



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

SUMMARY OF THE EDUCATIONAL ACTIVITY

OPENING LECTURE (2022)

SPEAKER	UNIVERSITY/RESEARCH CENTER/COMPANY	TITLE/TOPIC	DATE	PROPOSER
Francesco Cassata	Università degli Studi di Genova	"Bad dreams in short story form "Science and ethics in Primo Levi's Storie Naturali"	January 21 th	O. Monticelli

CONFIRMED TYPE "A" COURSES – 2022

TEACHER	UNIVERSITY/RESEARCH CENTER/COMPANY	TITLE/TOPIC	DATE	PROPOSER
Giovanni Appendino	Università del Piemonte Orientale, Novara	The role of natural compounds in drug discovery	28 Giugno 2022	R. Riva
Luigi Balzano	Royal DSM N. V., Heerlen (NL)	A journey from polymer molecular structure to properties	12 Aprile 2022	D. Cavallo
Alois Bonifacio	Università degli Studi di Trieste, Trieste	Surface-enhanced Raman Scattering (SERS) spectroscopy: principles and applications	19-20 Maggio 2022	P. Oliveri
Nunzio Denora	Università degli Studi di Bari "Aldo Moro", Bari	The origins and evolution of "controlled" drug delivery systems	da definire	E. Russo
Gary Friedman	Drexel University, Philadelphia (USA)	Short course on magnetic nanoparticles in fluids	22, 23, 24 Marzo 2022	D. Peddis
Teresa Gatti	Research Group Leader, Justus Liebig University Giessen, Giessen (D)	Substitute materials for sustainable energy technologies	19, 22 Aprile 2022	M. Prato
Mélanie Hall	University of Graz, Graz (A)	Biocatalysis for organic synthesis	4-5 Maggio 2022	L. Banfi
Alberto Moro	Bioindustria L.I.M., Fresonara (AL)	Norme di buona fabbricazione di API	16 Marzo 2022	A. Basso
Iwan Moreels	Ghent University, Ghent (B)	Surface chemistry of colloidal nanoparticles	Settembre-Ottobre 2022	T. Pellegrino
Giovanni Palmisano	Khalifa University of Science and Technology, Abu Dhabi, (UAE)	Recent advances in the Environmental applications of heterogeneous photocatalysis	7-8 Luglio 2022	M. Ferretti
Alberto Pettinau	Sotacarbo – Sustainable Energy Research Centre, Carbonia (CI)	Approaches and materials for low carbon energy conversion	25, 26, 27 Maggio 2022	D. Peddis, A. Comite

TYPE "B" COURSES – 2022

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 "B" COURSES – 2023 (TO BE CONFIRMED)

COURSE	CFU	TEACHERS	ENGLISH
Crystalline solids: electronic correlations, instabilities and order	2	S. Artyukhin (IIT)	YES
Density functional theory	2	I. Infante (IIT), F. Zaccaria (IIT)	YES
Design and synthesis of protein-kinase inhibitors as anticancer agents	2	S. Schenone (UniGe)	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
Functional magnetic materials	2	F. Canepa (UniGe)	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
Synthesis, structure and functional properties of intermetallic compounds	2	A. Saccone (UniGe)	On request
The Rietveld method: fundamentals and applications	2	C. Artini (UniGe)	On request
Water soluble nanoparticles	2	T. Pellegrino (IIT)	YES

TYPE "F" COURSES – (2022 and 2023 (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
Optical properties of nanomaterials	1	D. Baranov (IIT)	YES
Transmission electron microscopy: basics and applications to materials science and life science	1	R. Brescia (IIT), J. Buha (IIT), R. Marotta (IIT), D. Debellis (IIT)	YES