ECROFI XXI

On August 9–11, 2011, the 21st European Current Research on Fluid Inclusions (ECROFI XXI) meeting was held at the University of Leoben, Austria. The meeting was organized by Dr. Ronald Bakker and was preceded by a one-day field trip to the famous Sunk-Trieben magnesite deposit, led by Walter Prochaska and Amir Azimzadeh. The meeting was followed by a one-day workshop on applications of equations of state and computer programs in fluid inclusion research, taught by Ron Bakker. The alpine town of Leoben offered a convenient and relaxed atmosphere to host the conference, with many hotels, restaurants and pubs within a few minutes walk of both the conference site and the central square (Hauptplatz).

The ECROFI meeting and the related PACROFI (Pan-American Current Research on Fluid Inclusions) and ACROFI (Asian Current Research on Fluid Inclusions) meetings are small conferences that focus on research related to fluid and melt inclusions. They provide an excellent venue for beginning as well as experienced "inclusionists" to share and discuss research results with others. This year 85 researchers from 22 countries were in attendance, and 95 oral and poster presentations were delivered. The ECROFI/PACROFI/ACROFI meetings are especially beneficial to students, who are offered the opportunity to present and discuss their research results with experienced inclusionists in a setting that is encouraging and supportive.

Many significant advances in fluid and melt inclusion research were presented at ECROFI. Dominik Marti and co-workers and Rita Hidalgo-Staub and co-workers gave talks describing the effect of surface tension on the homogenization temperature of low-temperature inclusions, and the application to determining homogenization temperatures of inclusions in speleothems in order to extract paleotemperature information from cave systems for paleoclimate studies. David Banks (with Demange as senior author) spoke on the use of laser ablation ICP–MS for determining trace metal contents of hydrocarbon fluid inclusions associated with ore deposits and suggested that organics may be important for metal transport in some ore-forming systems. Bob Burruss discussed the application of coherent anti-Stokes Raman scattering (CARS) microscopy to produce high-resolution 3-D images and chemical maps of individual fluid inclusions. This application of CARS represents a major advance in our ability to image and analyze individual fluid inclusions and promises to significantly improve our understanding of fluid-mediated processes in the Earth. Volker Lüders described a new apparatus for analyzing both carbon and nitrogen isotopes of fluid released from inclusions, and Dublyansky and co-workers determined the hydrogen isotope composition of aqueous fluid inclusions in hydrogenic minerals and used this information to unravel the paleohydrogeology of the area near Yucca Mountain, Nevada, USA. Marta Berkesi and co-workers explained the application of focused ion beam (FIB) techniques to determine the compositions of crystallized melt inclusions in mantle xenoliths and documented that CO_2-rich fluids in the mantle transport significant amounts of incompatible trace elements. Alexandre Tarantola and co-workers described an experimental study in which fluid inclusions were subjected to deviatoric stress, and they also applied this method to study natural inclusions from the Central Alps. These workers showed that by determining the plane of flattening and the densities of intact and relict fluid inclusions, the magnitude and direction of maximum stress during low-strain deformation can be determined. Marta Sosnicka presented an excellent summary of fluid evolution during metamorphism of the Krivoy Rog iron deposit in Ukraine. In addition to oral presentations, a student poster competition was held at ECROFI, and graduate student Daniel Moncada was awarded first place for his poster on the application of mineral textures and fluid inclusions in exploration for epithermal Au–Ag deposits.

Overall, the ECROFI conference provided an ideal environment for experienced inclusionists and students to discuss new discoveries and applications of fluid and melt inclusions to better understand the geochemical evolution of the Earth system. We hope that you will join us at PACROFI 2012, to be held at the University of Windsor, Canada, immediately preceding Goldschmidt 2012 in Montreal.

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2011 EMU SCHOOL

The 2011 EMU School, Layer Silicates and Their Application in Advanced Technologies, took place in Rome from July 9 to 19. Teachers and students enjoyed the wonderful location of Villa Farnesina, made available by the Accademia Nazionale dei Lincei, the oldest scientific organization in the world. Lessons began with an introduction to the structural, crystal chemical, and disorder aspects of layer silicates, with a view to providing students with fundamental knowledge, a prerequisite for the more applied subjects to follow. These dealt with the interpretation of X-ray diffraction data, X-ray adsorption spectroscopy, adsorption and desorption phenomena, the organization of water molecules in the interlayer, surface features, and interaction with organic and biomolecules. Advanced applications of layer silicates were also treated in detail.

The 2011 EMU School was the result of an Erasmus Intensive Program proposed by a consortium of 21 European universities chaired by the University of Modena and Reggio Emilia. Fifteen highly qualified teachers and two tutors provided informative and stimulating lessons, which helped the students to gain a good knowledge of the state of the art in this field and also to learn about current research. All slides used during the lessons have been made available to the mineralogical community through the School's website, www.emuschool2011.unimore.it.

The volume *Layered Mineral Structures and Their Application in Advanced Technologies* is now part of the EMU Notes in Mineralogy series and is available online from the copublisher, the Mineralogical Society of Great Britain and Ireland, at www.minersoc.org/pages/EMU-notes/EMU-notes.html.

From left to right, Annibale Mottana, Daniele Malferrari, Maria Franca Brigatti, and Chiara Elmi

The EMU is very grateful to the organizers of the School and the editors of the volume, Maria Franca Brigatti and Annibale Mottana, for their excellent work; all the teachers and authors; and also the two youngest but very active members of the organizing staff, Chiara Elmi and Daniele Malferrari. Special thanks go to the Accademia Nazionale dei Lincei, which gave unstinting support to the organizing team.

Roberta Oberti, EMU President