GeoNeurale

Announces

Geophysical Insights in Seismic Interpretation

07 – 11 October 2013 (5 Days)

Integrated Session

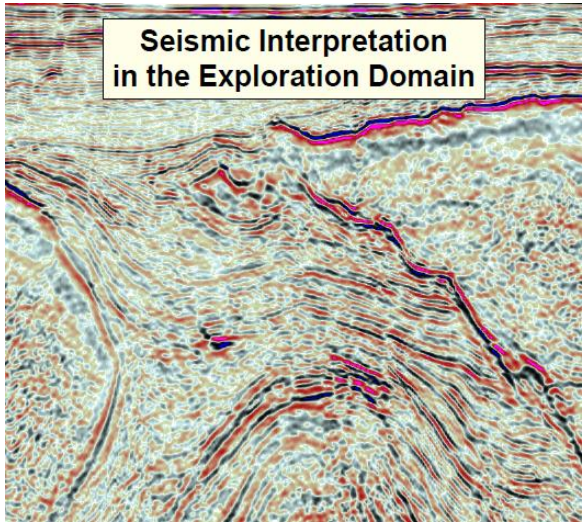
1 day: Introduction to seismic processing methods

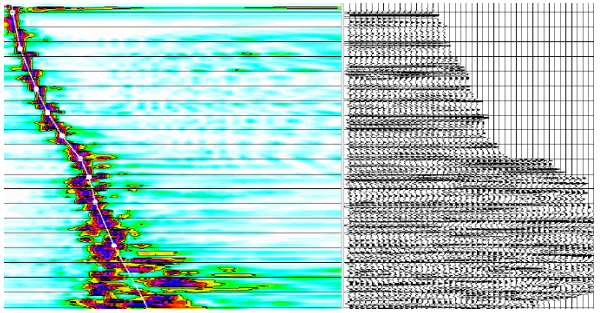
2 days: seismic interpretation theory

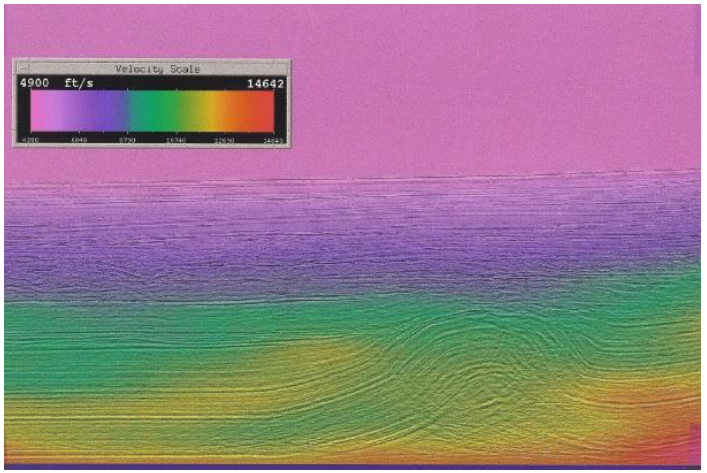
1 day: practical manual seismic interpretation on seismic sections

1 day: 3D seismic interpretation with professional software

Online Course Preparation







Geophysical Insights in Seismic Interpretation

MUNICH

at the

GATE – Garchinger Technologie und Gründerzentrum

07 – 11 October 2013

5 DAYS COURSE " INTEGRATED SESSION "

PROCESSING THEORY, SEISMIC INTERPRETATION THEORY, PRACTICAL MANUAL SEISMIC INTERPRETATION, 3D SEISMIC INTERPRETATION WITH PROFESSIONAL SOFTWARE

INSTRUCTOR: **Timothy Smith**

LEVEL: Intermediate

This course is primarily designed for explorationists/earth scientists who are advanced students, larger company personnel with 1 to 5 years of experience, and independent operators. The overall experience is directed towards optimization of seismic interpretation with regard to tightening budgets and increased expectations in the current hydrocarbon pricing environment.

AUDIENCE: Intermediate level geologists, geophysicists, seismic processors, independent explorationists, and team leaders/mid level management

