

4th SIPs Training School: Disordered Systems
Almeria, Spain
Local organiser: Prof. Dr. Antonio Romerosa

1st day

09:00-11:00 Reception and documentation

11:00 -11:30 Welcome and School Presentation

11:30 – 12:30 Overview of structural studies of liquids and glasses from atomic to mesoscopic length scales. Daniel Bowron, ISIS-RAL Disordered Materials Group

12:30 – 13:30 Diffractometers for liquids, glasses and light element containing disordered systems (NIMROD/SANDALS). Daniel Bowron, ISIS-RAL Disordered Materials Group

13:30 -15:00 Lunch

15:00 – 16:30 Modelling $F(Q)$ for liquids and glasses with EPSR – Part I. Daniel Bowron, Silvia Imberti, ISIS-RAL Disordered Materials Group

16:00- 16:30 Coffee

16:30 – 18:00 Modelling $F(Q)$ for liquids and glasses with EPSR – Part II. Daniel Bowron, Silvia Imberti, ISIS-RAL Disordered Materials Group

2nd day

9:00-11:30 EPSR: examples of structure refinement and model building for glasses, liquids and solutions. Silvia Imberti, Daniel Bowron, ISIS-RAL Disordered Materials Group; Franco Scalambra, University of Almeria

11:30- 12.00 Coffee

11:30-13:30 EPSR: examples of structure refinement and model building for glasses, liquids and solutions. Silvia Imberti, Daniel Bowron, ISIS-RAL Disordered Materials Group; Franco Scalambra, University of Almeria

13:30 -15:00 Lunch

15:00 – 16:00 NMR of gels: a powerful technique for the study of polymers in solution. Franco Scalambra, University of Almeria

16:00- 16:30 Coffee

16:30 – 18:00 NMR of gels: a powerful technique for the study of polymers in solution, practical examples. Franco Scalambra, University of Almeria

3th day

9:00-10:00 Overview of synchrotron radiation - Properties and applications. Dr. Jesús Chaboy Nalda, Departamento de Física de la Materia Condensada, Universidad de Zaragoza.

10:00-11:00 Introduction to X-ray Absorption Spectroscopy: strength and limitations. Dr. Sofia Diaz-Moreno, Diamond Light Source, United Kingdom

11:00 -11:30 Coffee

11:30-12:30 X-ray Absorption Near Edge Structure – XANES; geometric, electronic and magnetic characterization of materials. Dr. Jesús Chaboy Nalda, Departamento de Física de la Materia Condensada, Universidad de Zaragoza

12:30 -13:30 Extended X-ray Absorption Fine Structure – EXAFS; structural characterization of amorphous materials and solutions. Dr. Sofia Diaz-Moreno, Diamond Light Source, United Kingdom

13:30 -15:00 Lunch

15:00- 16:00 Practical session 1: EXAFS analysis. Demonstration of how to extract the EXAFS signal from the absorption data (Athena) and how to fit the EXAFS data (Artemis). Dr. Sofia Diaz-Moreno, Diamond Light Source, United Kingdom and Dr. Jesús Chaboy Nalda, Departamento de Física de la Materia Condensada, Universidad de Zaragoza

16:00- 16:30 Coffee

16:30 – 17:30 Practical session 2: Ab-initio computation of XANES spectra. Ab Initio X-ray Absorption Spectroscopy Study of the Solvation Structure of Th(IV), U(IV), and Np(IV) in Aqueous Solution. Dr. Jesús Chaboy Nalda, Departamento de Física de la Materia Condensada, Universidad de Zaragoza, Dr. Sofia Diaz-Moreno, Diamond Light Source, United Kingdom.

20:30. School dinner

4th day

9:00-11:30 Study of polymers in solution by dynamic light scattering (DLS). Antonio Fernández Barbero, University of Almería

11:30- 12.00 Coffee

11:30-13:30. Study of polymers in solution by static light scattering (SLS). Benjamín Sierra, Antonio Fernández Barbero, University of Almería

13:30 -15:00 Lunch

15:00- 16:00 Title to be included. Enrique Lopez Cabarcos, Universidad Complutense of Madrid

16:00 -16:30 Coffee

16:30- 18:00 Atomic Force Microscopy for the study of polymers in solution. Benjamín Sierra, University of Almería

18:00 Closing of the School