

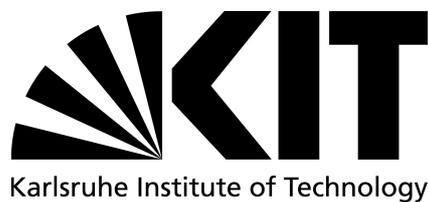


# **74th Annual Meeting of the German Geophysical Society (DGG)**

**10th-13th March 2014 in Karlsruhe**



Karlsruhe Palace/BLM



**KIT – University of the State of Baden-Wuerttemberg and  
National Research Center of the Helmholtz Association**

**74<sup>th</sup> Annual Meeting of the  
German Geophysical Society (DGG)  
10th-13th March 2014 in Karlsruhe**

**Host:**

**Deutsche Geophysikalische Gesellschaft e.V.**

Office: Deutsches GeoForschungsZentrum – GFZ  
Telegrafenberg  
14473 Potsdam, Germany  
Telephone/Fax: +49 (0)331 288 1206 / +49 (0)331 288 1204  
E-mail/Internet: [ase\(at\)gfz-potsdam.de](mailto:ase(at)gfz-potsdam.de) / [www.dgg-online.de](http://www.dgg-online.de)

**Organizer:**

**Karlsruhe Institute of Technology (KIT)**

Conference Management: Prof. Dr. Thomas Bohlen  
Geophysical Institute  
Karlsruhe Institute of Technology  
Hertzstr. 16, 76187 Karlsruhe, Germany  
Telephone/Fax: +49 (0)721 6084 4416 / +49 (0)721 71173  
E-mail/Internet: [thomas.bohlen\(at\)kit.edu](mailto:thomas.bohlen(at)kit.edu) / [www.dgg2014.de](http://www.dgg2014.de)

**Event Management**

Event Management: witago  
Agentur für Kongress- und Event Management  
Quintschlag 37, 28207 Bremen, Germany  
Responsible: Kerstin Biegemann  
Telephone/Fax: +49 (0)176 2073 6349 / +49 (0)421 4854 3952  
E-mail/Internet: [dgg2104\(at\)witago.com](mailto:dgg2104(at)witago.com) / [www.witago.com](http://www.witago.com)

**Meeting place and meeting office**

The 74th annual meeting of the DGG takes place in the buildings of the Faculty of Physics at the Campus South of the KIT (Bldg. 30.22 and 30.21, Engesserstr. 7, 76131 Karlsruhe, Germany). During the meeting there will be a registration desk on site (Tel. 0176 2073 6349). Operating hours: Monday to Wednesday: 8 a.m.-6 p.m., Thursday 8 a.m.-2 p.m.

**Organizing team and contact persons**

Conference Management	Thomas Bohlen	44416	<a href="mailto:Thomas.Bohlen(at)kit.edu">Thomas.Bohlen(at)kit.edu</a>
Conference Office	Claudia Payne	44443	<a href="mailto:Claudia.Payne(at)kit.edu">Claudia.Payne(at)kit.edu</a>
Scientific Program	Thomas Forbriger Thomas Bohlen	07836- 2151 44416	<a href="mailto:program-dgg2014(at)lists.kit.edu">program-dgg2014(at)lists.kit.edu</a>
Poster Presentation	Ellen Gottschämmer	44437	<a href="mailto:Ellen.Gottschaemmer(at)kit.edu">Ellen.Gottschaemmer(at)kit.edu</a>
Company Exhibition	Thomas Forbriger	07836- 2151	<a href="mailto:exhibition-dgg2014(at)lists.kit.edu">exhibition-dgg2014(at)lists.kit.edu</a>
Sponsoring	Thomas Bohlen Thomas Forbriger	44416 07836- 2151	<a href="mailto:sponsoring-dgg2014(at)lists.kit.edu">sponsoring-dgg2014(at)lists.kit.edu</a>
Job Center	Anne-Sophie Reiß Niklas Thiel	44440 44596	<a href="mailto:jobcenter-dgg2014(at)lists.kit.edu">jobcenter-dgg2014(at)lists.kit.edu</a>
Public Relations	Martin Schäfer	44611	<a href="mailto:m.schaefer(at)kit.edu">m.schaefer(at)kit.edu</a>
Social Events	Sven Heider	44496	<a href="mailto:Sven.Heider(at)kit.edu">Sven.Heider(at)kit.edu</a>
Web Site	Petra Knopf	44438	<a href="mailto:webmaster(at)dgg-2014.de">webmaster(at)dgg-2014.de</a>
Room Planning	Joachim Ritter	44539	<a href="mailto:Joachim.Ritter(at)kit.edu">Joachim.Ritter(at)kit.edu</a>

