

EAGE

EUROPEAN
ASSOCIATION OF
GEOSCIENTISTS &
ENGINEERS



EUROPEC

Barcelona '10

Second Announcement

A New Spring for Geoscience

www.eage.org



gasNatural



ExxonMobil

72nd EAGE Conference & Exhibition incorporating SPE EUROPEC 2010 | 14-17 June 2010 | CCIB Barcelona

Sponsors

Main Sponsors



Sponsors



Table of Contents

Welcome		Student Programme	
EAGE President's Welcome	4	Introduction	24
SPE President's Welcome	4	Student Sports Café Registration	24
Invitation to Barcelona	5	Student Programme Highlights	24
Local Advisory Committee	5	Student Programme Overview	24
		Have We Got Your Attention Yet?	25
Barcelona 2010 At a Glance...	6	Travel Grants	25
		Social Programme	
Conference Highlights		Icebreaker Reception	25
Monday 14 June	8	Conference Evening	25
Tuesday 15 June	8	Family Members	25
Wednesday 16 June	8	Tours	26
		Exhibition	
General Information		Opening Hours Exhibition	26
About Barcelona	8	EAGE Pavilion and Bookshop	26
The Venue	9	Job Centre	26
How to Get There	9	Consultancy Square	26
Public Transport Card	9	Learning Geoscience Square	26
Opening Hours Registration	9	Sponsoring Opportunities	26
Important Dates	9	Exhibitors List	27
Barcelona 2010 CD-ROM	9		
Internet Access	9	Registration	
PACE Support	9	Registration Fee Includes	29
Accommodation	9	How to Register	30
		Workshop Package	30
Technical Programme		Methods of Payment	30
Introduction	10	Exhibitors' Badges	31
Accepted Submissions Available on EarthDoc	10	Official Invitations	31
		Cancellation and Changes Policy	31
Workshops	10	Liability Clause	31
Field Trips	19		
Short Courses	21		

Welcome

EAGE President's Welcome



Amigos bienvenidos en Barcelona!

On behalf of the European Association of Geoscientists and Engineers I am delighted to invite you to the 2010 Conference & Exhibition to be held in the inspiring city of Barcelona. The theme of the conference "A New Spring for Geoscience" reflects the fresh optimism most of us

are beginning to feel with regard to the recovery of our industries from what has been an extremely challenging economic environment. Hopefully the business climate will be even more positive by the time we meet in Barcelona.

This is our 72nd Annual Conference & Exhibition and the sixth year of the partnership with SPE EUROPEC in offering a collaborative platform to share best practices, learn about new technologies and explore innovative solutions to ensure that we achieve a balance between resource growth and energy diversification while reducing our impact on the environment.

We are proud to be staging the largest international multi-disciplinary geoscience event and believe participants will be richly rewarded by the exceptional range of activities on offer including the main conference, the exhibition, numerous workshops, field trips, education courses, and a special student programme, not to mention our legendary conference evening and other social occasions.

I am confident that Barcelona 2010 will provide an excellent setting to learn about new ideas and technology, network with colleagues, pursue business and career opportunities or, when time allows, simply to soak up the ambience of this classic Mediterranean city with a very modern outlook. Mark the days of 14-17 June in your diary and 'Nos vemos en Barcelona'.

Mahmoud Abdulbaqi
EAGE President 2009-2010

SPE President's Welcome

Dear Colleagues,

It gives me great pleasure to invite you to attend SPE EUROPEC 2010 and the 72nd EAGE Conference & Exhibition taking place from 14-17 June 2010 at the CCIB in Barcelona, Spain.

The event theme this year is "A New Spring for Geoscience" and as the largest cross-disciplinary earth sciences conference in Europe, we bring together leading minds from across the globe to generate creativity, inspiration and innovation. We aim to use this opportunity to discuss the challenges we face to become more efficient in both replacing conventional energy resources and discovering new supplies of unconventional ones.

Barcelona is the perfect backdrop to this event where we hope to harness the expertise and experiences of not only established experts but newcomers to the industry and the breadth of knowledge they have to offer. Set between the Pyrenees and Mediterranean Sea, Barcelona is a city that offers a wide selection of social activities to compliment what we hope will be an exceptional event that will see SPE and EAGE work together for the sixth year in a row.

We sincerely look forward to meeting you at SPE EUROPEC and the 72nd EAGE Conference & Exhibition in June next year.

Behrooz Fattahi
2010 SPE President



Invitation to Barcelona



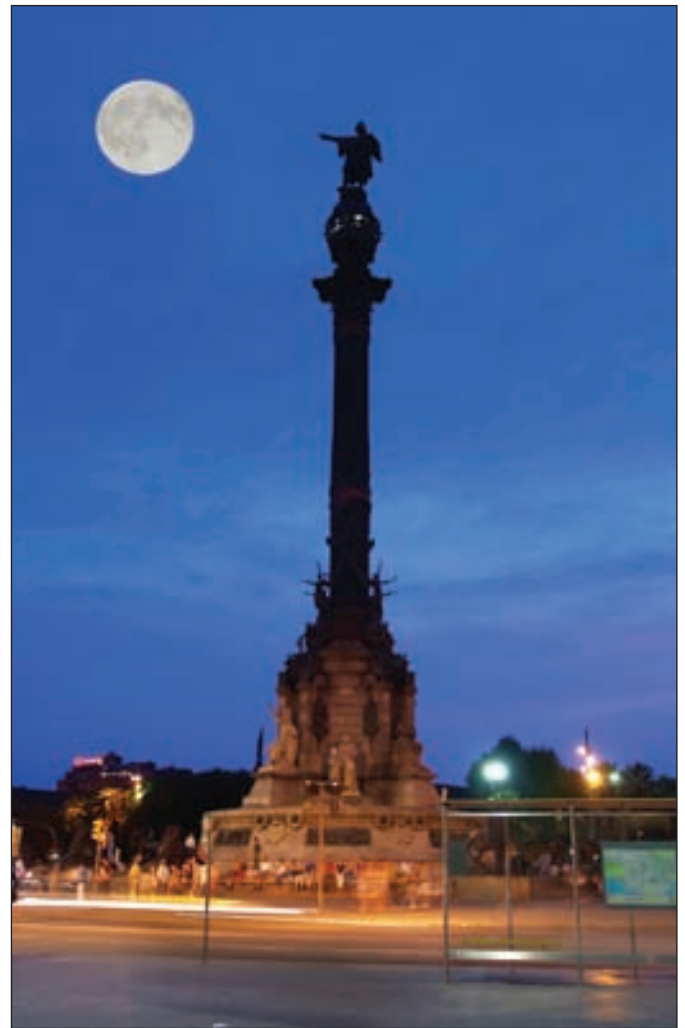
On behalf of the Local Advisory Committee, I wish to welcome you to our 72nd EAGE Conference & Exhibition incorporating SPE EUROPEC 2010, which will take place from 14-17 June 2010 in Barcelona.

