

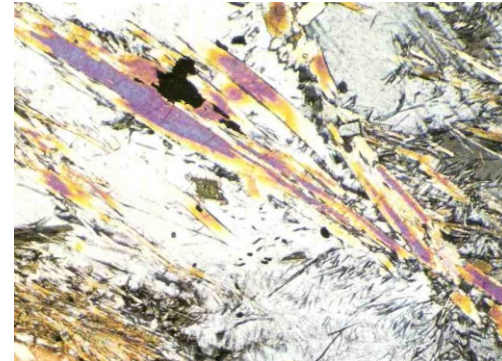
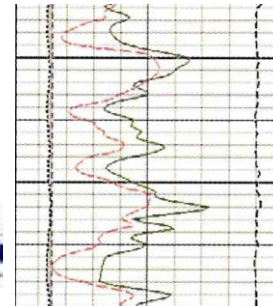
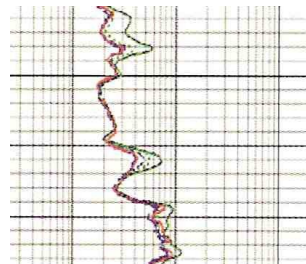
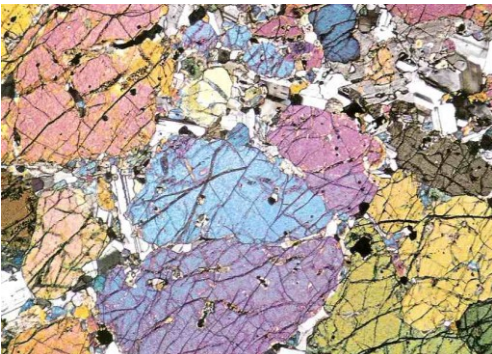
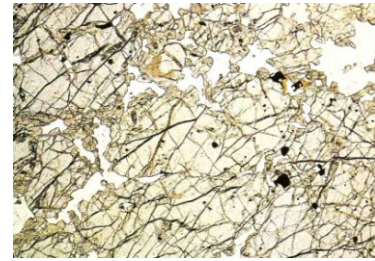
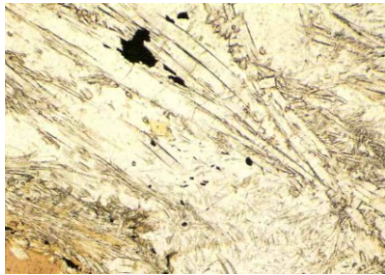
GeoNeurale

announces

Petrophysics of the Metamorphic and Igneous Rocks

1 - 3 December 2010

Munich



Petrophysics of the Metamorphic and Igneous Rocks

GeoNeurale - MUNICH

at the

GATE – Garching Technologie und Gründerzentrum

1 - 3 December 2010

3 DAYS COURSE

INSTRUCTOR: Dr Renate Pechinig

LEVEL: Intermediate

Audience: Earth scientists (petrophysicists, geologists, geophysicists,)

COURSE FEES: 2300 Euro + 19% VAT (VAT Tax is 100% refunded from the German Finance Ministry)