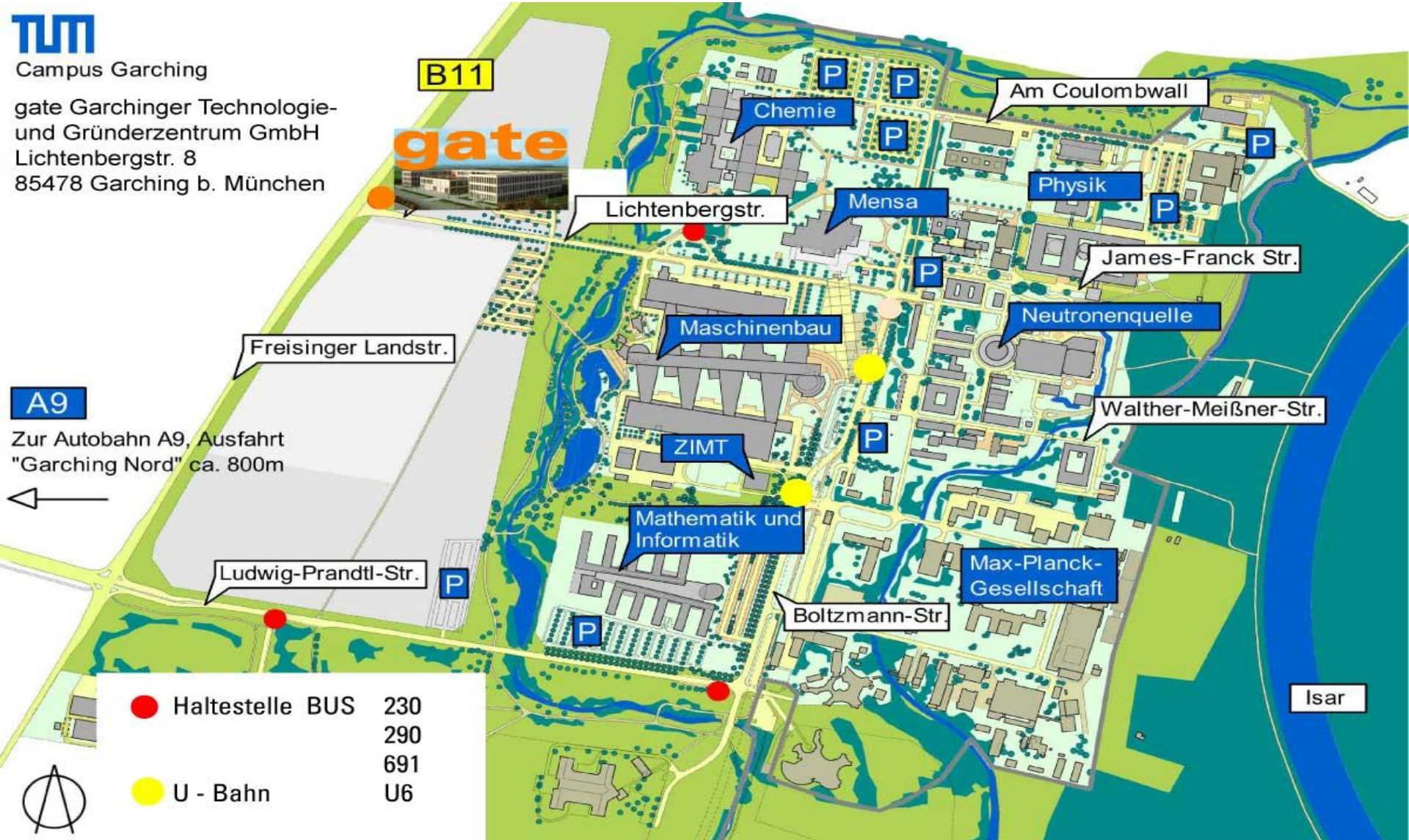
COURSE FEES: 3250 Euro + VAT (19%) (The VAT Tax is 100% refunded by the German Ministry of Finances)

REGISTRATION DEADLINE : 09 September 2013

ONLINE REGISTRATION: www.GeoNeurale.com

gate GeoNeurale Office and Training Location

at the Munich-Garching Research Center



Geophysical Insights in Seismic Interpretation

(Covering : Seismic Interpretation in the Exploration Domain)

Participants will expand their understanding of significant techniques and developments in exploration geophysics, and gain a greater appreciation of the strengths and weaknesses of various interpretation techniques.

This course is designed for geologically based seismic interpreters who wish to expand their understanding of significant techniques and developments in exploration geophysics.
This enhanced understanding is vital for exploration success, since increasing numbers of geologists and geologically oriented geophysicists are involved in seismic interpretation. Attendees should gain a greater appreciation of the strengths and weaknesses of various interpretation techniques and geophysical approaches for a given interpretation project. The course topics, listed below, are presented by means of lectures, examples, and interspersed exercises.