We are all conscious that this event is being launched in demanding times. However, we are convinced

that these are the times when creativity, inspiration, innovation and efficiency are most valuable to our industry. The need to replace conventional energy resources will not diminish, plus the world is counting on a growing supply of unconventional sources. Our challenge in these times is to be more efficient in supplying both. We hope to bring to Barcelona a global talent that will update us on the current status of leading edge technologies applied to our quest for subtler conventional resources together with a new breed of geoscientists who will disseminate their accumulated experiences in the vast array of unconventional alternatives.

Barcelona is a perfect place for this meeting. Placed in a beautiful setting, nestled between the striking Pyrenees and the Mediterranean Sea, it has a deserved reputation for inspiring creativity and innovation. It is also known as one of the most welcoming and enjoyable cities in Europe. The timing is also ideal, just about to exit Barcelona's springtime and ready to enter "A New Spring for Geoscience". A warm welcome to Barcelona 2010!

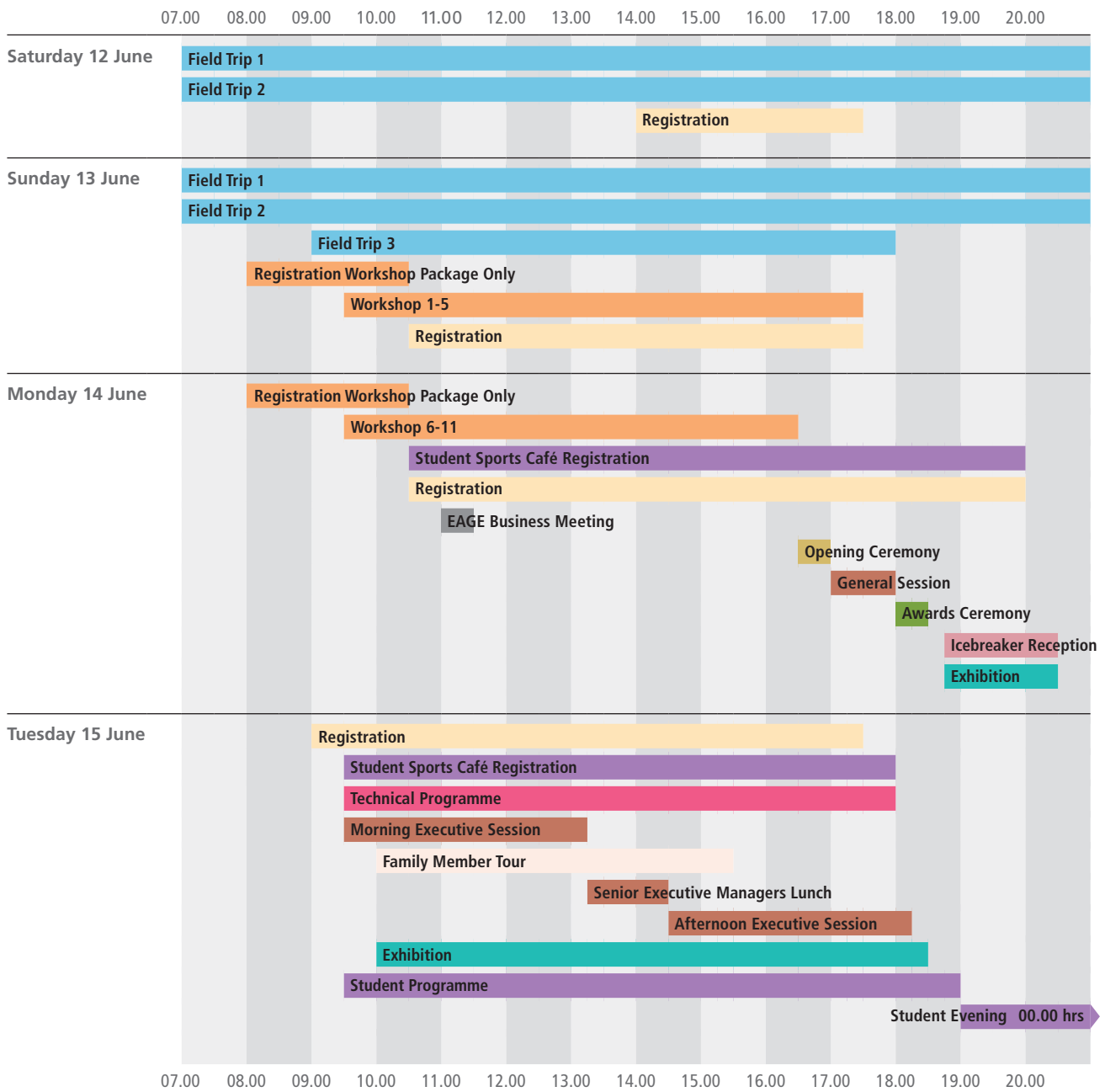
Marcos Mozetic
Local Advisory Committee Chairman

