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### DMG WORKING GROUP: MINERALOGICAL MUSEUMS AND COLLECTIONS

The Mineralogical Museums and Collections working group of the DMG meets once every two years. The 2015 meeting took place last spring in Würzburg. More than 30 museum representatives and curators from across the country thanked **Jochen Schlüter** (Hamburg University) who resigned after serving as spokesperson of the group for more than 10 years. **Birgit Kreher-Hartmann** (Jena University) is the new spokesperson for the German curators. **Dorothee Kleinschrot** (Würzburg University), who was this year's meeting host, was elected as vice spokesperson. Info: [mineralogische-sammlungen-dmg.userweb.mwn.de/index-eng.htm](http://mineralogische-sammlungen-dmg.userweb.mwn.de/index-eng.htm).



More than 30 German curators held their biennial meeting in Würzburg. Among those present were J. Schlüter (first row, middle), outgoing group spokesperson; and B. Kreher-Hartmann (next to last row, middle) incoming group spokesperson.

### DMG SECTIONS: GEOCHEMISTRY AND PETROLOGY/PETROPHYSICS

The traditional joint annual meeting of the DMG Petrology/Petrophysics and Geochemistry sections was held 26–27 June 2015 in the GeoForschungsZentrum in Potsdam. More than 70 participants, including international visitors from Australia, Canada, the UK and the USA, participated in lab tours and listened to 22 talks in the recently renovated lecture room. The wide variety of topics ranged from thermodynamic modelling and crystallization of pegmatites to the timescales of magma evolution at mid-ocean ridges and the determination of denudation rates from cosmogenic nuclides. Several talks specifically focused on high-pressure experiments and mantle geochemistry/petrology. Every speaker was awarded with a glass of honey from the local beehive on the Telegrafenberg by Prof. Wilhelm Heinrich.

Although the schedule was not too tightly packed, there was not always enough time for the lively audience discussions. Nevertheless, generous coffee breaks (or beer and wine in the evening) allowed for further dialogue and exchange of ideas with colleagues and friends. These breaks were combined with poster sessions spanning the same variety of topics as the talks. It was a pleasure to have had so many contributions from young scientists and MSc students.



DMG sections Geochemistry and Petrology/Petrophysics at GFZ Potsdam

The meeting ended on Saturday night with the traditional barbecue at the Forsthaus Templin. At this point, we would like to thank Monika Koch-Müller, Max Wilke and Hella Wittmann-Oelze, and their team of assistants, for this exceptionally well-organized event. The much-anticipated 2016 meeting will take place in Bremen.

**Tobias Grützner, Stephan Taetz** (Münster)

### 15<sup>th</sup> NUCLEAR MAGNETIC RESONANCE DMG SHORT COURSE

Nuclear magnetic resonance (NMR) spectroscopy is used in mineralogical and geoscientific research as a method to determine mineral structures on a very local scale. Applications of NMR include supporting analyses for Rietveld refinements, characterizing dynamic processes, and research into crystalline and amorphous ceramics. Furthermore, the NMR-method can be used to solve geochemical and petrological problems, such as element diffusion in liquefied materials or the analysis of local structures in glasses or melts.



Participants of the 15<sup>th</sup> nuclear magnetic resonance DMG short course. Dr. Michael Fechtelkord (Ruhr University Bochum) is at the front.

In order to offer interested students and postgraduates of mineralogy and geosciences an insight into the wide field of solid-state NMR spectroscopy, on 26–29 May 2015, the Institute for Geology, Mineralogy and Geophysics of the Ruhr-University Bochum hosted the 15<sup>th</sup> DMG

NMR short course, this one entitled "Applications of Solid-State NMR Spectroscopy in Mineralogical and Geoscientific Research". The event was supported by the DMG and the DGK (German Society of Crystallography, "Spectroscopy" subsection), was organised by Dr. Michael Fechtelkord, and was attended by 15 postgraduate students and postdoctoral researchers from cities including Berlin, Bochum, Halle (Saale), Jena and Jülich.

The days were split, with theory in the morning and a practical in the afternoon. This latter included preparing samples, operating the hardware and software of the BRUKER ASX 400 spectrometer, and evaluating the data collected.

