

Short course and workshop

# Non-destructive analysis of gemstones and other geo-materials



Wien, Austria, March 2-6, 2009.

## **General information:**

**Venue:** Institut für Mineralogie und Kristallographie, Universität Wien,  
Althanstraße 14, 1090 Wien, Österreich.

**Main organizer:** Prof. Lutz Nasdala, Institut für Mineralogie und Kristallographie,  
Universität Wien (lutz.nasdala@univie.ac.at)

**Co-organizer:** Dr. Vera M. F. Hammer, Staatliches Edelsteininstitut im  
Naturhistorischen Museum Wien (vera.hammer@nhm-wien.ac.at)

**Language:** The entire course will be held in English.

**Costs and registration:** Course fee € 120.00; reduced fee € 60.00 for students,  
Ph.D. students, and young researchers (less than two years after completion of their  
Ph.D.). The fee will cover course materials, refreshments, and the short course  
dinner. To register, please transfer the course fee as indicated below, and inform the  
main organizer about the transfer via e-mail for pre-registration of your attendance. Sorry,  
no refunds after February 15.

**Participants from Austria:** Transfer fee to the Österreichische Mineralogische  
Gesellschaft, account 7807220, P.S.K. (BLZ 60000), Verwendungszweck:  
"Doktorandenkurs" and your name.

**Participants from other European Union member countries:** Transfer fee to the  
Austrian Mineralogical Society (make sure you use the so-called EU standard transfer  
that is free of charge!), BIC: OPSKATWW, IBAN: AT316000000007807220, purpose  
"Ph.D. course" plus your name.

**Participants from other countries:** Do NOT attempt to do any bank transfer (this is  
too expensive for us); please contact us instead to arrange payment details. The fee  
may, for instance, be paid by credit card, or in cash when you are here. Note that this  
is NOT an option for participants from EU member countries (who must transfer the  
fee in advance).

**Society support:** Student members of the Deutsche Mineralogische Gesellschaft and  
the Österreichische Mineralogische Gesellschaft will get a **€ 50.00 travel grant**  
(restricted to student members who do not live in Wien).

**Registration deadline:** February 15, 2009. There is a limit of 40 participants, so early registration is suggested.

**Travel:** There are many reasonably priced flight connections from most European airports to Vienna airport (Wien-Schwechat) or Bratislava (Slovakia). We suggest you make your reservations early. From both airports there are regular train (Schwechat, 30 min) and bus (Bratislava, 90 min) shuttle connections to the city centre of Vienna. Vienna can also be easily reached by train. For further information on how to get to the course venue see link at <http://www.univie.ac.at/Mineralogie/MINSPEC/news/>

**Accommodation:** There are many hotels of all categories in Vienna, some of them are close to the location where the short course is held. Students may want to check youth hostels (<http://www.oehv.or.at/quartier/verzeichnis.htm#wien>) or the low-budget hotel ETAP St. Marx, 1030 Wien, Franzosengraben 15 (Tel. +43-1-7984555, [http://www.etaphotel.com/etaphotel/fichehotel/de/etp/3706/fiche\\_hotel.shtml](http://www.etaphotel.com/etaphotel/fichehotel/de/etp/3706/fiche_hotel.shtml)) for reasonably priced accommodation.

**Brief description:** Gemstones are geo-materials whose analysis is particularly challenging. First, analytical tasks reach far beyond the simple phase identification; they include problems such as to distinguish natural and synthetic materials and to unravel different sorts of treatment. Second, analyses need to be done non-destructively, and typical preparation procedures cannot be applied in most cases.

This five-day short course will give an introduction to “advanced” non-destructive analytical techniques. This includes X-ray techniques (single-crystal and powder analysis of unprepared samples) and spectroscopic techniques (main focus at Raman and luminescence, also IR and optical absorption spectroscopy). An introduction to gemstones and other geo-materials used in gemmology will also be given.

The course will include both the theoretical basis and practical training (use of analytical systems, data reduction, and interpretation of results. It is target towards diploma students and Ph.D. students who are interested in applying modern, non-destructive analytical techniques; however, the participation of PostDocs and other colleagues is of course welcome as well. Organizers aim at putting participants in the position to use the above techniques in their own research.

In addition, an overview of modern analytical applications in gemmology will be given through a number of talks presented by invited experts in the field and (to a limited extent) also by course participants in 15 minutes short talks. Participants will also be given the opportunity for hands-on analyses of own samples.

**Lectures will be given by the following invited experts (preliminary list):**

- *Thomas Hainschwang (Gemlab Laboratories for Gemstone analysis and reports, Balzers, Liechtenstein)*
- *Wolfgang Hofmeister (Institut für Edelsteinforschung, Idar-Oberstein & Mainz, Germany)*
- *Tobias Häger (Johannes Gutenberg-Universität Mainz, Germany)*
- *Michael S. Krzemnicki (SSEF Swiss Gemmological Institute, Basel, Switzerland)*
- *Lioudmila Tretiakova (GCAL Gem Certification and Assurance Laboratory, New York, U.S.A.)*