



DIPARTIMENTO
DI GEOSCIENZE

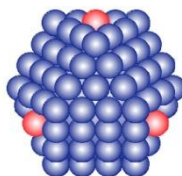


Dipartimento
di Fisica
e Astronomia
Galileo Galilei

DIPARTIMENTO DI
SCIENZE BIOMEDICHE



UNIVERSITÀ
DEGLI STUDI
DI PADOVA



Introduction to structural crystallography and diffraction

School: methods of X-ray based methods for the investigation of molecules and materials, with special focus on X-ray diffraction

Dates: 4-8 june 2018

Location: Dip. Geoscienze. Via Gradenigo 6, 35131 Padova – Aula 1 C-D

School for PhD students: 5 days (40 hours)

Credits: 3 CFU

Fees:

Students/Doctorates UNIPD:	free
NON-UNIPD academics	€ 200
Non academics	€ 500

Registration and information, please contact:

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Payment, bank transfer to:

Please indicate: "Family Name, name, ISCRIZIONE SCUOLA XRPD Padova 2018"

Account name: Associazione Italiana di Cristallografia

Bank: UBI Banca

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SWIFT: BLOPIT22

Program

	Monday June 4th	Tuesday June 5th	Wednesday June 6th		Thursday June 7th	Friday June 8th
	Basics on X-ray-related methods	X-ray diffraction: basics and methods	Data collection/Structure refinement		Applications	Applications
			powders	Single xl		
09:00-10.30	Interaction RX-matter (P. Fornasini)	Introduction to single-crystal X-ray diffraction (G. Zanotti)	Introduction to Rietveld programs (GSAS) (M.C. Dalconi / M. Ardit)	Single crystal data collection (F. Nestola)	Practical exercises (small groups)	Analysis of disordered materials (M. Leoni)
10.30	Coffee break	Coffee break	Coffee break		Coffee break	Coffee break
10.50-11:35	Photoelectron emission (XPS) and fluorescence (XRF) based methods (S. Gross)	Instruments for Single crystal X-ray diffraction (F. Nestola)	Introduction to Rietveld programs (GSAS) (M.C. Dalconi / M. Ardit)	Single crystal data collection (F. Nestola)	Polymer diffraction (V. Causin)	Introduction to concepts and methods in total scattering (A. Guagliardi)
11.35-12.20	X-ray Absorption Spectroscopy (XAS) (C. Maurizio)	Introduction to XRPD: X-ray powder diffraction and Instruments (G. Artioli)	Rietveld refinement with GSAS (M.C. Dalconi / M. Ardit)	Single crystal structure refinements (F. Nestola)		
12.20-13.00	X-ray microscopy and tomography (L. Valentini)					
13.00	Lunch	Lunch	Lunch		Lunch	Lunch
14.30-15.15	Basic principles of crystallography (G. Artioli)	The profile of the diffraction peak (P. Scardi)	Rietveld analysis with different programs (GSAS: M.C. Dalconi / M. Ardit)	Rietveld analysis with different programs (GSAS: M.C. Dalconi / M. Ardit)	Databases (M. Leoni)	General discussion
15.15-16.00		Introduction to full pattern analysis (P. Scardi)	(MAUD: L. Lutterotti / M. Bortolotti) (PM2K: M. Leoni)	(MAUD: L. Lutterotti / M. Bortolotti) (PM2K: M. Leoni)	Quantitative analysis (G. Cruciani)	
16:00	Coffee break	Coffee break	Coffee break		Coffee break	Coffee break
16:30-18.00	Basic principles of diffraction (G. Zanotti)	Introduction to ab-initio structure solution methods from powders (N. Masciocchi)	Rietveld analysis with different programs (GSAS: M.C. Dalconi-M. Ardit) (MAUD: L. Lutterotti / M. Bortolotti) (PM2K: M. Leoni)	Rietveld analysis with different programs (GSAS: M.C. Dalconi / M. Ardit) (MAUD: L. Lutterotti / M. Bortolotti) (PM2K: M. Leoni)	Practical exercises (small groups)	