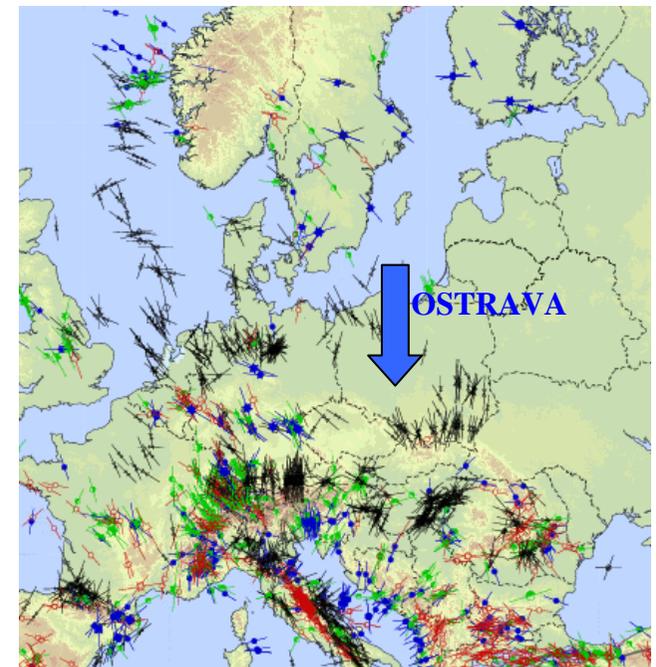


Institute of Geonics AS CR  
has the pleasure to announce the

**Compact Course**

## **CRUSTAL ROCK STRESS**



**September 13 - 15, 2010**

**Ostrava, Czech Republic**

<http://www.ugn.cas.cz/link/crs10>

### **Course information**

#### **Aims**

To provide interested geoscientists and rock engineers with a solid background in quantitative Rock Stress Analysis including Definition, Terminology, Measurements, Case Studies and Applications

#### **List of topics**

- Definition and terminology of rock stresses
- Rock fracture criteria
- Crustal stress models
- Measuring crustal stress; borehole and core-based methods
- Local stress data from KTB borehole, Olkiluoto potential radioactive waste site, SAFOD California
- World Stress Map and its applications to science and technology
- Best Estimate Stress Model

#### **What we will do:**

- provide you a theoretical background and some practice on selected topics of interest
- provide you with leading edge technology in rock stress estimation together with classical methods
- give you personal guidance through the content of our recent text-book and movie material

#### **Who should attend the course**

This course is aimed at experienced geoscientists and rock engineers or students who wish to use Rock Stress in their work and research. There is no need to be a Rock Stress specialist to register but remind that this course is not intended for people desiring make their first steps. We intend to focus on specific primordial goals for geoscientists and rock engineers. The three parts of the course are meant to be related but each session can be attended independently. The theoretical sessions will be followed by direct practical applications and hands on in laboratories of the Institute of Geonics AS CR.

**Deadline:**  
April 30, 2009  
early registration  
July 31, 2009 final deadline

Institute of Geonics AS CR  
Studentska 1768  
708 00 Ostrava - Poruba  
Czech Republic

Full name: \_\_\_\_\_

Title: \_\_\_\_\_

Institution/Company: \_\_\_\_\_

Position: \_\_\_\_\_

Address: \_\_\_\_\_

Phone/Fax: \_\_\_\_\_

Email: \_\_\_\_\_

Signature: \_\_\_\_\_

Student     University/Academy     Others

## General Info

In September 2010 we organize a short course, hosted by the Institute of Geonics AS CR in Ostrava, CZ. The course will be held in collaboration with **Ove Stephansson, Arno Zang, Yuzo Obara**. By gathering the strengths and specialties of each group we would like to provide the opportunity of training on the recent developments of Rock Stress in the Earth's Crust.

**The course will be held in English.**

## Course Material

Book: "Stress Field of the Earth's Crust" by Arno Zang and Ove Stephansson Springer Netherlands (2010)  
ISBN 978-1-4020-8443-0 (Print) 978-1-4020-8444-7 (Online) 322 pp. and DVD with 17 video lectures.

## Visiting Lecturers

- **Ove Stephansson** (GFZ Potsdam, Germany)  
Engineering Geologist and Rock Mechanics is specialized in the application of Rock Stress and its Measurements.
- **Arno Zang** (GFZ Potsdam, Germany)  
Geophysicist specialized in Rock Fracture Mechanics and Stress Estimation from Deep Drill Cores
- **Yuzo Obara** (University of Kumamoto, Japan)  
Geotechnical Specialist focused on Rock Stress and Rock Stress Measurement as well as Rock Properties induced by the Microstructure.

## Information about the course content

Prof. Ove Stephansson  
[ove@gfz-potsdam.de](mailto:ove@gfz-potsdam.de)  
Prof. Radim Blaheta  
[blaheta@ugn.cas.cz](mailto:blaheta@ugn.cas.cz)

PD Dr. Arno Zang  
[zang@gfz-potsdam.de](mailto:zang@gfz-potsdam.de)  
Dr. Lubomír Staš  
[stas@ugn.cas.cz](mailto:stas@ugn.cas.cz)

## Tentative Schedule

### Day 1 (13<sup>th</sup> September)

- Introduction, OS
- Terminology, OS plus DVD at the back of the book  
Stress definition, AZ
- Rock Fracture Criteria, AZ plus DVD and visit to  
GEONICS Rock Testing Laboratory
- Crustal Stress Models, AZ

### Day 2 (14<sup>th</sup> September)

- Borehole methods, OS
- Conical overcoring methods, YO and visit to GEONICS  
Laboratory
- Hydraulic fracturing, OS, visit to the GEONICS  
Laboratory
- Borehole breakouts, OS+AZ
- Core based methods, AZ plus DVD
- Other methods, OS+AZ+YO
- Local stress data from KTB, Olkiluoto and SAFOD

### Day 3 (15<sup>th</sup> September)

- World Stress Map, OS
- European Stress Map, AZ
- Plate Tectonic Interpretation, OS+AZ
- Orientation Maps and Smoothing, AZ
- Best Estimate Stress Model, OS
- Rock stress research at the Institute of Geonics, GEONICS
- Applications of rock stress in science and engineering,  
OS+AZ+YO plus DVD interviews with prominent  
scientists in rock stress measurement
- Conclusions and closure, OS+AZ+YO+GEONICS

OS = Ove Stephansson, AZ = Arno Zang, YO = Yuzo Obara, GEONICS specialists from the Inst. of Geonics –  
Departments of Laboratory Investigation of Geomaterials  
and Geomechanics and Mining Research.

### Day 4 (16<sup>th</sup> September)

possibility to attend for free another event - the workshop  
"Micromechanics of Geomaterials"

## Course information

### Price

Price in Euros for early payment (May 15)  
and for later payment (in brackets)

- 280 € Students (330 €)
- 330 € Universities (380 €)
- 380 € Others (430 €)

a 10% discount will be offered to members of ISRM and  
sister societies, EAGE, etc. A copy of the book is included  
in the prize of the course

The fee includes participation at course, conference  
materials including book by Stephansson and Zang  
published by Springer-Verlag 2010, lunches, refreshment  
and a conference dinner.

### Accommodation Info

We offer to book a walking distance (10 - 20 min.)  
accommodation (15 € - 40 € per night)

[Hotel part of dormitories of TU Ostrava](#)  
[Pension AIDA](#)  
[Hotel SPORT CLUB](#)

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