ONLINE COURSE PREPARATION

Starting on the 16th September 2013

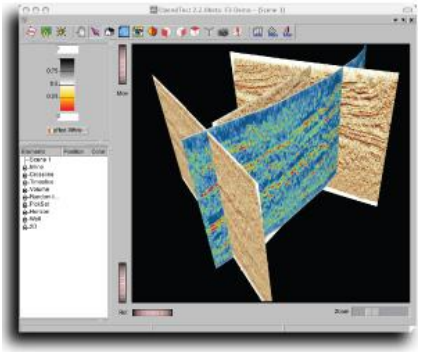
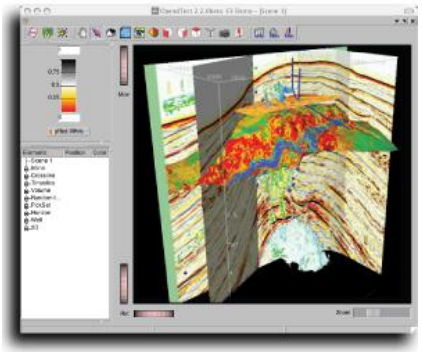
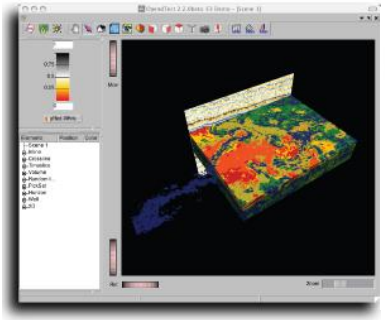
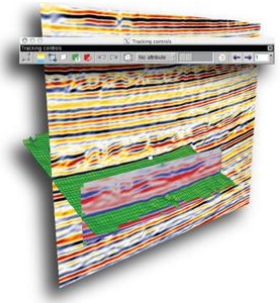
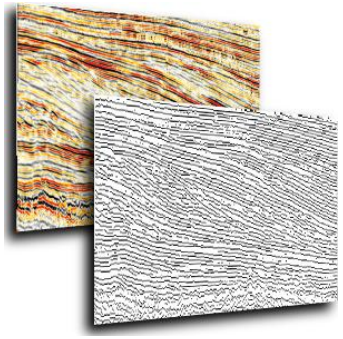
PROGRAM

Fourier transform and the sampling theorem, Hilbert transform, Convolution/Deconvolution,Filters, Ricker Wavelet and Spectrum, function shift / spectral changes, spectrum shift / function changes

1 DAY SEISMIC INTERPRETATION PRESENTATION
with
OpendTect

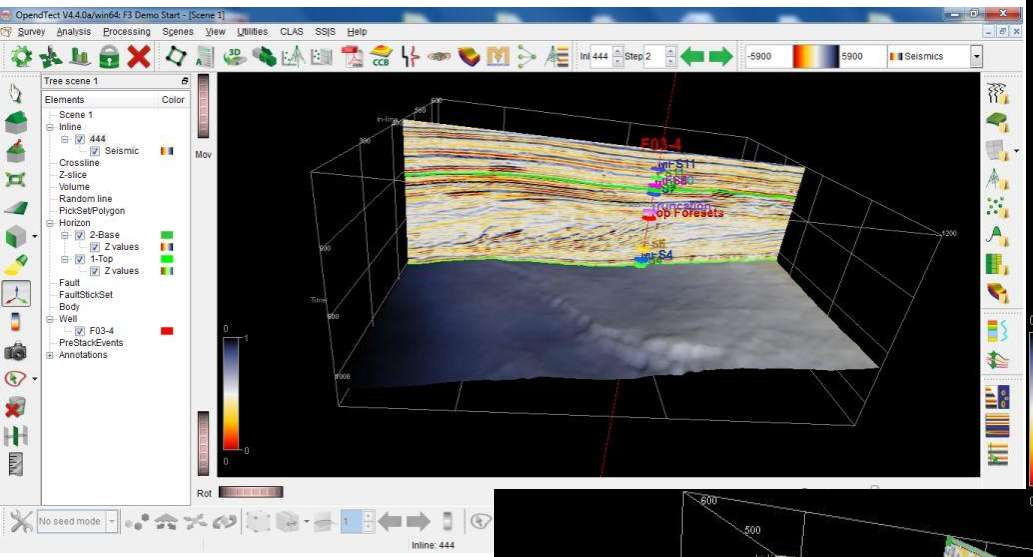
Data loading, creation of a steering cube and horizon cube, well-tie, visualization of horizons slices, inline , crossline, transverse, horizontal sections, autotracking, anttracking, attributes generation, attributes analysis, volume rendering, spectral decomposition, crossplotting, velocity analysis, sequence stratigraphy.

