Short Course/Summer School
„Sulfur in melts“
August 20 - 24, 2011
in Hannover/Goslar/Clausthal, Germany

Program

**August 20, 2011**

10:00 – 16:30 in Hannover: Laboratory Studies Related to Volcanism and Magmatism
*SUMMER SCHOOL FOR STUDENTS AND YOUNG RESEARCHERS, 1ST LAB DAY*

From 19:00 in Goslar: SHORT COURSE Starting with the Icebreaker Party
and Meeting in the Hotel Lounge

**August 21, 2011**

10:00 Welcome, Introduction to the Workshop
*Harald Behrens (LU Hannover, D) and James D. Webster (AMNH New York, USA)*

10:15 Elemental and Stable Isotopic Analysis of S in Bulk Samples and Sample Separates
*Erika R. Elswick (Indiana University, Bloomington, USA)*

10:45 SIMS Methods and their Applications to S Isotope Geochemistry
*Nobumichi Shimizu (Woods Hole Oceanographic Institution, Woods Hole, USA)*

11:15 Spectroscopic Studies on Sulfur Speciation in Synthetic and Natural Glasses:
X-ray Emission and Absorption Spectroscopy
*Max Wilke (GFZ Potsdam, D)*

11:55 Spectroscopic Studies on Sulfur Speciation in Synthetic and Natural Glasses:
NMR And Raman Spectroscopy
*K. Klimm (University of Frankfurt, D)*

12:15 Lunch break

14:00 Sulfur Diffusion and Redox Reactions in Silicate Melts
*Jan Stelling (KIT, Karlsruhe D)*

15:00 The Role of Sulfur Compounds in Coloring and Melting Kinetics of Industrial Glass
*Roberto Falcone (Stazione Sperimentale del Vetro, Murano, I)*

16:00 Poster Session (with coffee and beer)

19:00 Dinner

**August 22, 2011**

8:30 The Solubility of Sulfur in Simple and Sndustrial Glass Melts at Near-Ambient Pressure
*Joachim Deubener (TU Clausthal, D)*
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
</tr>
</thead>
</table>
| 9:30  | Modeling the Solubility of Sulfur in Magmas: a 50-year old Geochemical Challenge  
       | Don Baker (University of Montreal, CA) and Roberto Moretti (INGV Neapel, I) |
| 10:30 | Coffee break                                             |
| 11:00 | Distribution of Sulfur Between Melt and Fluid in S-O-H-C-Cl-bearing Magmatic Systems at Shallow Crustal Pressures and Temperatures  
       | James D. Webster (AMNH New York, USA)                      |
| 12:00 | Sulfur-bearing Magmatic Accessory Minerals               |
       | Fleurice Parat (Université Montpellier, F)                |
| 13:00 | Lunch break                                              |
| 14:00 | Departure to Rammelsberg                                 |
| 19:00 | Workshop Dinner “Harzer Evening”                         |

**August 23, 2011**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30</td>
<td>Sulfur in Melts of the Deep Earth and Planetary Systems</td>
</tr>
</tbody>
</table>
<pre><code>   | Denton Ebel (AMNH New York)                              |
</code></pre>
<p>| 9:30  | Physical Fining of Glass Melts                            |
| Hayo Müller-Simon (HVG-DGG Offenbach, D)                  |
| 10:30 | Coffee break                                             |</p>
| 11:00 | Sulfur Degassing from Volcanoes: Source Conditions, Surveillance, Atmospheric Chemistry and Impacts  
       | Clive Oppenheimer (University of Cambridge, UK)           |
| 12:00 | Sulfur Isotopes in Magmatic-Hydrothermal Systems, Melts and Magmas  
       | Roberto Moretti (INGV Neapel, I)                          |
| 13:00 | Lunch break                                              |
| 14:30 | Interactions Between Metal Melts and Slags                |
       | Jean Lehmann (Arcelor Mittal Global R&D, Maizières-lès-Metz F) |
| 15:30 | Coffee break                                             |
| 16:00 | The Role of Sulfur in the Formation of Magmatic Ore Deposits  
       | Adam C. Simon (University of Nevada Las Vegas USA)        |
| 17:00 | Concluding Remarks – Future Perspectives                 |
       | Harald Behrens (LU Hannover, D) and James D. Webster (AMNH New York, USA) |
| 18:00 | Dinner                                                   |

**August 24, 2011**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
</tr>
</thead>
</table>
| 10:00 | – 16:30 in Clausthal: Laboratory Studies Relevant to Technical Glasses  
       | (Summer school for students and young researchers, 2nd Lab day) |