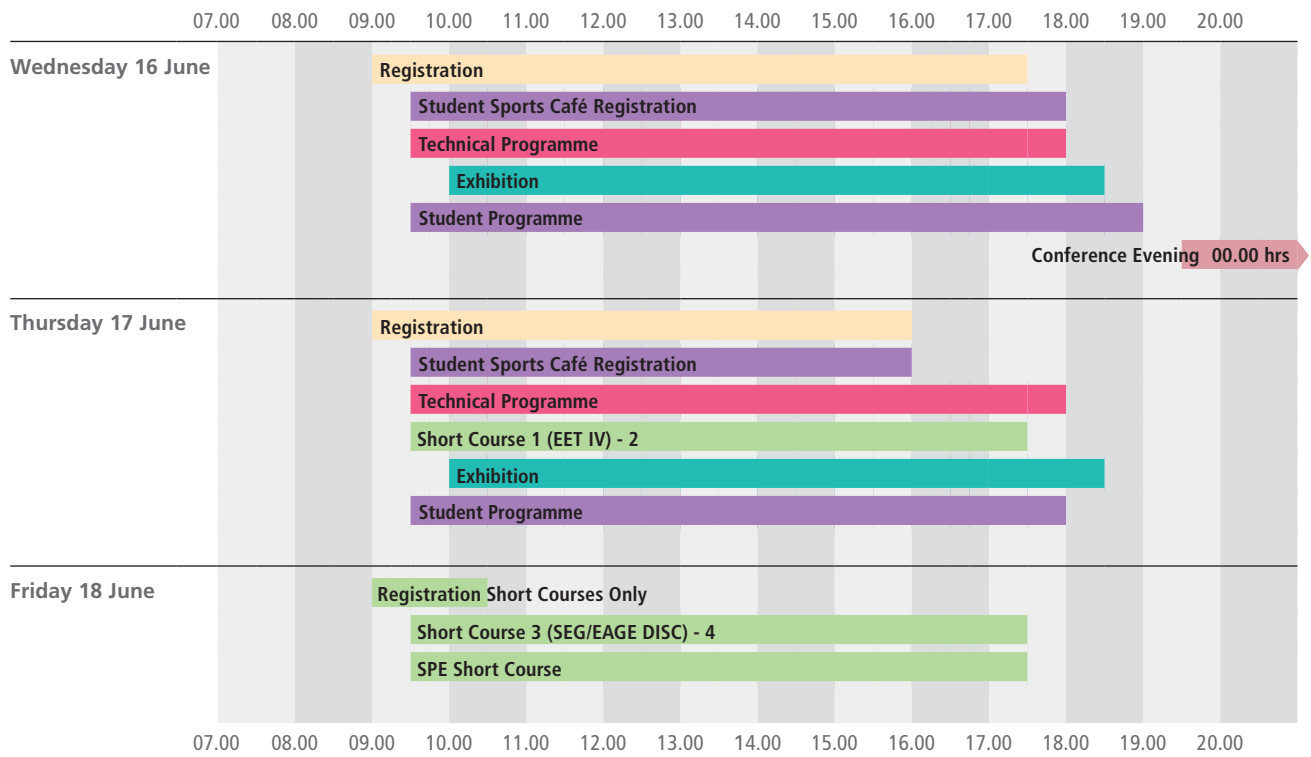


Local Advisory Committee

Marcos Mozetic (<i>Chairman</i>)	Repsol Exploration
Maria José Albalá	Repsol
Elvira Álvarez-de-Buergo	Repsol Exploration
Lluís Cabrera	Barcelona University, Faculty of Geology
Benjamín Calvo	School of Mines, Madrid
Andrés Carbó	Complutense University, Faculty of Geology
Gonzalo Fernández Viejo	UNION FENOSA
María del Carmen González Díaz	Gas Natural
Carlos Macellari	Repsol Exploration
Jorge Navarro	CEPSA
Luis Travesedo	CEPSA
Francisco Velasco	Gas Natural

Barcelona 2010 At a Glance...





Conference Highlights

Monday 14 June

EAGE Business Meeting

11.00 – 11.30 hrs

This session gives all EAGE members the opportunity to meet the EAGE Board and to ask questions concerning the association.

Opening Ceremony

16.30 – 17.05 hrs

Chairman: Marcos Mozetic (*Chairman LAC Barcelona*)

Speakers: Government Representative
Mahmoud Abdulbaqi (*EAGE President 2009-2010*)
Behrooz Fattahi (*2010 SPE President*)

General Session

17.05 – 18.00 hrs

Chairman: Marcos Mozetic (*Chairman LAC Barcelona*)

Speakers: Jose Maria Egea Krauel (*GasNatural*)
Tim Cejka (*ExxonMobil*)
Representative IEA

Awards Ceremony

18.00 – 18.30 hrs

Chairmen: Mahmoud Abdulbaqi (*EAGE President 2009-2010*)
Davide Calcagni (*EAGE President 2010-2011*)

Icebreaker Reception

18.45 – 20.30 hrs

Tuesday 15 June

Morning Executive Session – Latin American NOC's Advances in the E&P Strategy

09.30 – 13.10 hrs

Chairmen: German Espinosa (*Cepsa Colombia*)
Carlos Macellari (*Repsol*)

Latin America has been characterized by the presence of long-lived and strong NOC's. However, each NOC is currently facing different challenges related to their internal circumstances and strategies. Facing the development of massive new resources, for example, or expanding for the first time outside their national boundaries. Other NOC's are redesigning their strategy to concentrate back in their country of origin, while some are newly created and developing a new business niche. This meeting will explore the different challenges facing Latin

American NOC's in the light of their particular realities and needs as viewed by their top executives.

Senior Executive Managers Lunch (SEM Lunch)

13.10 – 14.30 hrs

Speaker: Carlos A. Garibaldi (*Standard Chartered Securities (North America) Inc.*)

The Senior Executive Managers Lunch is sponsored by BGP and Paradigm.



Afternoon Executive Session – Corporate Responsibility Planning “Managing the Expectations”

14.30 – 18.10 hrs

Chairmen: Eduardo Garcia Moreno (*Repsol*)
Carl Trowell (*WesternGeco*)

Wednesday 16 June

Conference Evening

19.30 – 24.00 hrs

All registered full delegates and registered family members are invited to this wonderful evening. For more information see page 25.

The Conference Evening is sponsored by Maersk Oil.



General Information

About Barcelona

Barcelona is the capital of Catalonia and the second largest city in Spain with a population of 1,615,908 (2008). The city is a cosmopolitan Mediterranean city that incorporates in its urban street pattern Roman remains, medieval districts and the most beautiful examples of Modernism and 20th century avant-garde art. Barcelona is an important cultural centre and a major tourist destination and has a rich cultural heritage. Particularly renowned are the architectural works of Antoni Gaudí and Lluís Domènech i Montaner, which have been designated UNESCO World Heritage Sites. Barcelona has become Europe's most popular short break destination. Visitors taking a stroll through the streets of Barcelona will be surprised at every step. Pedestrian streets in the old districts, green spaces and a splendid waterfront filled with modern structures all reflect the city's aim of integration. Barcelona has managed to exalt its past without forgetting its commitment to the future. Discover a great city and join us in Barcelona!

The Venue

The 72nd EAGE Conference & Exhibition incorporating SPE EUROPEC 2010 will be held at the CCIB (Centre Convencions Internacional Barcelona) in Barcelona, Spain.



CCIB
Rambla Prim 1-17
Barcelona, Spain
Tel.: +34 932301000

How to Get There

The venue is easily accessible by bus, train and metro. Whatever the transportation, the closest station to the CCIB is the El Maresme-Forum station. The stop is just a few minutes walk from the venue. The airport El Prat is located 20 kilometres from the CCIB.

Public Transport Card

A free public transport card will be available for all registered full delegates and registered family members.

Opening Hours Registration

Opening Hours Workshop Package Only

Sunday 13 June 08.00 – 10.30 hrs
Monday 14 June 08.00 – 10.30 hrs

Opening Hours all Registration

Saturday 12 June 14.00 – 17.30 hrs
Sunday 13 June 10.30 – 17.30 hrs
Monday 14 June 10.30 – 20.00 hrs
Tuesday 15 June 09.00 – 17.30 hrs
Wednesday 16 June 09.00 – 17.30 hrs
Thursday 17 June 09.00 – 16.00 hrs

Opening Hours Short Courses Only

Friday 18 June 09.00 – 10.30 hrs

Important Dates

Registration Opens	01	December	2009
Deadline for EAGE Call for Papers	20	January	2010
Deadline for Early Registration	15	March	2010
Deadline for Pre-registration	15	May	2010
Conference & Exhibition	14-17	June	2010

Barcelona 2010 CD-ROM

The EAGE extended abstracts and SPE technical papers will be available on CD-ROM for all full delegates (included in the conference fee). The Barcelona 2010 CD-ROM can be collected at the EAGE pavilion in exchange for the CD-ROM voucher, which is attached to your badge.

Internet Access

Weatherford Internet Lounge will be created in the exhibition hall and Wi-fi spots will be available in the conference area.

Internet access is sponsored by Weatherford.



Weatherford

PACE Support

The EAGE-PACE programme supports geoscientists from Central and Eastern Europe to actively participate in the 72nd EAGE Conference & Exhibition. Speakers of accepted presentations may apply for this support. Please refer to the conference website for more details and in due time, the PACE application form.

