

# **German Mineralogical Society**

## www.dmg-home.org

## **FROM THE PRESIDENT**



Dear Members of the DMG,

The election of new DMG council and committee members closed at the end of November 2017. Therefore. I want to thank all DMG members who voted. The continued active engagement of our DMG members is crucial for the successful survival of our society. The votes were counted on 4 December 2017; the results of the elections are as follows:

Reiner Klemd

VICE-PRESIDENT for 2018 and designated PRESIDENT for 2019-2020: Reinhard X. Fischer (Bremen)

SECRETARY (2018–2019): Klaus-Dieter Grevel (Jena)

TREASURER (2018-2019): Gerhard Franz (Berlin)

## ADVISORY COMMITTEE

- MEMBER (2018–2019): Susanne Greiff (Mainz)
- STUDENT MEMBER (2018–2019): Lena Steinmann (Hannover)
- MEMBER (2019–2020): Kilian Pollok (Jena)
- STUDENT MEMBER (2019–2020): Ina Alt (Aachen)

European Journal of Mineralogy CHIEF EDITOR (2018-2019): Reto Gieré (Philadelphia, USA)

NEWS EDITORS of Geowissenschaftliche Mitteilungen (GMit) and Elements (2018-2019): Klaus-Dieter Grevel (Jena) and Christopher Giehl (Stuttgart)

DGK [German Society for Crystallography] LIAISON OFFICER (2018-2019): Ulrich Bismayer (Hamburg)

VICE DGK LIAISON OFFICER (2018-2019): Jürgen Schreuer (Bochum)

VICE-CHAIRPERSONS 2018 and designated CHAIRPERSONS 2019–2020 for the following sections:

- CHEMISTRY, PHYSICS AND CRYSTALLOGRAPHY OF MINERALS: Christoph Berthold (Tübingen)
- GEOCHEMISTRY: Axel Schmitt (Heidelberg)
- PETROLOGY AND PETROPHYSICS: Horst Marschall (Frankfurt)
- APPLIED AND ENVIRONMENTAL MINERALOGY: Christiane Stephan-Scherb (Berlin)

For the COMMITTEES for 2019-2020 see www.dmg-home.org.

On behalf of all members, I congratulate the newly elected members of the DMG council and want to sincerely thank all resigning council members for their effort and commitment to the DMG. I particularly want to welcome the newly elected vice-president and future president of our society, Reinhard X. Fischer, who has been Professor of Crystallography at the University of Bremen since 1995. His expertise in crystallography is wide ranging: from ocean sediment research; to the theoretical systematics of crystal structures; to special aspects of the development of high performance materials, which will undoubtedly help continue to promote the field of applied material sciences as one of the DMG's cornerstones of mineralogical research in Germany.

I further want to remind the younger members that throughout 2018 the ever-popular DMG short courses will be on offer to advanced-levelundergraduate and graduate students (for detailed information, see our homepage www.dmg-home.de/aktuelles/doktorandenkurse/). In addition, the DMG will be involved in the next joint meeting with the DGGV and the paleontological society (PalGes) - this meeting will be held 2-6 September 2018 in Bonn (Germany). Thus, I hope to see you September 2018 in Bonn!

I wish all DMG members a successful 2018!

All the best, and Glückauf!

Reiner Klemd, President



- Neotectonics, earthquakes, and natural hazards
- Mineralogy, material science of the Earth
- Groundwater resources and climate change

We are looking forward to seeing you in Bonn in late summer 2018!

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FEBRUARY 2018

## SOCIETY NEWS

## THERMODYNAMIC MODELLING WITH THERIAK/ DOMINO SOFTWARE • WORKSHOP AT GEOBREMEN 2017

A workshop on thermodynamic modelling took place in the context of the GeoBremen 2017 conference, which was the combined DGGV (Deutsche Geologische Gesellschaft – Geologische Vereinigung) and DMG conference held 24 September 2017 at the University of Bremen. The course was organised by Dr. Erik Duesterhoeft and Prof. Dr. Romain



Bousquet (both Kiel University, Germany). Participants were students and researchers at all stages of their careers from undergraduates to professors. The workshop's objective was to give an overview of the latest thermodynamic software package, Theriak/Domino, including its possible applications, so that the participants might have an effective start-up understanding that they could apply to their own specific scientific problems later.