REGISTRATION DEADLINE : 15 November 2010

ONLINE REGISTRATION: www.GeoNeurale.com

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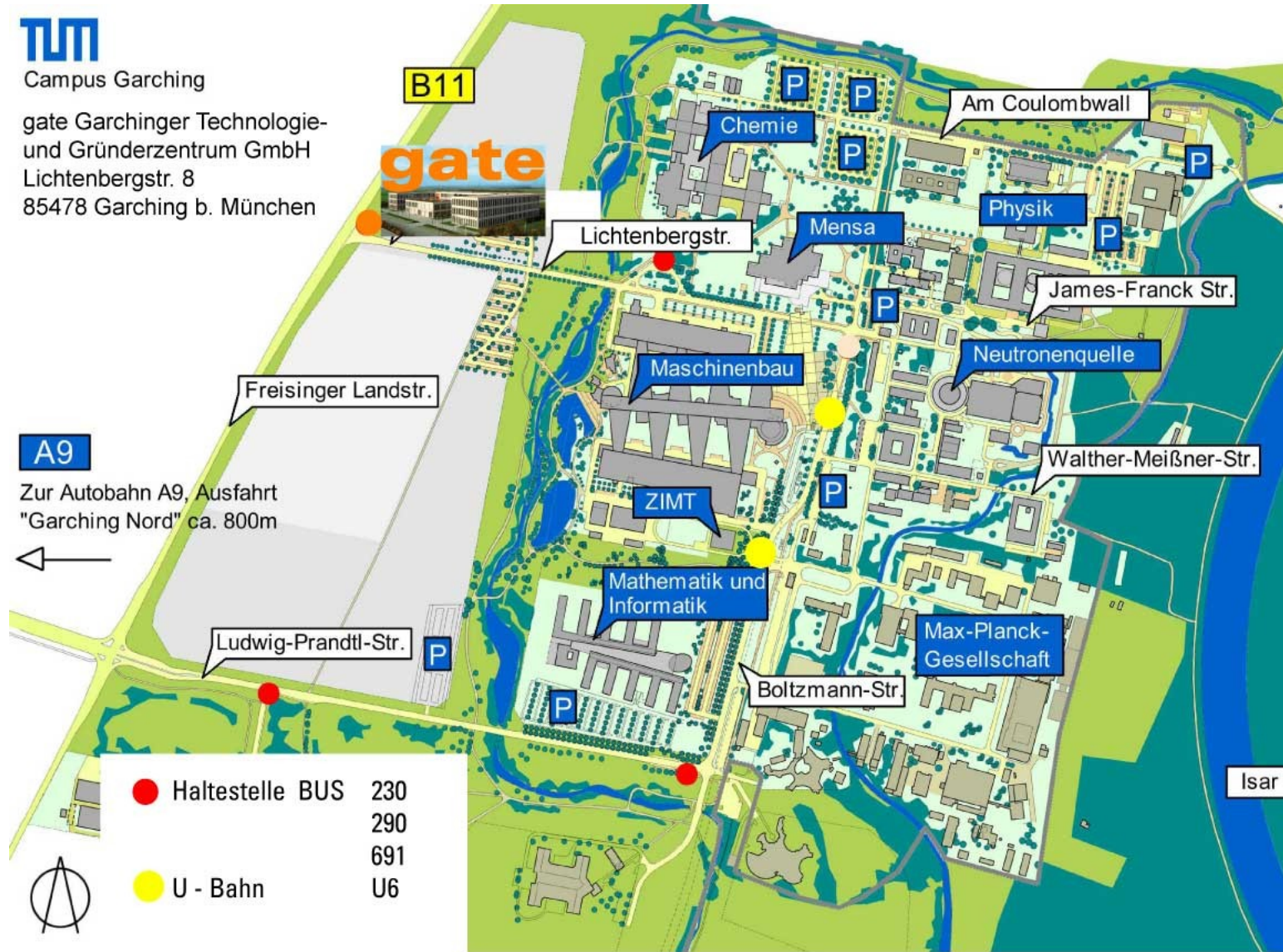
Campus Garching

gate Garching Technologie-
und Gründerzentrum GmbH
Lichtenbergstr. 8
85478 Garching b. München

GeoNeurale

Office
and

Training Location



Petrophysics of the Metamorphic and Igneous Rocks

A large number of the world's oil reserves have been found in naturally fractured reservoir rocks.

A significant proportion of these reservoirs has been discovered in basement settings which are commonly distributed in various petroliferous regions throughout the world.

The occurrence of naturally fractured basement reservoirs has been known within the hydrocarbon industry for many years.

Despite this, these reservoirs had been considered for a long time as non productive.

However, recently many explorationists on the light of new production methods have focused again their attention on these reservoir types.

A greater understanding of the fracture distribution and connectivity within basement reservoirs may prove to be the key tool for improved exploration and production management of this hidden resource.

GeoNeurale proposes a new course, a brilliant approach of Dr Pechnig to help and understand the Petrophysics of these complex formations.

Petrophysics of the Metamorphic and Igneous Rocks

DAY 1

- 1) Overview to igneous and metamorphic rocks (terminology, main rock types, mineralogy, geochemistry, genetic evolution, fabric and structure, types of alteration)
- 2) Overview to the petrophysical characteristics of crystalline rocks (rock density, rock porosity, permeability, elastic properties, electrical properties, natural radioactivity, magnetic properties, thermal properties).