Accommodation

EAGE, in cooperation with Grupo Pacifico, has selected a number of hotels and negotiated special accommodation rates for those attending the 72nd EAGE Conference & Exhibition incorporating SPE EUROPEC 2010 in Barcelona. Please refer to the Grupo Pacifico link on our website, www.eage.org. This reservation system allows you to search for hotels by star rating and area, view a map showing the location in relation to the CCIB and find detailed information about each hotel.

Grupo Pacifico is handling the accommodation bookings/payment, so for all communications concerning accommodation, kindly refer to:

Grupo Pacifico
Marià Cubí 4, Principal
08006 Barcelona
Spain
Tel: +34 932 388 777
Fax: +34 932 387 488
E-mail: eage2010@pacifico-meetings.com

Discounted room rates at the official hotels are limited, so do not delay with booking your hotel as the demand for rooms in Barcelona is high during EAGE 2010!

Please note that the services of the hotel bookings office are extra services and not obligatory.



Technical Programme

☀ Introduction

The technical programme consists in oral and poster presentations. Workshops, field trips and short courses are offered as well, all covering a whole range of geoscience disciplines. The oral and poster sessions will run parallel from 15 to 17 June. The workshops will be offered in the workshop package, which are scheduled on Sunday 13 and Monday 14 June, prior to the conference and exhibition. Technical field trips are scheduled before the conference and exhibition, on Saturday 12 and Sunday 13 June. To complement the event, the short courses are for the first time scheduled on Thursday 17 and on Friday 18 June. This will give everyone the opportunity to attend one of these courses.

The deadline for submitting an extended abstract for Barcelona 2010 is 20 January 2010. Please refer to the EAGE website to learn more about the submission information and template instructions.

The Technical Programme is sponsored by Statoil and WesternGeco.



☀ Accepted Submissions Available on EarthDoc

All the accepted submissions will be added to EarthDoc and will be available approximately 14 days prior to the event. This allows you to browse the conference material prior to the event. EarthDoc is the online geoscience database of EAGE. On EarthDoc you can find over 20,000 papers, such as abstracts from previous EAGE meetings, articles from various journals and more. Check it out on www.earthdoc.org. EAGE members have free access to EarthDoc.

Workshops

Workshop 1

☀ Migration Velocity Analysis in Anisotropic Media – What Is Possible and What Is Impossible?

Convenors: Tariq Alkhalifah (SAC – KACST)
Sergey Fomel (The University of Texas at Austin)
Paul Fowler (WesternGeco)
Francois Audebert (Total)

Sunday 13 June
09.30 – 17.30 hrs

Workshop Description

One of the most challenging problems in seismic imaging is anisotropic parameter estimation. Although there is a variety of imaging algorithms for anisotropic media, anisotropic parameter estimation has remained an enigma. The goal of this workshop is to excite a discussion of challenges and an exchange of recent developments on the subject of parameter estimation in anisotropic media for purposes of imaging.

Recently a lot of attention has been directed to prestackdepth migration methods in anisotropic media, in particular reverse time migration, as the increasing availability of computational power allows for such expensive algorithms. However, the benefits of such migrations can only be realized if we can accurately describe the medium. This is especially true for anisotropic migration, where the number of parameters required for describing the medium and the ambiguities among parameters make estimating them a challenging task. This workshop will focus on migration-based velocity determination, henceforth referred to as migration velocity analysis (MVA), taken here in its broader sense and on parameter estimation in anisotropic media. The discussions and presentations at the workshop may tackle the following issues:

- What MVA methods are available for anisotropic media?
- How important is the speed or accuracy of anisotropic migration?
- What role can common-angle or common-azimuth gathers play in anisotropic media?
- What does residual moveout mean in anisotropic media and how do we represent it?
- How do we update the anisotropic parameters using residual moveout? (i.e. vertical updates, tomography, full wavefield inversion,
- What parameters are invertible?
- What is the role of additional information (e.g., well logs, vertical seismic profiling, structural interpretation)?
- What is the role of constraints and regularization of the anisotropic and velocity parameters?
- What is the uncertainty in parameter estimation?

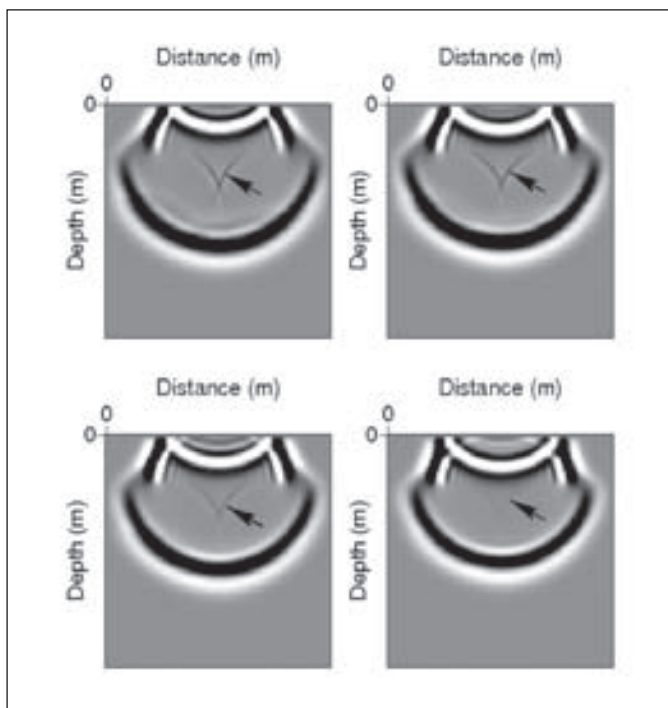
Workshop Format

We are seeking presentations from those with a vision of where we need to go, from those who have useful approaches or techniques they would like to demonstrate and especially, from those who can demonstrate practical examples of success or failure in anisotropic MVA. Key contributors will be invited to participate in a panel discussion to wrap up the session, centred on the questions: what should our vision for the future be? What do we need to be doing now to make our vision of the future a reality? What are the key pieces that already exist? We plan to make available a 2-D synthetic dataset from a medium that exhibits anisotropy. The data can be used to test migration algorithms, demonstrate parameter sensitivity and show the effectiveness of parameter update procedures.

How to Submit an Abstract?

E-mail your submissions to anisworkshop2010@gmail.com. The submission deadline is 15 February 2010. Submissions can be one to four pages in length. Submissions should include a meaningful title, a list of authors (with the presenter indicated by a *), the authors' e-mail addresses and institutions and a summary of up to about 200 words in length. (If the submission is one page in total length, then the one page can be the summary.) Submissions can be in Word or PDF format. For longer submissions, consider using the EAGE extended abstract template to format your document.

Also include, in a separate e-mail (or separate attachment) a short biography and whether you would like your presentation to be considered for one of the longer "invited speaker" slots. If you would prefer (or would refuse), a poster presentation for your material, indicate that also.