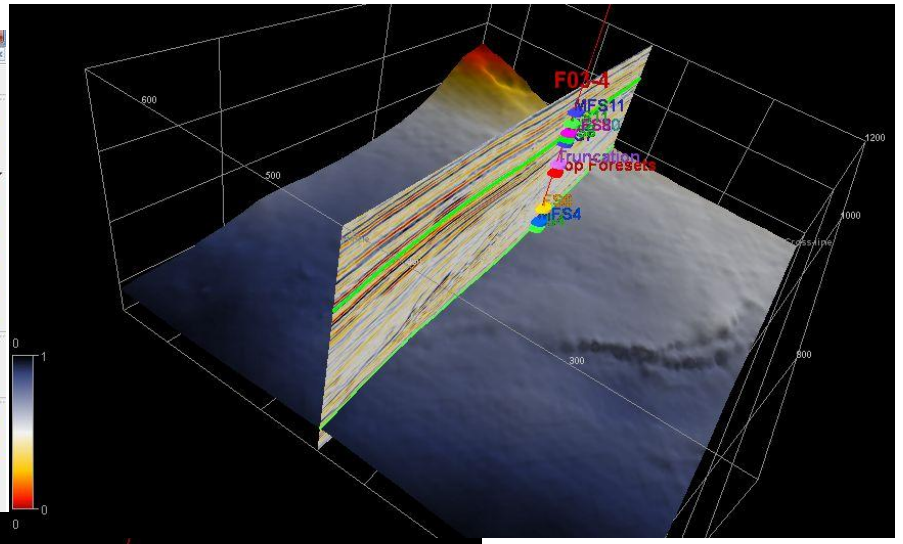
The participants will obtain a test license to install in their computer to follow interactively the software presentation and continue the software evaluation and training after the course.

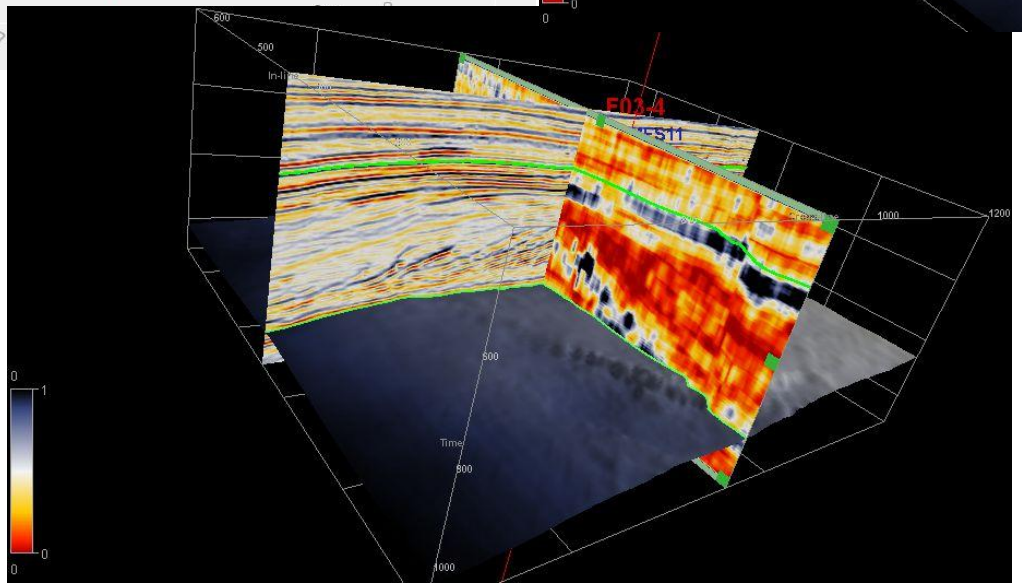






THE MOST COMPLETE SEISMIC INTERPRETATION COURSE

- ONLINE COURSE PREPARATION
- INTRODUCTION TO SEISMIC PROCESSING
- SEISMIC INTERPRETATION THEORY
- PRACTICAL INTERPRETATION ON HARDCOPY 3D AND 2D SEISMIC SECTIONS
- PRACTICAL INTERPRETATION WITH INTERPRETATION SOFTWARE OPENDTECT







PROGRAM

This five day course provides a robust background in both the fundamentals and advanced aspects of 2D and 3D reflection seismic interpretation. It is divided into two essentially equal portions: the first consists primarily of lectures and associated exercises, and the second consists of 2D and 3D seismic interpretation projects designed to illustrate many of the concepts and techniques of seismic interpretation discussed in the lecture portion. The interpretation exercises use paper data because direct hands-on methods provide the best overall educational experience. They also avoid problems of non-familiarity with various software packages and licensing issues. The interpretation techniques which are demonstrated and employed in these exercises can later be effectively transposed to the workstation environment.
This course is primarily designed for explorationists/earth scientists who are advanced students, larger company personnel with 1 to 5 years of experience, and independent operators. The overall experience is directed towards optimization of seismic interpretation with regard to varying exploration targets, exploration and development regimes, and increased expectations in the current hydrocarbon production environment.