DAY 2

- 3) Log responses in crystalline rocks (GR, Spectral Gamma, SP, Sonic, Neutron, Density, PEF, Resistivity, Suszeptibility, Magnetic Field, geochemical logs, NMR and Images); Examples are given from drillings in continental crust, oceanic crust and volcanic settings (single volcanoes and LIPs Large Igneous Provinces such as Deccan, Kerguelen and Snake River).

The examples cover the whole range of typical rock types of the different settings (e.g. gabbros, basalts, diorites, granites, aplites, lamprophyres, amphibolites, orthogneisses, paragneisses, subaerial and submarine lava flows, pillows and different types of volcaniclastics).

- 4) Lithology prediction from log data (cross-plot techniques, rock type prediction, electrofacies methods, multi-mineral analysis, workflows for magmatic, volcanic and metamorphic environments)

DAY 3

- 5) Structure identification in crystalline rocks (fractures, fabric, internal structures) - use of standard logs and image logs in crystalline environments correlation with core description (what can be seen by image logs)
- 6) Petrophysics of crystalline rocks (porosity prediction in crystalline rocks: standard method – use and limitations, porosity and permeability in metamorphic, plutonic and volcanic rocks, core-log integration, comparison of in-situ and laboratory data, effects of fabrics (e.g. gneiss foliation) and internal structure (e.g. lava flow vesicularity) on physical properties.
- 7) The program is accompanied by case studies and exercises.

Instructor's Biography

Dr. Renate Pechinig is managing director of Geophysica Beratungsgesellschaft mbH in Aachen, a consultancy for petrophysics, reservoir characterization and numerical simulations with a special focus on geothermal projects. She received a diploma in geology and her doctoral degree in geophysics from RWTH Aachen University in 1991 and 1996, respectively. Her PhD-thesis was focused on the interpretation of well logging data from the German Deep Drilling Project (KTB), which has been drilled more than 9 km deep into metamorphic rocks of the Bohemian massif. Log interpretation methods for crystalline rocks, developed at the KTB site, were completed during more than 10 years of academic research activity. Renate held research positions at RWTH Aachen University with a main focus on petrophysics and log interpretation of plutonic, volcanics and metamorphic rocks. She initiated and attended several scientific projects within the frame of the ODP/IODP (Ocean Drilling Program) and the ICDP (International Continental Drilling Program), and supervised several diploma and doctoral students. Renate has been member of the 'Logging Advisory Board' of the Ocean Drilling Program (ODP) and German delegate of the steering group of Joint European Ocean Drilling Initiative (JEODI). She still plays an active role in international training programs and workshops in the frame of the International Continental Drilling Program (ICDP). 2003 she switched to Geophysica Beratungsgesellschaft mbH, a spin-off company from Aachen University. Renate still has strong established working relationships with the university and is lecturer for borehole geophysics within the master program "Applied Geophysics", a joint project of the technical universities of ETH Zürich, RWTH Aachen and TU Delft.

Registration Details

- Course fee: 2300 Euro + 19% VAT
- Registration deadline : 15 November 2010

Payment and Registration

Tuition fees are due and payable in Euro upon enrollment in the course by bank transfer to the bank account given below unless another payment form is agreed

Unless otherwise indicated, the payment should be received before the date specified in the invoice as payment term to make the enrollment effective.

To register to the course please fill in the [registration form](#) and fax or email it along with the confirmation of your bank transfer to:

GeoNeurale

Lichtenbergstrasse 8

D-85748 Munich

T +49 89 8969 1118

F +49 89 8969 1117

ONLINE REGISTRATION: www.GeoNeurale.com

Bank Information: Genossenschaftsbank EG Muenchen

Bank Account N. 519618

BIC – Code : GENODEF 1M07

BLZ 701 694 64

IBAN : DE19 7016 9464 0000 5196 18

Please indicate your name and the purpose: Petrophysics of the Metamorphic and Igneous Rocks

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www.GeoNeurale.com

Provisions

Tuition fees are due and payable in Euro upon enrollment in the course. Unless otherwise indicated, fees do not include student travel costs and living expenses.