Please use the prefix +49-(0)721-608- for every telephone number above.

## Fees

	Early Bird (up to 08.01.2014)	Pre-Registration (up to 17.02.2014)	On-Site (up to 10.03.2014)
Regular DGG member	120.00 €	150.00 €	190.00 €
Student DGG member	10.00 €	40.00 €	70.00 €
Non-member	160.00 €	190.00 €	230.00 €
Student non-member	25.00 €	55.00 €	85.00 €
Social evening non-students	35.00 €	35.00 €	35.00 €
Social evening students	25.00 €	25.00 €	25.00 €
Social evening additional person**	60.00 €	60.00 €	60.00 €
Day ticket	-	-	110.00 €

(\*\*): Allows participation in following events: welcome evening, opening of the company exhibition and social evening.

A handling fee of 30€ will be charged for cancellations received in writing up to 1st February 2014. No refund will be given for cancellations received after the **1st February 2014**. The difference in fees between members and non-members can be credited towards a DGG membership if desired.

## Registration

Please register for the annual meeting via the web page of the conference:

**[www.dgg-2014.de](http://www.dgg-2014.de)**

The participant registration is managed by *witago* on behalf of the organizer.

Early Bird registrations with reduced registration fees is open up to the

**8th January 2014**

## Registration for oral and poster presentations – abstract submission

The online registration for oral and poster presentations, and abstract submission is available on the web page

**[www.dgg-2014.de](http://www.dgg-2014.de)**

**Deadline** for submission (with abstract) is the

**8th January 2014**

It is expected that at least one of the authors attends the conference. More information on registration of oral and poster presentations can be found in this Circular or on the web page of the conference ([www.dgg-2014.de](http://www.dgg-2014.de)).

## **Main Topics**

The DGG meeting 2014 will focus on the following main topics:

### **S1 Rifting**

Rifting is a fundamental process within the concept of plate tectonics. The cities of Karlsruhe and Strasbourg are located inside the Upper Rhine Graben, a Neogene continental rift. Research on rifting has a long tradition at both locations. During DGG 2014 there will be a focus on current structural studies of the crust and upper mantle as well as geodynamic modelling of continental and oceanic rifts. Special attention will be given to the Upper Rhine Graben. This focus theme will be organised jointly with the IPG Strasbourg and in English language.

### **S2 Full Waveform Inversion**

The aim of the Full Waveform Inversion (FWI) is the reconstruction of parameter models from the observed full signal. The FWI is a sophisticated imaging method, currently developed in the fields of seismics, seismology and the ground penetrating radar. In order to use the full information content of the recorded signal a realistic and physically exact simulation of the wave propagation in the earth is necessary. The increasing computational power and the enhancements in the data acquisition allow a considerable progress in this field. Successful applications are especially described in the seismic exploration (such as marine seismic applications), earthquake seismology, non-destructive material testing using ultrasound and the prospecting of near-surface groundwater using GPR. The proceeding methodical progress covers a wide range as for example the enhancement of data acquisition, the improvement of simulations on high performance computers and the selection of data adapted inversion strategies.