Topics covered in the lecture portion include the following:

* The purposes and goals of seismic interpretation
* General concepts and concerns in seismic interpretation
* Elements of seismic acquisition and processing; the convolutional model, deconvolution, seismic phase and character, description and sensitivity of seismically derived velocities, and related topics
* Seismic migration: Time, Depth (Kirchoff, Wave, Beam Steer), Wide/Multi Azimuth. Particular reference is given to pre-stack depth migration.
* Vertical depth conversion of 2D and 3D time migrated data; seismic anisotropy
* 2D vs. 3D seismic data interpretation techniques
* Grid guidelines and limitations in mapping
* Thin bed resolution and analysis
* Statics corrections for land data
* AVO and amplitude anomalies
* Generation and use of seismic inversions
* Seismic Interpretation with OpendTect demo
* Visualization of Seismic data: The seismic steering cube
* Velocity Model Building
*Horizon, fault and structural interpretation
* Sequence stratigraphy
* Seismic attributes generation and interpretation
* Neural Networks for Attributes calculation and spatial distribution
* Spectral Decomposition

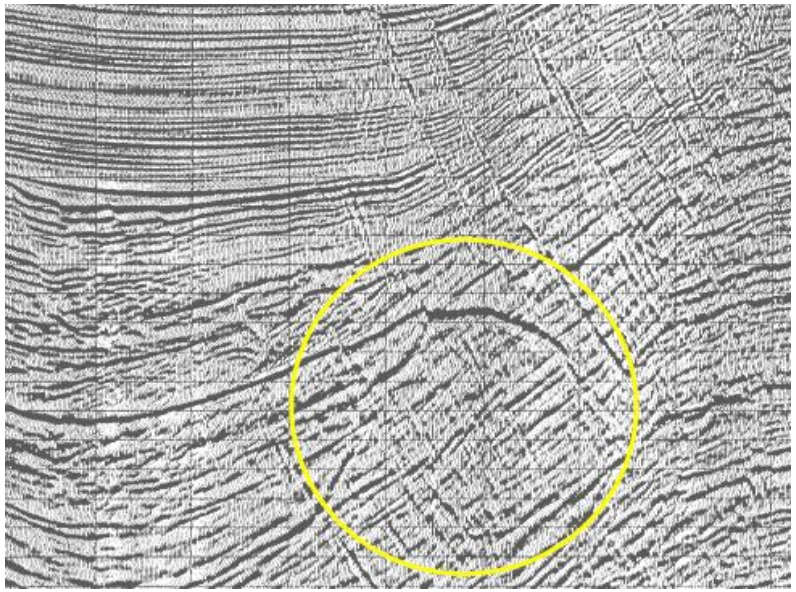
New topics in the October 2013 course session

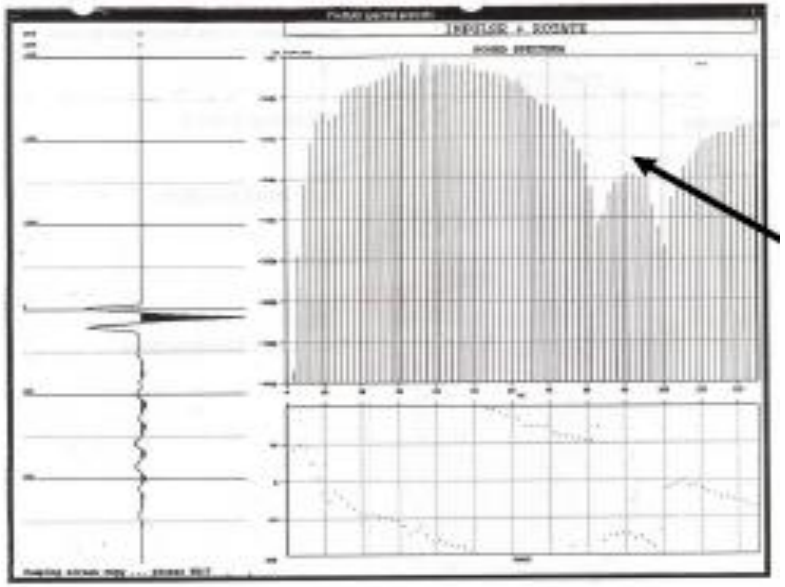
Additional section on processing methods:

- -Buried Statics
- -Tomographic Update
- -Handling of Karsted Zones

PRACTICAL INTERPRETATION

The interpretation portion consists of two projects. The first consists of 8 2D lines from a complex structural region. This exercise involves tying these data with recognition of the limitations associated with the 2D format. The second consists of 15 lines from a 3D project covering the same region; some of the 3D lines overlie the 2D data and provide direct comparison between the two data sets. These data are used to prepare a structure contour map; and the exercise and course end with a discussion of this map and the overall set of processes used in effective seismic interpretation.





