

International School of Crystallography
51st Course: - Electron Crystallography
1 - 10 June 2018, Erice, Italy

Scientific Report for ECA

The participants of the course consisted of 55 Ph.D. students and young postdocs, and 19 lecturers and workshop leaders. The course provided lectures on the basics of electron crystallography as well as insight into the most recent developments in this field, stretching from electron diffraction to imaging for crystallographic purposes, on a wide range of materials, from proteins to inorganic materials. This was done by organizing (on average) lectures in the morning and hands-on workshops in the afternoons. Each workshop was given twice, such that, as many participants worked on their own laptops, everyone was able to attend each workshop topic.

The first day was devoted to the basics of diffraction and crystallography, to make sure all necessary background knowledge for the more advanced lectures was front-and-centre in the participants' minds. Thereafter, the successful and upcoming techniques of quantitative electron diffraction analysis for structure determination and refinement were discussed, from sample preparation and data acquisition up to the final refinement procedures. Most lectures were coupled with effective hands-on sessions. In the second half of the course, attention was also given to imaging and spectroscopic techniques as specifically used for crystallographic purposes.

The participants themselves were encouraged to show their recent work during the poster sessions. There were two poster sessions in the evenings, exhibiting half of the posters in each session, with a chance to preview the poster during lunchtime. Many discussions were held at the poster during both the "official" poster sessions and the preview sessions. The three best posters were selected by a small committee and the creators of those posters were presented with a certificate at the end of the course. Networking was supported by several organized social events.

Further opportunities for the Ph.D. students to learn general skills were provided by asking student volunteers to function as chairpersons for the sessions and encouraging them to prepare questions and open remarks for the round-table discussion on the "Future of Electron Crystallography" (held as last event of the course).

In this round table session on the future, several directions were put forward as necessary for future advancement, such as further the need for decreasing beam damage, and related to this, further progress in detectors, sample preparation methods and automation to make the techniques available for a wider users' audience.

Prizes and Award

Several prizes were awarded during the closing ceremony on the last day of the course, for the best posters and the Lodovico Prize, named after Lodovico Riva di Sanseverino who created the International School of Crystallography. The third place for the best poster was awarded to Stefan Noisternig, PhD student at the Faculty of Physics, University of Vienna (AT), the second place to Paul Benjamin Klar, PhD student at the Department of Condensed Matter Physics, University of the Basque Country (ES), and the first prize was awarded to Olga Chovnik, PhD student at the Department of Organic Chemistry, Weizmann Institute of Science (IL).

The Lodovico prize for the most active student inside and outside the lecture hall was awarded to Eu Pin Tien, PhD student at the School of Materials, University of Manchester (UK).

At the end of the Course, participants were asked to complete a survey to evaluate the course and provide comment on the quality of the program. Their responses indicated that a similar meeting should be held at least within 4 years and that the course had achieved most of its objectives (score 92/100).

International School of Crystallography
51st Course: - Electron Crystallography
1 - 10 June 2018, Erice, Italy

Finacial Report for ECA

The financial support of 1200 euro offered by ECA was used to support the attendance of the following students:

600 Euro Michal Babiak (b. 21/09/1986)
Core Facility Cryo-Electron Microscopy and Tomography (CEITEC)
Masaryk University
Kamenice 753/5
Brno 625 00
Czech Republic
175342@mail.muni.cz

600 Euro Jennifer Cookman (b. 07/08/1989)
Bernal institute
University of Limerick, Castletroy
Limerick, V94 T9PX
Ireland
jennifercookman@gmail.com

Total 1200€

Sincerely,



Dr. Annalisa Guerri
Executive Secretary
International School of Crystallography

Sesto Fiorentino, 02/07/2018