Payments are also accepted via personal or company check, traveler's check, credit card, and Company Purchase Orders.

Cancellations by Participant:

All cancellations are subject to a 100 Euro non-refundable cancellation fee.

Cancellations have to be notified to our office, at least 30 days prior to the course start date to receive a refund (less the 100 Euro cancellation fee).

If the participants are unable to cancel prior to the 32 days notification date, they may substitute another person at their place in a course by notifying us prior to the course start date.

Course Cancellations:

GeoNeurale reserves the right to cancel the courses if necessary. The decision to cancel a course is made at least two weeks prior to the course start date. If a course is cancelled, the participant will receive a full reimbursement of the tuition fees (but not of the plane ticket or hotel expenses or any other costs), or will be enrolled in another course upon his decision (the cost of the original course will be applied to the cost of the replacement course).

GeoNeurale can not be responsible for any penalties incurred for cancellation or change of airline or hotel reservations.

Refunds:

GeoNeurale will promptly remit all refunds of tuition fees due to cancellations or annulment (less any appropriate non-refundable cancellation fee) within 30 days of the course cancellation.

Force Majeure:

GeoNeurale can not be responsible for cancellations due to "force majeure" events: airplane or airport strikes, emergency situations, natural catastrophes and all situations and incidents independent or outside the human control that can delay or cancel the course. In case of such events related cancellations the course tuition fees will be refunded to the client.

GeoNeurale is not responsible for any delay or absence caused by the training instructor or training instructor company for reasons which are independent or out of the control of GeoNeurale's decisions.

AGREEMENT: Upon enrollment all parties accept the above mentioned provisions. The above specified provisions shall regulate the agreement between GeoNeurale and the participant and the participant company and will enter into force upon enrollment.

REGISTRATION FORM

Please fill out this form and Fax to +49 89 8969 1117

or Email to Courses@GeoNeurale.com

Petrophysics of the Metamorphic and Igneous Rocks

Munich, 1 - 3 December 2010

Course Fee: 2300 Euro + 19 % VAT (VAT Tax is 100% refunded from the German Finance Ministry)

Name:

Company:

Address:

Job Title:

Phone:

Fax:

Email:

SIGNATURE: _____

www.GeoNeurale.com

INFORMATIONS, HOTELS, MAPS, LINKS

TRAINING LOCATION – RESEARCH CENTER

<http://www.geoneurale.com/documents/GATE-Y7.pdf>

GATE GARCHING

<http://www.geoneurale.com/documents/GATE-Y6.pdf>

MAP MUNICH-GARCHING

<http://www.muenchen.city-map.de/city/db/130208000001/14269/Garching.html>

MUNICH INFO and MAP MUNICH CENTRAL

<http://www.muenchen.de/home/60093/Homepage.html>

MAP MUNICH UNDERGROUND

<http://www.mvv-muenchen.de/web4archiv/objects/download/3/netz1207englisch.pdf>

HOTELS NEAR GeoNeurale

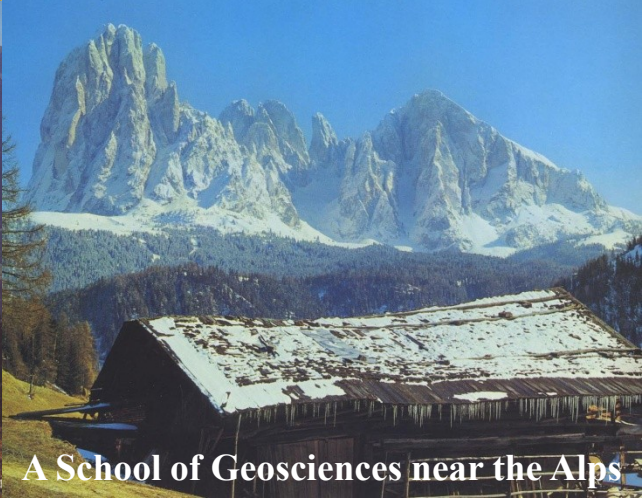
<http://www.geoneurale.com/documents/HOTELS-GARCHING.pdf>

BAVARIA INFO

<http://www.geoneurale.com/documents/Around-Munich-Info.pdf>



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A School of Geosciences near the Alps