Workshop 2

Advances in High Resolution Gravity and Magnetism – Case Studies

Convenors: *Alan Reid (Reid Geophysics and University of Leeds)*
Sven Larsson (CEPSA)

Sunday 13 June
09.30 – 17.30 hrs

Workshop Description

Potential fields methods have been transformed in the last few years by radical advances in sensitivity and resolution, coupled with reductions in noise. Significant changes have occurred in instrumentation and processing in many areas, for example:

- Ground gravity has become much easier to operate quickly and reliably at high sensitivity
- Airborne magnetic surveying for sedimentary effects is routine
- Airborne magnetic gradient measurements are made from fixed-wing and helicopter platforms
- Borehole gravity can be measured in reduced hole size and at steeper inclinations
- Airborne gravity is now significantly lower noise and higher resolution, given major instrument advances
- Airborne and ship-borne gravity gradient measurements are performed routinely
- GPS navigation instrumentation has continued to advance and has had a remarkable impact on survey efficiency and accuracy
- The availability of near-world-wide DTM coverage from SRTM and higher resolution sources has greatly simplified survey planning and operation and terrain corrections

Each of these advances has had profound effects on where it is worth surveying and what exploration objectives can be achieved. The workshop will provide an opportunity for contractors, consultants, mineral exploration and petroleum exploration companies to show the exploration impact of these advances, on real exploration programmes. We urge oil and mineral exploration companies to permit their staff to show such results, themselves or in partnership with consultants or contractors. Contributions should be focused on case histories showing what is being done and not on technical capability statements

Workshop Objectives and Deliverables

The goal of this workshop is to bring together key technical experts from oil and mineral exploration companies, contractors and research institutions to exchange experiences and motivate further development.

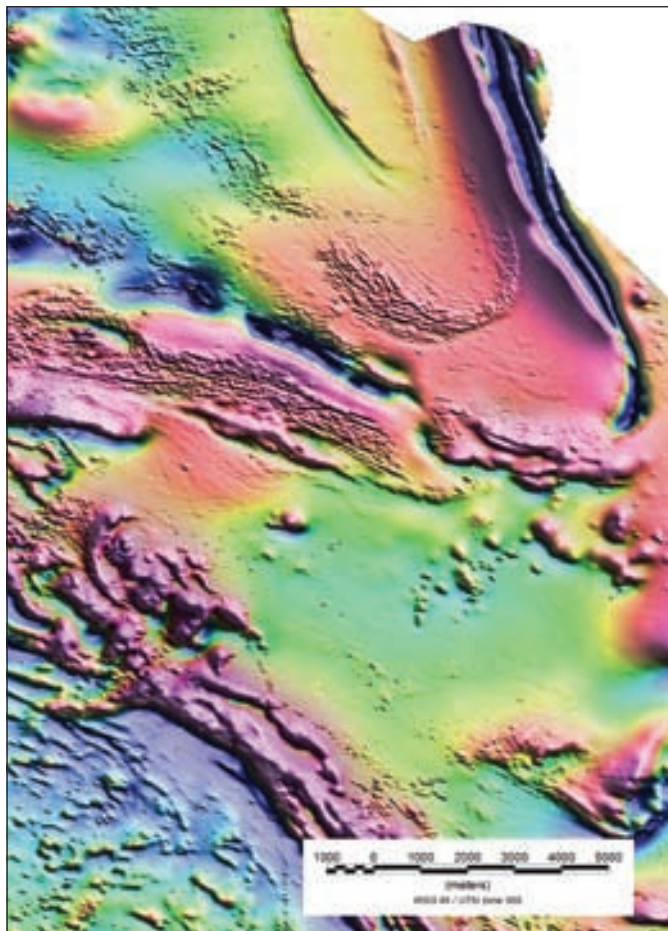
Workshop Format

- The workshop will provide an informal interchange of technical information and ideas
- Invited keynote speakers have been asked to provide a short synopsis of their presentation, which will be made available to registered delegates at the workshop
- Contributed oral presentations are invited and as many as possible will be accommodated
- All participants can submit a poster. A short summary regarding the topic of the poster should be sent to the convenors
- Ample discussion time will be scheduled

Who Should Attend

This workshop is designed for professionals in the petroleum and mineral exploration sector and in academia, who are interested in conducting cost-effective exploration programmes. The workshop will interest specialists in the following categories:

- Greenfields exploration
- 2nd phase exploration follow-up
- Pre-seismic surveying for effective seismic planning
- Integrated geophysical interpretation
- Earth Science Research



'Aeromagnetic image courtesy of Tiger Resources and New Resolution Geophysics'

Workshop 3

Integrated Methodologies Applied to the Quantification of Geological Processes

Convenors: *Domenico Grigo (Eni E&P)*
Sveva Corrado (University Roma Tre)
Massimiliano Zattin (University of Padova)
Andrea Ceriani (University of Pavia)

Sunday 13 June
09.30 – 17.30 hrs

Workshop Description

In recent years, the development of methods for modelling different aspects in productive sedimentary basins (production and preservation of organic matter, thermal maturation, migration of hydrocarbons, etc.) has been rapid, reducing the impact of uncertainties and decreasing exploration risks. Their diffusion in and out of oil companies has significantly improved the number of geoscientists interested in achieving information on these topics. In this regard, the use of geological and geophysical constraints for basin analysis has received rapidly growing attention, together with their more and more current use in petroleum exploration. This has led to an increasing number of researchers in quite different fields of earth sciences due to the necessity of handling available geological constraints from very different analytical sources or curious to know what kind of approach could be applied to a specific case. Topics that will be covered are basic principles that rule processes such as basin infill, basin dynamics, preservation and maturation of organic matter and hydrocarbon migration, with special regard to integration with geophysical methods.

Workshop Objectives and Deliverables

The goal of this workshop is to bring together key technical experts from oil companies, contractors and research institutions to discuss and explore how geoscientists can handle different aspects of sedimentary basins evolution.

Workshop Format

- Presentations by invited speakers will be used to illustrate the challenges and opportunities for exploring sedimentary basins.
- This workshop will provide an informal interchange of technical information and ideas.
- Invited keynote speakers have been asked to provide a short synopsis of their presentation, which will be made available to registered delegates at the workshop.
- All participants are encouraged to share their experiences and promote improved understanding of all aspects of sedimentary basins by submitting for a poster or an oral presentation. We require a short summary regarding the topic before 20 January 2010. This summary should be sent to domenico.grigo@eni.it and corrado@uniroma3.it

Who Should Attend

This workshop is designed for professionals in the oil and gas industry and academia, who are interested in how to handle with the basic principles in Basin Analysis. The workshop is aimed at people whose main interest falls within any of the following categories:

- Geology
- Earth Science Research (or Geosciences)
- Geophysics

Workshop 4

Multidisciplinary, Integrated Approaches In Near-Surface Geophysics – Novel Developments, Benefits and the Road Ahead

Convenors: *Ranajit Ghose (Delft University of Technology)*
Ugur Yaramanci (Leibniz Institute for Applied Geophysics and Berlin Technical University)

Sunday 13 June
09.30 – 17.30 hrs

Workshop Description

The targets for near-surface geophysical exploration are generally quite varied and at times, unconventional. The prospecting approaches have usually been method-driven. In the past, the attempts to combine various methods to achieve an exploration goal have been qualitative; the data have been processed separately and then joint interpretation has been made. Alternatively, multiple datasets have been inverted (joint inversion), without sufficient consideration of the physical basis, to achieve a certain integration goal. However, in recent years there is a clear change whereby near-surface geophysicists are increasingly trying to integrate various methods based on the underlying physical link between those methods. The goal is more reliable, *in-situ* estimates of the subsurface properties that are important in various disciplines. There are clear advantages to such an approach and the possibilities are enormous. Such quantitative, physics-driven integration aims to estimate the common parameter(s) addressed by different geophysical measurements. A few examples are quantitative coupling of seismic and electrical (resistivity, EM) methods, microgravity and seismic methods, seismic and geotechnical methods, and seismoelectrics. There is great interest in the geophysical and engineering community in these topics. The proposed workshop will focus on these very new developments and discuss the benefits and challenges.