### **S3 Gravity Field and Gravimetry**

The gravity field of the earth includes valuable information about the mass distribution in the earth's interior, mass movements and earth's viscoelastic response to exterior forces. Measurements of the gravitational acceleration are used on all scale lengths, e.g. for subsoil examinations, exploration of natural resource deposits, and also for the study of dynamics of the earth's mantle and core. Earth's response to tidal forces can be observed in changes of the gravitational acceleration as a function of time. Through this, new knowledge should be gained about the large-scale viscoelastic properties of the earth. Other time-variant changes of the gravity field are caused by local and regional hydrological signals. Long-time observations of the gravity field contribute to an improved parameter determination in the balance of the hydrological cycle. Last but not least, the gravitation field defines the vertical reference level for regional and national height reference systems, which was originally connected to the sea levels, but will prospectively be referred to a consistent global unified height reference system. In the past years, sensing systems (satellite-based sensors, superconducting gravimeters, atomic-beam gravimeter, etc.) were newly developed or tremendously upgraded. Contributions from the entire field of gravimetry are invited. The range reaches from development of measuring instruments up the study of the earth's structure and dynamics.

### **S4 Geothermal Research**

Due to the energy transition, the use of geothermal energy has advanced into a public focal point. In contrast to other forms of energy, this technology promises an environment friendly, low-carbon basic energy supply. Its development in Central-Europe has not advanced as much as the development of other renewable energies. Among other things, similar experiences like the ones gained in the hydrocarbon field, the technological optimization of reservoir properties and also the public acceptance are missing. The broad range of this topic will be shown here. The different topics spanning from induced seismicity to the optimization of reservoirs are a huge challenge for geosciences. In particular, this is true for the complexity of process coupling and reservoir structures. Focal points are the fields seismology, exploration, borehole geophysics as well as research in geochemistry, petrology, and hydrogeology. Contributions from the field of geomechanical process coupling deliver an overview of the effect of massive injections on the stress field and induced seismicity. Thematically related research in the carbohydrate research and the geological carbon dioxide storage should make comparison and a perspective to a technologically advancing domain possible.

## Sessions

PV	Plenary Lectures	GS:	History of Geophysics
AR:	Archaeogeophysics	GT:	Geothermy/ Radiometry
BL:	Borehole Geophysics	MA:	Magnetics/ Earth Magnetism
EM:	Electromagnetics/Georadar	MG:	Marine Geophysics
EX:	Extraterrestrial Physics	MI:	Modeling and Imaging
GF:	Geodesy/Remote Sensing	SE:	Seismic
GD:	Geodynamics	SO:	Seismology
GE:	Geoelectrics/ Induced Polarisation	UI:	Engineering and Environmental Geophysics
GO:	Geophysics in Public / Outreach	VU:	Vulcanology

## DGG-Colloquium

The DGG's Applied Geophysics work group will be holding a special colloquium entitled: Georiscs – Land Slides. Please indicate your interest in this event during the registration process.

## Registration for Company Exhibition

To register for the company exhibition please contact Dr. Thomas Forbriger at the Black Forest Observatory in Schiltach (BFO), Tel. +49(0) 7836-2151, Fax +49(0)7836-955240, e-mail: exhibition-dgg2014(at)lists.kit.edu.

Deadline is

**8th January 2014**

Details of the exhibition space, infrastructure, logistics, fees, etc. can be checked with Mr. Dr. Forbriger. More information is also available on the conference web page. The company exhibition takes place on two floors at the conference building 30.22 on the Campus South of the KIT. The job center is an additional possibility for companies to get in touch with potential employees.

## Further organisational information

### Directions / Accommodation

Information on directions to the conference site and accommodation in Karlsruhe can be found on the conference web page. We recommend to book early!

### Student Grants

Students can apply for grants for travelling expenses if they are main author of a contribution and are actively presenting this contribution at the conference. An informal request needs to be send to the conference management containing the title of the oral or poster presentation as well as the requested amount until 22nd December 2013.

### Meeting Program

The conference proceedings will be handed out on site during the registration at the conference office. It contains the conference program, abstracts, timetable and room plans. The conference proceeding will be also available on the web site of the conference around the end of February.

### Internet Access

Inside the conference building free WLAN access is available. The required access information valid during the conference will be given out on site. No PCs for internet access will be provided.