Tim Smith

BIOGRAPHY

Timothy E. Smith - Curriculum Vitae

Dr. Timothy E. Smith (PhD, Ohio State University, 1976, Paleomagnetism and plate tectonics) is currently a consulting exploration geophysicist with BHP Billiton Petroleum in Houston, Texas. Prior to his current posting, he taught geophysics and structural geology at Eastern Kentucky and Ohio State Universities (1976-1977). He joined Gulf Oil in late 1977 and worked as an exploration geophysicist in several international assignments, including Tierra del Fuego, the Porcupine Seabight off Ireland, the Niger delta, offshore Brazil, Ras al Khaimah, the Red Sea, the Norwegian sector of the North Sea, and Gulf of Carpentaria, northern Australia. He left Gulf in 1984 to join Sohio/BP where he worked in the offshore Gulf of Mexico, and was directly involved with the Atlantis, Mad Dog, Shenzi, Neptune, and Thunder Horse discoveries which comprise over 1.5 billion bbl of recoverable oil. He was also associated with the development of BP's internal depth migration code in 1992-93. He left BP in 2003 to join Unocal and was involved with the Knotty Head discovery which contains approximately 250 million bbls of recoverable oil. He left Unocal in 2005 to join BHP Billiton where he currently is the lead geophysicist for a large block of acreage in the offshore northwest Florida shelf in which a well is scheduled in early 2013. Since 1992, he has taught over 35 sessions and variations of the seismic interpretation course for the SEG, CSEG, AAPG, the University of Tulsa, and GeoNeurale.

PROFESSIONAL EXPERIENCE:

September 2005 to Present: BHP Billiton, Houston TX

Senior Geophysicist, Domestic Exploration, GOM

- Coordinator for Gulf of Mexico regional mapping project; maps include base salt, Miocene, Paleogene, and Cretaceous horizons. Assisted in design of regional mosaic 3D depth project based on all in house 3D depth surveys. The mosaic 3D covers most of Green Canyon, Walker Ridge, Garden Banks, Walker Ridge, Atwater Valley, and Mississippi Canyon areas, about 4500 OCS blocks (~105,000 sq km). Supported exploration efforts in Green Canyon area (Shenzi, GC 654) and Double Mountain (GC 600). April 2003 – September 2005: UNOCAL, Sugar Land, TX

Exploration Geophysicist, Domestic Exploration, GOM

- Lead geophysicist for Knotty Head major discovery, GC 512, April -August, 2005.
- Assessment of EnCana disposal properties in the GOM, Feb – March, 2005

  Regional GOM top and base salt interpretation on 2D PrSDM depth data, Dec- April 2005
- Lead geophysicist for 130 block pre-stack depth imaging project in central Green Canyon, interpretation (led to successful bid for APC-BHP-NXY-UCL consortium on Knotty Head prospect, GC 512), and well design. GC 512 #1 well drilling as of July, 2005.
- Lead geophysicist for Unocal operated Sequoia prospect (MC 941), well completed as dry hole with minor shows.
- Lead geophysicist for 100 block pre-stack depth imaging project in central Garden Banks and subsequent successful bid on GC 603 (with Kerr McGee).
- 2D and 3D seismic interpretation in Alaminos Canyon area, western GOM, assessment of North Brontosaurus prospect (AC 731).
- Wells participated in: MC 941#1 (2004), GC 512#1 (2005).