Workshop Objectives and Deliverables

The goal of this workshop is to bring together key technical experts from near-surface engineering and exploration companies, contractors, soil- and rock-physicists and research institutions to discuss and explore what we can learn about how to integrate various geophysical measurements based on their underlying physics and as a result, obtain more reliable

estimates of subsurface properties. Although the applications will be focused on near-surface geophysics-related ones, those interested in deeper (hydrocarbon, geothermal, and other) exploration scales, will also benefit from the ideas discussed in this workshop. Discussion will focus on accuracy of the model/physics, practical feasibility, efficiency and the benefits of such integration, various application areas and methodologies.

Workshop Format

- It will be a limited attendance workshop which will provide an informal interchange of technical information and ideas
- Presentations by invited speakers, interactive group discussions and multi-disciplinary team approaches will be used to illustrate the challenges and the opportunities
- All participants are encouraged to share their experience to promote improved understanding of all aspects of multi-tool, physics-driven integration
- Invited keynote speakers have been asked to provide a short synopsis of their presentation, which will be made available to registered delegates at the workshop
- All participants may submit a poster. We require a short summary regarding the topic of the poster and an indication of the session for which it would be applicable. This summary should be sent to one of the convenors

Who Should Attend

This workshop is designed for professionals engaged in near-surface geophysics, hydrogeology, civil, geotechnical and environmental engineering – both in industry and academia. The workshop is aimed at people whose principal interest falls into any of the following categories:

- Near-surface geophysics
- Hydrogeology
- Geotechnical and civil engineering
- Environmental science and engineering
- Oil and gas exploration
- Earth science researcher

Workshop 5

The Role of Supercomputing in Reshaping the Future of the Seismic Imaging Industry

Convenors: *Nicola Bienati (Eni E&P)*
Robert Bloor (ION Geophysical)
José Maria Cela (Barcelona Supercomputing Center)

Sunday 13 June & Monday 14 June (two-day workshop)
09.30 – 17.30 & 09.30 – 16.30 hrs

Workshop Description

Seismic imaging applications are amongst the most demanding ones in terms of pure CPU power and more generally, in terms

of any computing resource that makes up a supercomputer, like memory, networks and disk storage. The reason resides partly in the size of the problem we wish to solve and mostly in the complexity of the algorithms we use to obtain such solutions. The hunger for computing resources will not diminish soon because the level of complexity of current imaging algorithms is still far behind the complexity necessary to fully unravel the information carried by full elastic wavefields. The algorithms currently at the leading edge of supercomputing in seismic imaging are reverse time migrations and waveform inversions, the former were first understood around 30 years ago but it has taken time for the computing power to become available to realize the potential of these algorithms in the industry. Looking forward, we wish to move to broader bandwidths, elastic propagation and elastic inversion and the combination of these options will require several orders of magnitude more computing power than we use today. Fortunately, the evolution in the field of High-Performance Computing seems to be relentless. The high-end systems in the top 500 list have recently broken the Petascale barrier and HPC systems are now aiming at Exascale. The successful industrial implementation of new algorithms will therefore depend on the technical and economical success of these new hardware platforms in supercomputing. The workshop will explore some of the technological challenges posed by the Petascale and by the even more demanding Exascale. However, hardware is just one side of the coin: we must not forget the role of software, which is the means to tell supercomputers how to solve our problems. Software is where geophysical knowledge resides. For large and complex applications, software is a significant investment and as such it must be preserved; indeed it is not infrequent in our industry that the most recent hardware is running legacy programs developed many years ago. We should avoid the risk that new generations of hardware require rewriting the application source codes. How do we have to code future algorithms to be platform independent? Is there any programming paradigm under development that could successfully become the future standard for programming heterogeneous processors? The workshop will be continued on Monday with a visit to the MareNostrum supercomputer installed at the Barcelona Supercomputing Center – Centro Nacional de Supercomputación (BSC-CNS) and hosted in the Torre Girona chapel. All participants to the workshop are invited to attend the visit. More details will be provided during the workshop.

Workshop Objectives and Deliverables

The workshop aims to provide an outlook on the impact of new supercomputing technologies in the future of the seismic imaging industry. The goal is to bring together key technical experts from oil companies, the HPC industry and research institutions to discuss:

- How leading edge HPC solutions can address the requirements of new application in the field of seismic imaging

- How geophysicists can anticipate the evolution of HPC technology
- How software engineering tools and practices can mitigate or better avoid the impact of hardware evolution on seismic imaging software

Workshop Format

- This workshop will provide for an informal interchange of technical information and ideas
- Presentations by invited speakers will be used to illustrate the challenges and opportunities for HPC in the seismic imaging industry
- All participants are encouraged to share their experiences to promote improved understanding of all aspects of HPC
- The workshop will be continued on Monday with a visit to the MareNostrum supercomputer

Who Should Attend

This workshop is intended for professionals in the O&G and HPC industries and academic researchers, who are interested in the application of HPC technology to O&G computing- intensive applications.

Workshop 6

3D Full Waveform Inversion – A Game Changing Technique?

Convenors:

Laurent Sirgue (Total)

Gerhard Pratt (University of Western Ontario)

Monday 14 June
09.30 – 16.30 hrs

Workshop Description

Waveform inversion offers the potential of recovering a variety of parameters that characterize the sub-surface. In particular, seismic velocities can be recovered to a very high resolution in comparison to conventional velocity building methods. In recent years, much progress has been achieved by both the industry and the academic community. Among these advances, we have started to witness the extension of the methods to 3D problems. The potential therefore now exists for an increasing role for waveform inversion in the seismic industry, including the potential of changing the game of depth imaging and interpretation. In this workshop, we aim to address these key questions. We will particularly be interested in:

1. The real data 3D applications using waveform inversion in recovering high-resolution seismic velocities and assessing their impact on imaging and ultimately on interpretation
2. Understanding what parameters may be recovered from waveform inversion: acoustic velocities at high resolutions can lead to dramatic improvements in imaging. What other quantitative parameters are feasible (AVO parameters, density, anisotropy, attenuation, etc.)?

3. Improving the efficiency and reliability of waveform inversion: what strategies allow the 3D waveform inversion problem to be handled efficiently, how are non-linearities best handled and what domains are appropriate?

To answer these questions, we will invite a panel of speakers from both the industry and academic landscapes.