### Welcome Evening and Alumni Meeting

The welcome evening will be on Sunday, 9th March, from 7 p.m. at the Hoepfner Schalander (Haid- und Neu-Straße 18, 76131 Karlsruhe). Participants registered for the welcome evening can receive conference documents there. We especially welcome all GPI-Alumni who will have their second meeting in Karlsruhe.

### **Opening Event**

The opening ceremony will take place on Monday, 10th March, at 2 p.m. at the Gerthsen lecture hall (Bldg. 30.20). A welcome address from the conference management, representatives of the KIT presidium, representatives of the city of Karlsruhe, as well as the president of the DGG are on the agenda. Accompanied by a musical program, honors and awards of the German Geophysical Society will be presented. The program will be concluded by a scientific talk of Dr. Michael Sailer (Öko Institut e.V., Darmstadt).

### **Student Evening**

The student evening will be on Monday, 10th March, from 7:30 p.m. at the student center Z10 (Zähringerstraße 10, 76131 Karlsruhe).

### **Social Evening**

The traditional social evening of the DGG will take place on Tuesday, 11th March, at 7 p.m. at the foyer of the Center for Art and Media (ZKM) Karlsruhe in a festive environment. Dinner is included in the fee for the social evening. As a special highlight the museum will be open exclusively for our guests. The unique ZKM holds a museum of media, a museum of modern art and has changing special exhibitions. To participate, registration via the conference homepage is necessary.

### **Public Evening Lecture**

The public evening lecture will be on Wednesday, 12th March, at 8 p.m. at the Gerthsen lecture hall (Bldg. 30.20). The lecture will be held by professor Dr. H.-U. Schmincke on the topic of volcanism.

### **Meet and Greet Breakfast for female Geophysicists**

This year, we offer for the first time a "Meet and Greet Breakfast" for female Geophysicists (graduates and students) which aims at presenting a common ground for exchanging experiences. Most of all, female students will profit from a chance to meet professionally advanced geophysicists and learn about different kinds of career developments. The breakfast event will take place on Tuesday, 11th March from 7:30 to 9:00 a.m. at Forstliches Bildungszentrum Karlsruhe. Registration via the DGG 2014 homepage is necessary to attend.

### **Plenary Lectures**

Plenary lectures on the main topics will give an overview on current research areas. Lectures take 45 minutes and will take place at the Gaede lecture hall. They are directed towards a general audience.

### **Excursions**

Accompanying the meeting, several field trips are planned

1. Tour: Geology of the Upper Rhine River Area, Museum of Natural History, Karlsruhe
2. Tour of Karlsruhe: City of justice and walk through Karlsruhe in the evening
3. Brewery tour through the "Hoepfner Burg"
4. Tour to Campus North: ANKA and bioliq or KATRIN and TOSKA

A registration is required for all field trips ([www.dgg-2014.de](http://www.dgg-2014.de)). Details and prices are also available on the web page.

### **Meeting of working groups and committee**

During the conference there are opportunities for meetings of working groups and the committee of the DGG. Seminar rooms in Bldgs. 30.22 and 30.23 are available. Heads of the working groups are requested to announce demand until 1st February 2014 to [joachim.ritter@kit.edu](mailto:joachim.ritter@kit.edu). Please inform him about date, number of participants as well as requested technical equipment.

## **Registration information for oral and poster presentations**

The application form can be found on the conference web page ([www.dgg-2014.de](http://www.dgg-2014.de)) Please name the title, authors, institutions and contact details during the registration. Please mark whether the author is younger than 32 years (born after 09.03.1982). Please also indicate whether you have an oral presentation or a poster presentation. The organizing committee will try to consider your preference in the program. You will be informed about the final program. The three best oral and poster presentations by young first authors (up to 31 years) will be awarded. The award winners will receive their certificate at the closing ceremony on Thursday, 13th March 2014.

### **Oral Presentations**

Presentations should last a maximum of 20 minutes, including 5 minutes for discussion. Please note, that there will be no time for discussion if the presentation is 20 minutes. Please keep the definitive time to enable the synchronization of parallel sessions and to avoid any inconvenience for the coming presenters.

