Program/Programa Bruker Open-Lab. II

	Tue, Feb 23	Wed, Feb 24	Thu, Feb 25	Fri, Feb 26	Sat, Feb 27	Sun, Feb 28	Mon, Feb 29	
8:00 - 8:30	Registration	Topic 1-Lecture 2. Space Groups and the International Tables for Crystallography.	Topic 3-Lecture 2. Structure Factors and Space Group Determination.	Topic 6-Lecture 4. Space Group determination and Structure Solution.	General Talk 5: Single Crystal X-ray diffraction at high temperatures.	Topic 5&6-Practise with/own data.	Student presentations	8:00-9:30
9:00-9:30	Opening Ceremony							
9:30-11:00	General Talk 1: The IUCr's OpenLab Program and the IYCr2014	Topic 1-Practise 1. Use of the International Tables for Crystallography Vol. A	Topic 3-Practise 1. Space Group Determination.	Topic 4-Lecture 2. Modern Direct methods.	General Talk 4: Crystal Chemistry.			9:30-11:00
11:00-11:15	Coffee Break	Coffee Break	Coffee Break	Coffee Break	Coffee Break	Coffee Break	Coffee Break	11:00-11:15
11:15-12:45	General Talk 2: Brief History of Crystallography and recent activity in Latin America.	Topic 2-Lecture 2. Crystal Selection and Mounting	Topic 6-Lecture 2. Cell determination (indexing) and data collection strategy.	Topic 4-Practise 1. Patterson and the phase problem.	Topic 6-Lecture 5. Structural refinement and final reports.	Topic 5-Practise 3. CIF preparation.	Closing, Exam and School evaluation.	11:15-12:45
12:45-14:00	Lunch Break	Lunch Break	Lunch Break	Lunch Break	Lunch Break	Lunch Break		12:45-14:00
14:00-15:30	General Talk 3: Single Crystal X-ray Diffraction step by step.	Topic 3-Lecture 1. X-ray scattering, Bragg´s Law & Reciprocal Space	Topic 6-Practise 1. Cell reduction and data collection practise with APEX 2.	Topic 6-Practise 2. Practise on S.G. Symmetry determination with APEX 2.	Topic 5-Lecture 3. Crystallographic Databases	Data Collection/ Structure Determination/ Structure Refinement Session		14:00-15:30
15:30-17:00	Topic 1-Lecture 1. Introduction to Point and Space Group Symmetry in Crystals.	Topic 6-Lecture 1. Crystal Mounting and Aligning	Topic 4-Lecture 1. The phase problem. Intensity equation. Patterson Method.	Topic 5-Lecture 1. Structural refinement R and GooF parameters.	Topic 5-Practise 1. Cambridge Crystallographic Database			15:30-17:00
17:00-17:15	Coffee Break	Coffee Break	Coffee Break	Coffee Break	Coffee Break			17:00-17:15
17:15-18:45	Topic 2-Lecture 1. Crystallization	Topic 2-Practise 2. Crystal Selection and Mounting	Topic 6-Lecture 3. Data Integration and Scalling.	Topic 5-Lecture 2. Crystallographic computing, structural analysis and reporting.	Topic 5-Practise 2. Crystallographic calculations and Structural Analysis.			17:15-18:45

Topic Listing	Description	Lecturer(s)/Tutors	# of Lectures	# of Practise
General Talks	Introduction to OpenLab program, History of the IUCr and of Crystallography	Michele Zema/Leopoldo Suescun/Serena Tarantino	5	
Topic 1	Symmetry: Point and Space group Symmetry, use of the International Tables for Crystallography.	Leopoldo Suescun/Ricardo Faccio/Mario Macías	2	1
Topic 2	Crystallization, Crystal selection and Mounting	Iván Brito	2	1
Topic 3	Diffraction Physics, interaction of x-rays with matter, Bragg´s Law, Reciprocal Space. Structure Factor.	Alvaro W. Mombrú/Leopoldo Suescun	2	1
Topic 4	The phase problem, structural determination, Patterson Method, Introduction to Direct Methods.	Hamilton B. Napolitano	2	1
Topic 5	Structural refinement, structural analysis and results reporting through CIF file.	Javier Ellena/Natalia Alvarez/Mario Macías	3	3
Topic 6	Lectures on Bruker software and Practical use of Diffractometer with student problems.	Bruce Noll/Javier Ellena/Mario Macías/Natalia Álvarez	5	4