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BIOGRAPHY

July 1984 – April 2003: BP/SOHIO, Houston, TX

Exploration Geophysicist, Domestic Exploration, GOM

- Lead geophysicist in southern Green Canyon/Atwater Valley fold belt, specializing in structural and attribute interpretation, and 3D pre-stack depth migration design and implementation. Lead geophysicist for GC 823 #1 (Puma) sub-salt discovery (well drilled after departure to Unocal).
- Lead BP geophysicist for BHP operated GC 654 #1 (Shenzi) sub-salt oil discovery, 2003-2004.
- Lead BP geophysicist for BHP operated sub-commercial GC 872#1 well (Frampton), 2002.
- Lead geophysicist for Chevron operated MC 727#1 sub-salt well (Poseidon), 2000.
- Lead geophysicist for BP operated GC 563 #1 sub-salt sub-commercial discovery (Timon), 1999.
- Lead BP geophysicist for Amoco operated GC 826 #1 sub-salt discovery (Mad Dog), 1998-89.
- Review geophysicist for Thunder Horse discovery (GC 778), 1998.
- Lead geophysicist for BP operated GC 699 #1 sub-salt discovery (Atlantis), 1998.
- Lead geophysicist for Mississippi Canyon and Walker Ridge lease acquisition effort, helped secure 18 blocks covering six sub and extra salt prospects (1994-97), St Malo (BP Lead B) and Das Bump prospects drilled successfully in 2003-4.
- Mapped and presented eventual commercial properties (in which BP did not participate) in VE 68 (Seagull, 1986, 100 BCF), ST 260 (Phillips, Teak field, 1987, 100 MMBOE), and GB 260 (Amerada, Bald Pate field, 1991, over 200 MMBOE).
- Mapped deep Miocene pay (ca. 100 MMBOE) and sub-salt structure in MC 28 - 72 (Pompano field), proved commerciality, 1989.
- Co-discovered GC 72 (Popeye) field, 1986.
- Exploitation: Mapped and calibrated (pay prediction) upper portion of 700+ MMBOE Mars field (largest field in GOM), and main pay in 200+ MMBOE Exxon/BP Diana field, 1993-94.
- R & D: Complex Structures group, helped develop and test in-house 3DEMIG 3D map migration package, portions currently incorporated in Paradigm's Geodepth migration package and Promax, 1990-92.
- Wells participated in: GC 72 #1 (1986), EB 209 #1 (1988), MC 28 #3 (1989), KC 255#1 (1990), GC 699 #1 (1998), GC 826 #1 (1998-9), GC 563 #1 (1999), GC 727 #1 (2000), GC 872 #1 (2001), GC 654 #1 (2002), AT 489 #1 (2002); on–site well experience with GC 699 #1 and GC 563 #1.

September 1977 – July 1984: Gulf Oil Company, Houston, TX

Geophysicist, International Exploration

- West of Shetlands, UK (1977); Tierra del Fuego, Argentina (1977-78); Porcupine Seabight, Ireland,(1978); Nigeria gas reserves (1978), Northwest shelf, Australia (1979); Halten Banks, Norway (1979); Amapa platform and Barreirinhas and Reconcavo basins, Brazil (1979-81); UAE and Gulf of Suez (1982); Offshore Sicily (1982-83); Northwest Colombia (1983-84); Green Canyon, GOM (1984).

BIOGRAPHY

ACADEMIC EXPERIENCE:

June to August 1977: Ohio State University

Adjunct Assistant Professor of Geology

-

September 1976 to June 1977: Eastern Kentucky University

Assistant Professor of Geology

December 1975 to June 1976: Ohio University

Assistant Professor of Geology

-

INDUSTRY COURSES TAUGHT:

In House

Introduction to Reflection Seismology (9 sessions)

Advanced 2D Seismic Interpretation (3 sessions)

3D Map and Depth Migration (2 sessions)

Industry (SEG, AAPG, and CSEG)

Interpretation Success in the Exploration Domain (and predecessors, typically co-taught, 20 sessions)

University of Tulsa

Introduction to Reflection Seismology (19 sessions)

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EDUCATION:

Ph. D., Geophysics, Ohio State University, 1976

B. A., Geology, Ohio Wesleyan University, 1969

www.GeoNeurale.com

Registration Details

•Course fee: 3250 Euro + VAT (19%)

•Registration deadline : 09 September 2013

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
85748 Munich - Garching
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: “Seismic Interpretation course fee".

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

Cancellation 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 annullment (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 parts 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

Geophysical Insights in Seismic Interpretation

Munich, 07 - 11 October 2013

Course Fee: 3250 Euro + VAT (19%) (The VAT Tax is 100% refunded by the German Ministry of Finances)

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

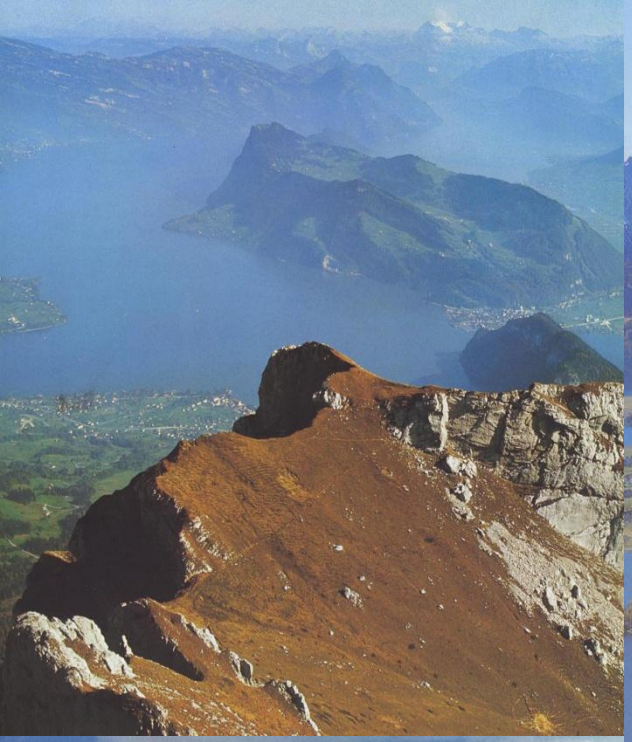
http://www.mvv-muenchen.de/web4archiv/objects/download/3/netz1207englisch.pdf