### **Technical equipment**

There is appropriate presentation equipment available in the lecture rooms. Please transfer your presentation file in time to the respective computer one site. Please note that privately owned laptops or computers can not be used.

The following guidelines apply for transferring your presentations to the computers in the respective lecture room:

1. Presentations scheduled for Monday morning: before 9am
2. Other Presentations by 5:30 p.m. on the day before your presentation

The presentations should be available on a memory medium (USB stick or CD) in pdf format or PowerPoint.

### **Poster Presentations**

The poster presentations will be on Tuesday and Wednesday. There will be no other sessions or presentations during the poster presentation. Posters should be in DIN-A0. It is recommended to provide hand-outs in format A4 for interested persons. The authors should be present in front of their posters to enable discussions. Pins will be provided at the registration desk.

### **Abstract Information**

The abstracts can be up to 2500 characters long and must be written in English or German. For online submission the layout of the abstract can be verified by the author. The abstracts are provided on the website of the conference at the end of February 2014. It is expected that the language of the abstract is identical to the language of the presentation.

## Meeting Program

### Sunday, 9th March 2014

7 p.m.-9 p.m.

Welcome Evening (Hoepfner Schalander, 76131 Karlsruhe)  
(+ Conference documents for registered participants)

### Monday, 10th March 2014

10:30 a.m.-12:10 a.m.

Lectures

12:10 a.m.-01:00 p.m.

*Lunch Break*

01:00 p.m.-02:00 p.m.

Plenary Lecture (Gaede lecture hall)

02:00 p.m.-04:30 p.m.

Opening Event (Gerthsen lecture hall)

from 05:00 p.m.

Opening of the company Exhibition

from 07:30 p.m.

Student Evening (Z10)

### Tuesday, 11th March 2014

09:00 a.m.-10:20 a.m.

Lectures

10:20 a.m.-10:40 a.m.

*Pause*

10:40 a.m.-12:20 a.m.

Lectures

12:20 a.m.-01:30 p.m.

*Lunch Break*

01:30 p.m.-02:30 p.m.

Plenary Lecture (Gaede lecture hall)

02:30 p.m.-03:50 p.m.

Lectures

04:00 p.m.-06:00 p.m.

Poster session

from 07:00 p.m.

Social Evening (Foyer ZKM)

### Wednesday, 12th March 2014

09:00 a.m.-10:20 a.m.

Lectures

10:20 a.m.-10:40 a.m.

*Break*

10:40 a.m.-12:20 a.m.

Lectures

12:20 a.m.-01:30 p.m.

*Lunch Break*

01:30 p.m.-02:30 p.m.

Plenary Lecture (Gaede lecture hall)

02:30 p.m.-03:50 p.m.

Lectures

04:00 p.m.-05:30 p.m.

Poster session

05:30 p.m.-07:00 p.m.

Meeting of the members of the DGG (Gaede lecture hall)

08:00 p.m.-09:00 p.m.

Public Evening Lecture (Gerthsen lecture hall)

### Thursday, 13th March 2014

09:00 a.m.-10:20 a.m.

Lectures

10:20 a.m.-10:40 a.m.

*Break*

10:40 a.m.-12:20 a.m.

Lectures

12:20 a.m.-01:30 p.m.

*Lunch Break*

01:30 p.m.-03:30 p.m.

Plenary Lecture and Closing Event (Gaede lecture hall)

### Special appointments

FKPE meeting (upon on invitation)

Sunday, 9th March 2014, 09:00 a.m.-6:00 p.m. (GPI, Campus West)

Meet and Greet Breakfast for female Geophysicists

Tuesday, 11th March 2014, 07:30 a.m.-09:00 a.m. At Forstliches Bildungszentrum, Karlsruhe

Board meeting of the DGG (upon invitation)

Tuesday, 11th March 2014, 09:00 a.m.-01:30 p.m.

Thursday, 13th March 2014, 03:30 p.m.-04:30 p.m.