On the first day, the participants were introduced to the theoretical basics of NMR spectroscopy, learned of possible NMR applications, were shown how to set-up the NMR spectrometer, and were taught about  $^1\text{H}$  spin-lattice relaxation. In the practical part of the first day, the spin-lattice relaxation times of tetramethylammonium iodide at different temperatures were measured. The corresponding activation energies of the rotation of the methyl groups in  $(\text{CH}_3)_4\text{I}$  were estimated by hand using semi-logarithmic graph paper. The second day focused on magnetic dipolar interactions, chemical shifts, the magic angle spinning (MAS) method, and an introduction to the interpretation of spectra using the freeware program DMFIT. The magic angle spinning method was then directly applied to make a plot of the spectra of  $^1\text{H}$ ,  $^{19}\text{F}$  and  $^{29}\text{Si}$  from a synthetic phlogopite. The third day concentrated on the basics of the spin echo, the cross polarization magic angle spinning technique (CPMAS) and its application to a kaolinite sample, where the participants measured the  $^1\text{H}$  and  $^{29}\text{Si}$  spectra, making their final interpretation using Excel. On the last day, the students were introduced

to measuring techniques for nuclei with a spin value  $> \frac{1}{2}$  and to NMR methods such as double rotation (DOR), multiple quantum magic angle spinning (MQMAS), and satellite transition spectroscopy (SATRAS). The final practical was on making measurements of the quadrupole nuclei for  $^{23}\text{Na}$  and  $^{27}\text{Al}$  using samples of  $\text{NaCl}$ ,  $\text{Na}_2\text{SO}_4$  and  $\alpha\text{-Al}_2\text{O}_3$ . The data were interpreted with DMFIT and the quadrupole coupling constant of  $\alpha\text{-Al}_2\text{O}_3$  was determined.

Keeping this excellent short course on schedule was only possible because of Dr. Michael Fechtelkord's excellent preparation and organization, as well as his personal engagement and helpfulness. The script, which was handed out at the beginning of the course, was extremely useful for the theoretical lessons.

This short course is suitable for every masters and postgraduate student with an interest in solid-state NMR spectroscopy and, ideally, who already possesses a good knowledge of mineralogy and quantum mechanics. And by taking a faculty exam, master's students will have the opportunity of earning three credit points (ECTS).

Thank you, Dr. Fechtelkord!

**Achim Schaller, Tobias Linke,  
Karen Maria Dietmann** (Halle / Saale)

The 2<sup>nd</sup> European Mineralogical Conference will be held at the Palacongressi of Rimini, Italy, 11-15 September 2016

**emc<sup>2016</sup>**  
11 - 15 September  
European Mineralogical Conference

**Minerals, rocks and fluids:  
alphabet and words of planet Earth**

WEB: [emc2016.socminpet.it](http://emc2016.socminpet.it)

Contributing societies are:

**DMG** Deutsche Mineralogische Gesellschaft  
**MinSoc** Mineralogical Society of Great Britain & Ireland  
**MinSocFin** Mineralogical Society of Finland  
**ÖMG** Österreichische Mineralogische Gesellschaft  
**PTMin** Mineralogical Society of Poland  
**RMS** Russian Mineralogical Society  
**SEM** Sociedad Española de Mineralogía  
**SFMC** Société Française de Minéralogie et de Cristallographie  
**SIMP** Società Italiana di Mineralogia e Petrologia  
**SSMP** Swiss Society of Mineralogy and Petrology

With participation of:

**EMU** European Mineralogical Union

Main themes will be: Mantle petrology and geochemistry • Magmatism and volcanology • Metamorphism • Applied mineralogy • Mineral physics • Mineralogical crystallography • Mineral diversity and evolution • Planetary materials and processes • Mineral deposits and raw materials • Low-T geochemistry • Geochronology • Geomicrobiology and biomineralogy • Mineralogical sciences for climate change • Environmental and medical mineralogy • Advanced analytical techniques • Archaeometry, care and preservation

There will be a series of invited plenary lectures, including the acceptance speech of the recipient of the IMA medal award. Chairmen: Giuseppe Cruciani and Bernardo Cesare on behalf of SIMP. Email: [info@emc2016.socminpet.it](mailto:info@emc2016.socminpet.it)