



UNIVERSITÀ
DEGLI STUDI
DI PADOVA



OpenLab Turkey – IYCr2014

The OpenLab Turkey, organized within the frame of the International Year of Crystallography 2014 in collaboration with UNESCO and IUCr, was held in the campus of the Bilkent University, at the National Nanotechnology Research Center (UNAM) in January 19-22, 2015. The OpenLab logistics and organization was taken care by the University of Bilkent (Prof. Eda Yilmaz) and the Turkish Crystallographic Association (Prof. Suheyra Ozbey) with the support of IUCr, PANalytical B.V., Atomika Teknik and UNAM.





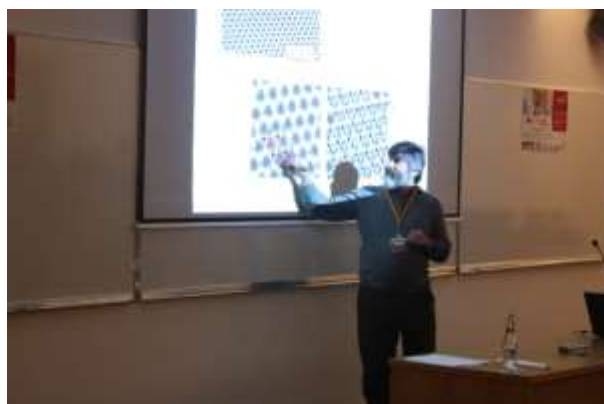
UNIVERSITÀ
DEGLI STUDI
DI PADOVA



The aim of the OpenLab was a broad introduction to the basics of crystallography, focusing on the theory and the practice of powder diffraction, and on specific applications in the field of cultural heritage. Thanks to the powder diffractometer installed at UNAM, the attendees had the chance to participate in hands-on training with powder diffraction data collection and interpretation.

The scientific lectures during the four days of the OpenLab were delivered by Prof. Gilberto Artioli (Università di Padova, Italy). They included the nature of X-rays and their interaction with matter, basics of crystallography and diffraction, the experimental geometries for powder diffraction, data interpretation (including phase identification, quantitative phase analysis, available software, and databases) and introduction to full profile refinement. Dr. Marco Sommariva (PANalytical) covered most of the applied aspects such as the details of instrumental components, calibration, and practical data collection.

A special effort was devoted during the OpenLab to present and operate freely available software, such as GSAS, and open access databases, such as COD, in the attempt to direct the attendees towards independent crystallographic activities.



Extensive hands on laboratories involving data collection on the available instrumentation and demonstrations on data treatment and analysis were followed with extreme interest. All the attendees showed a very active participation during sample preparation and basic measurements, since participants also had the opportunity to measure their own samples and consult experienced crystallographers on specific cases. A few advanced applications were also shown, with focus on materials science and application to cultural heritage. The session on cultural heritage was nicely complemented by lectures on archaeometry in Turkey (Dr. Ali Akın Akyol), on the use of nanoparticle for the conservation of paper material (Dr. Ayşen Yılmaz), and on the use of pair distribution function analysis (Dr. Bora Kalkan). The afternoon of the last day was devoted to the visit of the splendid Museum of Anatolian Civilizations in the Ankara old city centre.





UNIVERSITÀ
DEGLI STUDI
DI PADOVA



The OpenLab Turkey event brought together over 30 participants from several countries (besides Turkey attendees were from Albania, Egypt, Ethiopia, Iraq, Italy, Uzbekistan), selected on the basis of interest and country of origin from about 150 applications, the number of applications witnessing the high interest for the event. All participants who successfully completed the lectures received a certificate of attendance. The participants were PhD students, researchers and young professionals from industry.



Very positive feedbacks were expressed by the participants during and at the end of the OpenLab event, both concerning the presentations and the practical sessions. The general impression is that the spirit and aims of IYCr2014 were conveyed, and that great interest has been aroused for future schools and workshops. Many participants repeatedly asked for future training and follow-ups.

On Thursday the local committee met to discuss potential follow-ups, because not all the budget allowed for the event was actually spent. The proposal from the local committee was to organize a follow-up hopefully lead by the Turkish Crystallographic Association. The idea is to combine training in basic powder diffraction and selected advanced applications, possibly transforming the event in a periodic school to be held in different Turkish universities. There is a strong desire to consider the OpenLab as the triggering event for a regular and sustainable school for the Turkish (or even an enlarged) community. Periodic crystallographic training under the auspices and support of IUCr is envisaged. Prof Artioli will present the recommendations to the IYCr2014 legacy ceremony in Rabat, to be held in April 2015.





UNIVERSITÀ
DEGLI STUDI
DI PADOVA





UNIVERSITÀ
DEGLI STUDI
DI PADOVA



Padova-Almelo, 5/March/2015

Padova *Marcello Sommariva*