Workshop Objectives and Deliverables

The objective of the workshop is to raise the awareness of both the academic and industry communities of the importance of waveform inversion. One of the main themes of the workshop is to show a series of 3D field applications. Attendees should as a result appreciate the value of applying this technology to a variety of data sets. Beyond the application aspect, the workshop will also aim at clarifying what parameters may be recovered and clarifying questions of the efficiency and effectiveness of competing or complementary algorithms.

Workshop Format

The workshop will be divided into three themes reflecting the three explained questions above:

1. 3D field data applications
2. Multi-parameter inversion
3. Efficiency and effectiveness

Each theme will be framed by a series of presentations by invited speakers, will be open to contributions in the form of poster presentations and will be closed by a panel discussion with invited speakers and poster authors.

Who Should Attend

The workshop is intended to address a wide audience from geologists to geophysicists from both the industry and academia. Interpreters and geologists should be particularly interested in the presentations on 3D field data applications.

Workshop 7

Stacking for Optimal Structural Imaging

Convenors: Chris Page (Petroleum Geo-Services)
Jan Willem de Maag (Shell International E&P B.V.)

Monday 14 June
09.30 – 16.30 hrs

Workshop Description

Marine and land seismic acquisition geometries have undergone a steady evolution in recent years as we continue to push the boundaries of both improved imaging in more complex areas and reduced time and costs. While the 'Anstey stack array' had provided a sound foundation for many years when selecting acquisition efforts to correctly sample and hence stack out noise, trace interpolation techniques have played key roles in achieving the trace sampling required for optimum results

from techniques such as 3D pre-stack migration, multiple attenuation and noise attenuation in general. In each case, stacking and the effect of stack has proven key to success. The increase in processing techniques to mitigate poorer sampling than theory may indicate has progressed alongside new imaging techniques, which have prompted us to look again at what we need and what we can achieve on final images when we are looking for optimal structural imaging. As our seismic industry has progressed we find that more and more bold solutions are being proposed and used to resolve difficult imaging problems. This has prompted us to look again at how best to sample signal and noise so as to understand and propose ways to reduce our acquisition effort and still achieve acceptable results on the one hand and how to gain increased quality by increasing the effort on the other. We have today acquisition solutions such as multi/ wide/ rich, etc., azimuth diversity balanced by proposed simultaneous shooting and generally increasing efforts to enable imaging in more complex and noise-prone areas traditionally labelled as 'no data' or 'poor data' areas. From seismic data processing we have techniques such as 3D SRME and beam migration, supported by multi-dimensional interpolation to great effect in improving final imaging. In these examples of acquisition and processing, the final image quality is realized by the power of stacking. It has been argued that we should acquire modern seismic data to permit thorough geophysical and geological analysis through to AVO and inversion and in some cases, these have proved critical for successful field development and production. At the same time, we have had much success in areas of poor data quality, where getting any image at all has been all that has been required for significant hydrocarbon discoveries.

The main questions we are considering in this workshop are:

- In what ways can we use stacking to improve structural image?
- What are the related technical issues and benefits/ compromises?

Workshop Objectives and Deliverables

The objective of this workshop is to bring together key technical experts from our industry and research institutions to present, share and discuss findings so as to gain a more complete overview of where we stand on this key topic of stacking for optimal structural imaging.

Workshop Format

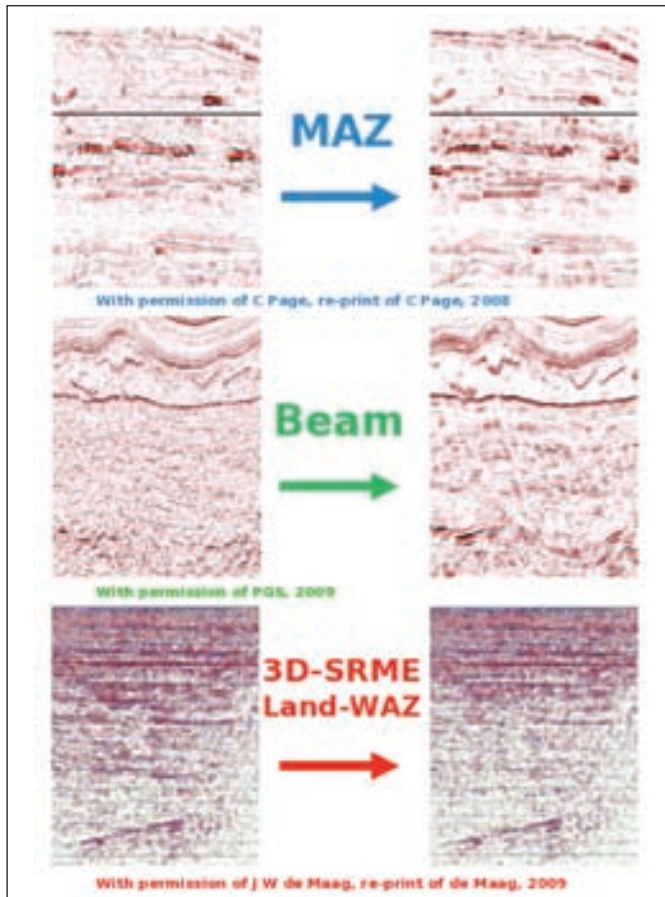
- It will be a limited attendance workshop, which will provide for an informal interchange of technical information and ideas
- Presentations by invited speakers and interactive group discussions will be used to present results and discuss proposals for stacking for optimal structural imaging. This can include recommended acquisition and processing techniques for input to stacking as well as stacking and related techniques, which we use to provide a final structural image

- All participants are encouraged to share their experiences to promote improved understanding of all aspects of stacking for optimal structural imaging
- Invited keynote speakers will be asked to provide a short synopsis of their presentation, which will be made available to registered delegates at the workshop
- All participants can submit a poster. A short summary regarding the topic and scope of the poster can be sent to eage2010.workshop8@googlemail.com

Who Should Attend

This workshop is designed for professionals in the oil and gas industry and in academia, who are interested in stacking and optimal imaging. The workshop is aimed at people whose principal interest falls into any of the following categories:

- Geophysics
- Geology
- Seismic acquisition
- Seismic processing
- Structural interpretation



Picture references: C. Page, PGS et al, NPF Biennial Geophysical Seminar, Kristiansand 2008, Towed Streamer Multi- and Wide-Azimuth Review.
 PGS Kirchhoff versus Beam migration
 J .W. de Maag Shell International E&P BV et al. EAGE Amsterdam 2009, 3D WAZ Land Acquisition and Processing Driving New Processing Development

Workshop 8

Pre-stack Interpretation as a Process to Reduce Seismic Imaging Cycle Time by Bringing Together Processors and Interpreters

Convenors: *Francisco Ortigosa (Repsol)*
John Granli (Statoil)
Franz-Josef Pfreundt (Fraunhofer-ITWM)