Theriak/Domino is a software package developed by Christian de Capitani (University of Basel, Switzerland). The code computes and illustrates thermodynamic functions and equilibrium phase assemblages. The Theriak component calculates the respective stable mineral phases and their chemical components for a given whole-rock composition along defined *P*–*T* conditions. The Domino part depicts phase diagrams, pseudo-binary or pseudo-ternary diagrams, as well as isopleths of chemical phase composition, density, volume, or modal proportions. Data generated by Theriak/Domino can be further processed outside the package (e.g. by using MATLAB®) with the Theriak\_D add-on, which was developed by Erik Duesterhoeft.

The fundamentals of thermodynamics were reviewed during a theoretical introduction at the beginning of the workshop. This included the principle of the minimisation of free enthalpy, also known as Gibbs energy, which lies at the heart of the Theriak/Domino computations.

The functionality of the software package was explained by modelling exemplary thermodynamic systems. The individual participants implemented these model examples in several exercises. With this, a number of the above-mentioned options were applied and then discussed in detail, including the calculation and illustration of equilibrium phase assemblages in binary and pseudo-binary systems and their respective phase compositions. Distinctions between various thermodynamic databases, on which the computations are based, were demonstrated in a picturesque manner.

Despite the shortness of the one-day course, the participants gained a relatively comprehensive insight into the Theriak/Domino software package and its applicability. The organisers ingeniously combined the necessary theoretical background with practical exercises. Their profound knowledge and many years' experience of the organizers were of huge benefit to the participants. Thus, for all who took part, the workshop formed a solid basis for further personal research using this great thermodynamic software package.

#### Elmar Albers (Bremen)

## 1<sup>st</sup> WORKSHOP FOR YOUNG RESEARCHERS IN ARCHAEOMETRY AND CONSERVATION STUDIES



The participants of the 1<sup>st</sup> Workshop for Young Researchers in Archaeometry and Conservation Studies in front of the Institute for Geosciences.

The 1<sup>st</sup> Workshop for Young Researchers in Archaeometry and Conservation Studies was held over two days, 11–12 September 2017, at the Institute for Geosciences of the Goethe University Frankfurt (Germany). The aim of the workshop was to promote interaction among young archaeometry scientists and allow them to present their own work to their peers. It was jointly organized by the Archaeometry and Conservation Science working group of the DMG and the German Society of Natural Scientific Archaeology and Archaeometry (GNAA), with support from the Association of German Conservators (VdR).

The workshop brought together more than 30 young scientists, mostly from German institutions, but there were also representatives from the United Kingdom, Hungary and Switzerland. The contributions covered a wide range of topics: the analysis of Persian ceramics, the application of computer tomography to the conservation of stone monuments, the reconstruction of various aspects in the life cycle of metals, and the development of portable sampling devices.

The three best contributions, based on votes of the audience and on the assessments of a jury consisting of senior scientists in archaeometry, were given awards. We congratulate Tobias Kiemle (Tübingen), who came first; Miriam Andrews (Southampton), who came second; and Katrin Westner (Frankfurt, now Bochum), who came third.

Both days started with invited keynotes. Sabine Klein (Bochum) discussed the analyses of metals and pigments from the Royal Tombs of Ur (southern Iraq). In the second keynote lecture, Marlène Aubin (Mainz) demonstrated how the composition of ancient Roman medicine was reconstructed using a combination of different analytical techniques. Each day ended with a discussion period whereby everyone could debate topics related to the interdisciplinary scientific work in archaeometry and conservation studies. All participants agreed that there is a significant lack of communication between the institutions working in this field. To help remedy this, the group agreed to set up a mailing list that will enhance future mutual exchange.

The organizers would like to thank all the participants for their interesting contributions. This alone made the workshop a great success and motivated the participants from Berlin to organize a second workshop there in 2018. Information on this forthcoming meeting will be available in due time on the web page www.dmg-home.org.

Thomas Rose (Frankfurt), Katrin Westner (Bochum), Florian Ströbele (Mainz), Marc Holly (Köln)

FEBRUARY 2018