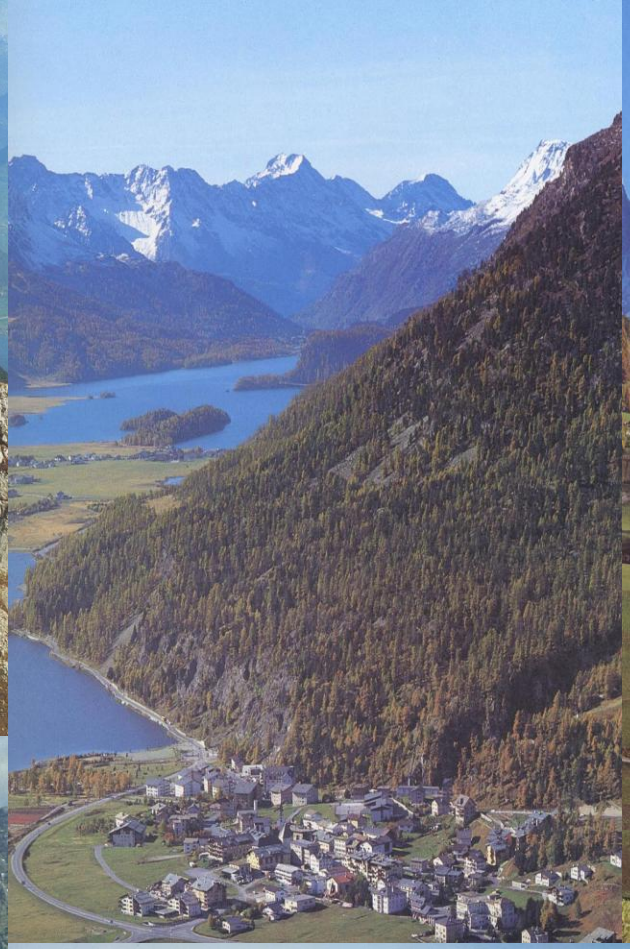
HOTELS NEAR GeoNeurale

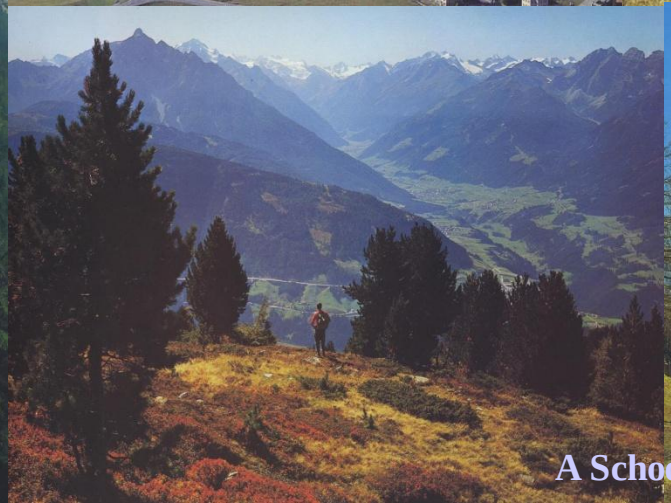
http://www.geoneurale.com/documents/HOTELS-GARCHING.pdf

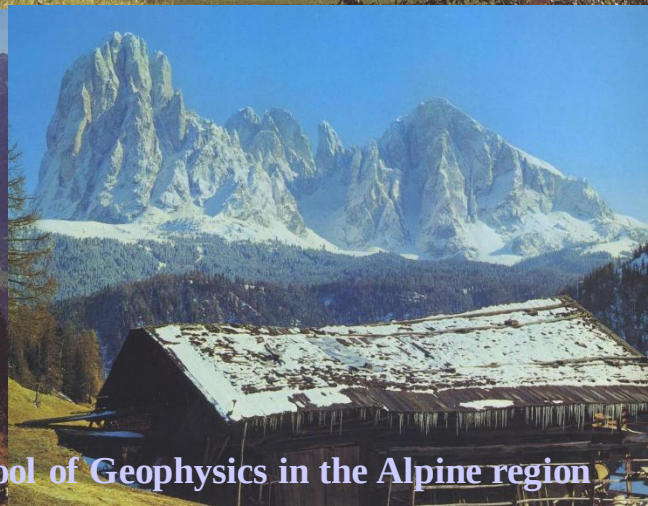
BAVARIA INFO

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









A School of Geophysics in the Alpine region