

## **Introduction to Secondary Ion Mass Spectrometry in the Earth Sciences**

16 October – 20 October 2006  
GeoForschungsZentrum Potsdam

This short course is target towards PhD students and young researchers who have limited or no experience in the field of SIMS analysis. However, participants will be expected to be familiar with the basics of analytical geochemistry; a familiarity with EPMA analyses is desirable. This five day workshop will provide an initial contact with SIMS technology and is intended for all students and post-docs who wish to use the Potsdam Cameca ims 6f user facility for conducting SIMS-based research. Participants will be exposed to all basic aspects of SIMS, fundamentals of vacuum technology, theory of secondary ion generation and matrix effects, data assessment and realistic assessment of this technique's strengths and limitations. Emphasis on the issue of Reference Material production and characterization will also be a core theme of this workshop. In addition to the theory part of this course, participants will also be given the opportunity for limited hands-on experience using the Potsdam Cameca ims 6f ion microprobe.

### Workshop Outline:

#### *Monday, 16 October 2006*

##### *(Introduction)*

09:00 – 12:30 Introduction to SIMS basics including vacuum technology  
13:30 – 17:00 Fundamentals of ion production and ion detection

#### *Tuesday, 17 October 2006*

##### *(SIMS trace element analyses)*

09:00 – 12:30 Introduction to SIMS trace element analyses  
13:30 – 17:00 Hands-on experience with Cameca ims 6f (1.5 hours) trace element analyses  
Data reduction of trace element data (1.5 hours)

#### *Wednesday, 18 October 2006*

##### *(SIMS isotopic analyses)*

09:00 – 12:30 Introduction to SIMS isotopic analyses  
13:30 – 17:00 Hands-on experience with Cameca ims 6f (1.5 hours) isotopic analyses  
Data reduction of isotopic data (1.5 hours)

#### *Thursday, 19 October 2006*

##### *(Depth Profiling)*

09:00 – 12:30 Introduction to SIMS depth profiling  
13:30 – 17:00 Hands-on experience with Cameca ims 6f (1.5 hours) depth profile analyses  
Assessment of depth profiles (1.5 hours)

#### *Friday, 20 October 2006*

##### *(Imaging)*

09:00 – 11:00 Introduction to secondary ion imaging  
11:00 – 12:30 Practical demonstration of ion imaging

Maximum Number of Participants: 10

Venue: GeoForschungsZentrum, Telegrafenberg, D-14473 Potsdam

Workshop leader: Dr. Michael Wiedenbeck

Registration of Interest: [michawi@gfz-potsdam.de](mailto:michawi@gfz-potsdam.de)

Further Information about the GFZ SIMS Laboratory: <http://www.gfz-potsdam.de/SIMS>

There will be no charges for course participation, however participants will be responsible for covering their own travel and accommodation costs. The GFZ can assist course participants to find suitable accommodation for their stay in Potsdam.