materials	2	F. Bisio (UniGe), M. Canepa (UniGe), M. Magnozzi (UniGe), M. Sygletou (UniGe)	YES
Organic materials for photonics	2	D. Comoretto (UniGe)	YES
Organic photochemistry	2	A. Basso (UniGe)	YES
Principal plants used in phytocosmetics and their constituents	2	A. Bisio (UniGe)	YES
Surface science	3	L. Vattuone (UniGe)	YES
The ideal synthesis nowadays: lessons from the synthetic chemist Nature	2	C. Lambruschini (UniGe), L. Moni (UniGe)	YES
Theory of crystalline solids	3	S. Artyukhin (IIT)	YES

TYPE "F" COURSES – (2023 and 2024 (to be confirmed)). These courses will be followed during the first year

COURSE	CFU	TEACHERS	ENGLISH
Materials characterization	1	M. Prato (IIT), L. Pasquale (IIT), S. Dante (IIT), L. Ceseracciu (IIT), M. Salerno (IIT)	YES
Nanomaterials and nano heterostructures: colloidal synthesis and chemical transformations	1	L. De Trizio (IIT)	YES
Advanced electron microscopy for materials science	1	R. Brescia (IIT), G. Divitini (IIT), I. Ivanov (IIT)	YES