

9th INTERNATIONAL ECLOGITE CONFERENCE, AUGUST 6–10, 2011

The 9th International Eclogite Conference, with associated field trips, was held in Mariánské Lázně, Czech Republic, on August 6–10, 2011. The Organizing Committee was led by Shah Wali Faryad (Charles University, Prague) in cooperation with Gordon Medaris, Emil Jelínek, Ondrej Lexa, Martin Svojtka, Lukáš Ackerman, David Dolejš, and Zdeněk Venera. A total of 147 participants from 22 countries participated in the conference. The conference agenda was prepared by the International Eclogitic Committee. The abstract volume and field trip guide can be downloaded from <http://petrol.natur.cuni.cz/eclogites/index.php/ice/2011> and <http://geolines.gli.cas.cz/>. The conference sponsors were Charles University (Prague), the Academy of Sciences of the Czech Republic, the Czech Geological Survey, the Ministry of Environment of the Czech Republic, Task Force IV of the International Lithosphere Program, Tescan Co. (Czech Republic), Oxford Instruments Inc. (UK), Nikon Co. (Czech Republic division), and Agico Co. (Czech Republic). The program was coordinated with the Task Force IV of the International Lithosphere Program.



Participants of the postconference field trip at the Dunkelsteinwald (granulite quarry in Meidling-im Tal), Austria

New achievements in the following fields were discussed in the scientific sessions:

(1) Ultrahigh-pressure (UHP) metamorphic phases and microfabrics in high-pressure (HP) metamorphic rocks. The session highlighted a new discovery of microdiamonds in granulite of the Bohemian Massif (Czech Republic), garnet peridotite of the Western Alps (Italy), and ophiolites of Tibet (China). The sessions also considered theoretical and experimental aspects of UHP phase transformations, the formation of microfabrics, and the kinetics of breakdown reactions recorded by microstructural features of exsolution products and chemical reactions.

(2) Geotectonic modeling and exhumation of HP-UHP metamorphic rocks. The session focused on current work and achievements in the field of numerical modeling of rock dynamics in collisional orogenic belts, and the characteristics and evaluation parameters of the rapid rate of exhumation of natural UHP-HP rocks by geophysical, geochemical, and geochronological methods. Original data



Conference participants in front of the conference center in Mariánské Lázně

collected from UHP-HP terranes in the orogenic belts of Siberia, the European Variscides, the Greek Rodopes, and the Scandinavian Caledonides, and from a unique, fast-exhumed terrane containing coesite-bearing eclogite in New Guinea, were presented.

(3) Mantle dynamics and fluid flow in the subduction zone.

Fragments of mantle peridotite involved in subduction zone processes play an important role in understanding the transfer of large amounts of volatiles into the mantle by the subduction of crustal materials. In this context, participants in the session discussed the geochemical, microstructural, and compositional features of garnet peridotites from the Greenland Caledonides and the deep origin of Alpe Arami peridotites from the Ligurian Alps. The theme was extended to the understanding of mass flow in serpentinite-hosted subduction channels, the geodynamic significance of mantle rocks incorporated within UHP-HP metamorphic terranes, carbonate mineral stability, and carbonic fluid activity. Processes related to metamorphic dehydration and partial melting of UHP metamorphic rocks with crustal protoliths and aspects of metasomatic processes were also on the agenda.

The poster sessions presented new findings from HP rocks and brought to the attention of participants original studies on mantle–crust interaction from the petrological, geochronological, and geodynamical perspectives. These studies were conducted in the Alps, the Appalachians, the Bohemian Massif, the Carpathians, central Iran, North Qaidam, Papua New Guinea, the Sanbagawa belt, the Scandinavian Caledonides, the Turides, the Urals, and other orogenic belts.

The Organizing Committee of the conference presented three awards for the best student presentations; the winners were A. Cruz-Urbe (USA), Y. Kouketsu (Japan), and A. O. Mikhno (Russia). Dirk Spengler (Potsdam University, Germany) received the Flinn-Harte Award from the International Lithosphere Program.

Pre- and postconference field trips to the Bohemian Massif illustrated the geological relations, lithological and geochemical features, and metamorphic evolution of several HP and UHP crystalline segments that formed by

subduction and collision during the Variscan orogeny. The participants had a chance to observe the entire orogen, examine the various lithologies, and discuss the pressure–temperature evolution of HP and UHP crustal and mantle rocks. These rocks were exhumed along subduction channels and subsequently reequilibrated under granulite facies conditions in the orogenic root. During preconference field trips, participants crossed the Saxothuringian zone of the Bohemian Massif. They also visited the Saidenbach reservoir area, where they discussed the tectonometamorphic evolution of coesite- and microdiamond-bearing gneisses, the Zöblitz garnet peridotite (both in Germany), and the low-temperature eclogite at Meluzína (Czech Republic). The mid-conference field trip focused on eclogite in ophiolite of the Mariánské Lázně Complex. The latter is an example of amphibolite facies metamorphism during an early stage of the Variscan orogeny superimposed on eclogite facies rocks.

Participants in the postconference field trip examined rocks along a >200 km traverse through the Moldanubian zone in the eastern part of the Bohemian Massif. HP granulites, containing lenses of eclogite, garnet peridotite, and garnet pyroxenite, were enthusiastically collected by the participants. The field trip continued into Austria, where garnet peridotite and garnet pyroxenite in granulites were observed at two localities. Garnet peridotite, garnet pyroxenite, and eclogite samples associated with felsic granulites were collected at the Kutná Hora in the central part of the Bohemian Massif, and these samples will be studied later using advanced analytical techniques in various laboratories.

Plans are already underway for the 10th International Eclogite Conference (www.iec2013.unito.it), which will be held in Courmayeur, Aosta Valley, Italy, from September 2 to 10, immediately following Goldschmidt 2013 in Florence.

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