

German Mineralogical Society

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CHANGES IN THE DMG MANAGERIAL BOARD

F. Michael Meyer (RWTH Aachen University) retired at the end of February and, therefore, resigned his position as secretary of the DMG. Michael, we thank you very much for your efforts for more than 7 years!

Klaus-D. Grevel (Jena University), already known as DMG's *Elements* news editor, will temporarily take over the position of secretary until the next DMG elections. Until further notice, please direct all requests concerning the society to Klaus-Dieter.Grevel@rub.de.

"CHEMISTRY, PHYSICS AND CRYSTALLOGRAPHY IN MINERALOGY" AND "APPLIED MINERALOGY IN TECHNIQUE AND ENVIRONMENT" JOINT WORKSHOP

The DMG sections "Chemistry, Physics and Crystallography in Mineralogy (CPKM)" and "Applied Mineralogy in Technique and Environment (AMiTU)" came together for their annual joint workshop, held 25–27 February in Bad Windsheim, Bavaria. The meeting was organized and led by Christoph Berthold (Eberhard Karls University, Tübingen) and Stefan Stöber (Martin Luther University, Halle-Wittenberg). They welcomed the 35 students and scientists who contributed to 22 talks and lectures, discussed their recent work, and were inspired by fresh ideas.

The workshop began on the first evening with the traditional task of cooking dinner together, which was successfully mastered by the participants. The regular program started the next morning with talks from graduate students of the Bundesanstalt für Materialprüfung and a participant from the University of Koblenz presenting on various industrial topics and applications. This was followed by talks on biomineralization and related subjects by students and scientists from the universities of Munich, Göttingen, Tübingen, and Bochum. The topics ranged from analysing biomineral microtextures to crystal structure determinations of sea urchin spines. These talks were followed by Gerald Buck (University of Tübingen) who introduced the participants to the Neolithic Age and the tools fashioned by the human inhabitants. Further diverse lectures on structure investigations of different materials and minerals ended the first day, which was completed by Bernd Hinrichsen from BASF introducing us to the company and their research, as well as his own personal work.



Participants of CPKM–AMiTU 2015 in front of the "Hotel am Kurpark," Bad Windsheim, Bavaria.

The second day began with Gert Klöß and his graduate students (from Leipzig University) revealing their development of how a polarizing microscope can be added to an X-ray diffractometer. Graduate students of the Helmholtz-Zentrum Berlin then presented their investigations on materials for thin-film solar cells. The last part of the program consisted of classical mineralogical topics, such as structure investigations of sanidine feldspars from Eifel (western Germany/eastern Belgium) and Raman studies of pegmatitic water-bearing phosphates from Hagendorf, Bavaria.

Finally, Christoph Berthold was confirmed again as CPKM–AMiTU group leader and it was decided to hold the 2016 workshop in Bad Windsheim at the same time next year.

Johannes Kähn (Helmholtz Centre Berlin)



The thermodynamic modeling group in Kiel. Prof. C. de Capitani (front row, wearing a red pulloyer) revealed the secrets of Theriak–Domino.

DMG SHORT COURSE: INTRODUCTION TO THERMODYNAMIC MODELING – THEORY AND EXERCISES

The DMG international short course on thermodynamic modeling was organized by Dr. Erik Duesterhoeft, Prof. Dr. Christian de Capitani, and Prof. Dr. Romain Bousquet and was held 23–25 February at the Christian-Albrechts-Universität (Kiel, Germany). The participants included students and researchers from Canada, South America, South Africa, Belgium, Germany, and France who were at different stages in their careers (e.g. Masters, PhD, post-doctoral researchers). The exciting and exceptionally well-structured short course focused on thermodynamic concepts and the application of thermodynamic modeling in metamorphic petrology using the Theriak–Domino software package.

Theriak-Domino was developed by Christian de Capitani (University of Basel, Switzerland) and is a freeware package containing a suite of programs. The Theriak component allows the calculation of stable mineral assemblages, equilibrium phase compositions, and their physical properties at specific pressure and temperature conditions or along a specific *P-T* path. The Domino component is the software that allows the calculation of equilibrium assemblage phase diagrams, as well as pseudo-binary and pseudo-ternary diagrams. Theriak–Domino is available for Windows and Unix-based systems. The recently developed add-on, called Theriak_D (written by Erik Duesterhoeft), expands the software and provides for more general geodynamic-related applications.

During this workshop, three main petrological topics were spread over the three days. The first day focused on thermodynamic principles and concepts, including the Gibbs minimization algorithm on which the software is based. During the afternoon, the focus shifted towards tutorials for calculating petrogenetic grids, pseudo-sections, and equilibrium phase diagrams at fixed bulk-rock compositions. The day concluded with a traditional north German dinner in Kiel.

The second day started with an introduction to the "nuts and bolts" of the various available thermodynamic databases and ended with the modeling of *P-T* loops and the creation of AFM pseudo-sections. The day ended with a guided tour of the mineralogical museum and various laboratory facilities (e.g. electron microprobe, high-temperature calorimeter, and high-pressure experimental labs) at Kiel University's geology department.

The third day focused on geodynamic applications of the modeling software. The day consisted of an introduction to Scilab and basic programming examples, such as the calculations of a geothermal gradient and lithostatic pressures. These exercises served as a basis for the introduction of the aforementioned Theriak_D add-on, which was used to calculate the difference in the effect of physical and thermal density during a model of subduction.

The organizers produced an exceptionally well-organized petrological short-course. They generously shared their knowledge and experience of Theriak–Domino, as well as their expertise in metamorphic petrology, thermodynamic modeling and geodynamics. We heartily thank them.

Katreine Blomme (Leuven, Belgium), **Eugene Grosch** (Bergen, Norway)

ELEMENTS June 2015