Monday 14 June
 09.30 – 16.30 hrs

Workshop Description

New emerging seismic imaging technologies like reverse time migration or waveform inversion are computer-intensive, not only because of the high-fidelity algorithms that are being employed to meet the imaging challenges, but also because of the increased data volumes (e.g., wide-azimuth marine acquisition). These new seismic imaging technologies are becoming more and more commercially viable because in the recent past and near-future development of new generations of multicore hardware platforms, hybrid CPUs like the Cell/BE and pure accelerators like FPGAs and GPGPUs. Tailoring of processing algorithms to these new platforms is reducing processing cycle times by more than one order of magnitude, which constitutes a quantum leap in our industry. Increasing processing speeds, due to more powerful computers and increasingly efficient algorithms, accentuates the commoditization of the capacity-algorithm duality versus velocity model building, which relies on human knowledge and judgment, abilities that are not commodities. Velocity model building, or “crafting the lens” to focus seismic energy, is perhaps the single most important factor to guarantee the best imaging results. Significant effort has to be dedicated in the near future to “crafting the lens” to keep up with the progress of computer power and algorithms. Such an effort has to be made jointly by seismic processors and interpreters working together as explorationists or “Pre-Stack Seismic Interpreters”, in opposition to the traditional post-stack seismic interpreters. Given the almost-ready availability of petascale capacity and fast algorithms, velocity model building will evolve to a more exploration-oriented task to de-bottleneck the processing-imaging-interpretation cycle. The new work flow will include unnumbered near real-time imaging iterations and velocity updates to craft the perfect lens. New tools have to be developed for processors and interpreters to work together in a common image-oriented immersion processing system.

Workshop Objectives and Deliverables

The objective of the workshop is to bring together processors and interpreters, industry and academia to discuss this topic and present new emerging technologies in computing science, visualization tools, algorithm development and alternatives that will reduce the whole seismic Imaging cycle time. The exchange of ideas and visions should stimulate the development of this research area and led to substantial processes.

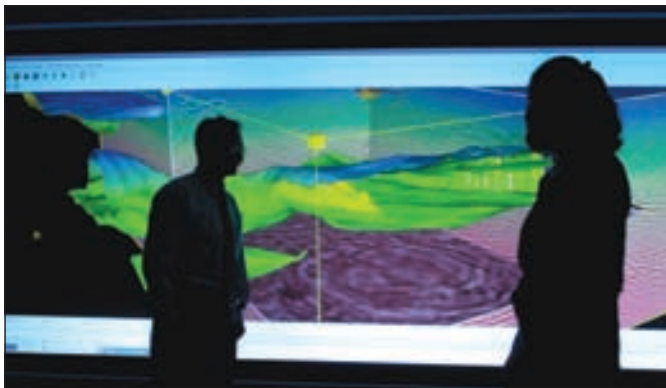
Workshop Format

- It will be a limited attendance workshop, which will provide for an informal interchange of technical information and ideas.
- All kind of submissions are welcome but emphasizing the exchange of ideas and those who provide interactive discussions from multi-disciplinary approaches are preferred. Please send an abstract to workshop9.eage2010@gmail.com.
- All participants are encouraged to share their present experience or ideas of how the near future will be.
- Ideas and concepts from industries other than the oil industry would be preferred

Who Should Attend

- Seismic interpreters
- Seismic imagers and processors
- Computer engineers
- Software developers from oil companies, research institutions and service companies

To discuss new tools to improve the whole process flow.



Workshop 9

Workflows for the Study of Virtual Outcrops

Convenors: Pau Arbués (University of Barcelona)
Lluís Cabrera (University of Barcelona)
Oriol Falivene (Shell)
Josep Anton Muñoz (University of Barcelona)

Monday 14 June
09.30 - 16.30 hrs

Workshop Description

LIDAR, assisted with differential GPS and other geomatic techniques, produces virtual outcrops that are ready for the immediate identification of a range of macroscopic geological features. Very importantly, positional accuracy, precision and resolution in virtual outcrops carries the potential for recreating the highest quality characterizations of the 3-D geometry and spatial distribution of heterogeneity, which in turn is the foundation for the optimal modelling of processes

that are significant in terms of resources and hazards, like flow-simulation of aquifers and reservoirs or the prediction and monitoring of slopes. Moreover, virtual outcrops can also resolve some of the accessibility problems that might be inherent to *in-situ* observation (e.g., remoteness, harsh climatic conditions and physical obstacles). As a consequence, the study of virtual outcrops acquired with LIDAR has become increasingly popular. The general practice for virtual outcrop interpretation is visual identification and manual digitalization of pointsets or polylines. This process is achieved by using 3-D CAD-like modules capable for efficient visualization of the virtual outcrop. Other less generic approaches are oriented towards the automated or semi-automated extraction of geological features, either based on the processing of intensity or other attributes of the virtual outcrop (RGB, hyperspectral) or on geometric parameters calculated from positions. However, there is not a specific software integrating tool for interpretation and subsequent analysis that would definitively unlock the potential of virtual outcrops.

Workshop Objectives and Deliverables

The workshop will document the potential of virtual outcrops by means of case studies illustrating improvements in geological knowledge. It will also offer a comprehensive view of the methods available for interpretation and analysis and their range of applicability. Conclusions will be drawn as to directions for future improvements in methodological aspects, from acquisition to toolkits for interpretation and analysis.

Workshop Format

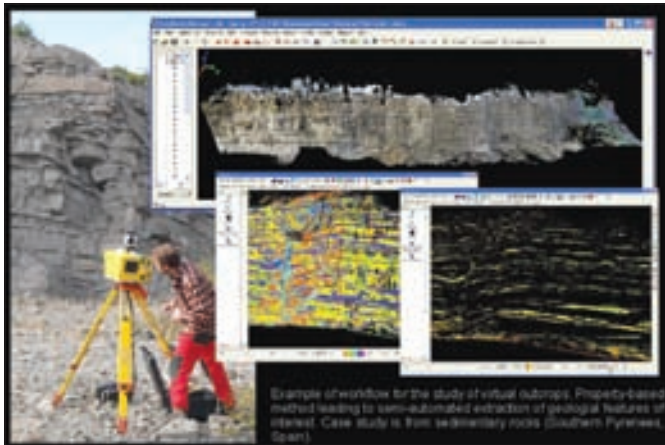
The workshop will be divided into:

- A keynote presentation introducing the state-of-the art of virtual outcrops
 - Short presentations
 - Each presentation will be followed by discussions.
 - Poster presentations introduced by slides
 - Poster session
 - Discussion of key topics by groups
 - Summary session, with group presentations and debate
- Speakers (oral and poster) will be asked to provide a short synopsis of their presentation before the workshop (A4 page abstract). Please send this abstract to the following e-mail address: virtualoutcropworkshop@gmail.com. Abstracts will be made available to the registered delegates at the workshop.

Who Should Attend

This workshop is designed for professional researchers, both in academia and in the industry, who desire to efficiently obtain the most from outcrops. The workshop is aimed at people whose main interest falls into any of the following categories:

- Sedimentology and structural geology
- Reservoir/aquifer modelling
- Civil engineering
- Natural hazards



"Workflows for the study of virtual outcrops"

Workshop 10

🌟 Fluid Inclusions – Dynamic Fingerprints of the Petroleum System

Convenor: *Jordi Tritlla (Repsol)*

Monday 14 June
09.30 – 16.30 hrs

Workshop Description

Fluid inclusions represent the remains of the fluids (oil + water + gas) that flowed through and interacted with the host rocks during the whole history of the petroleum system, from the very beginning to the present. These "time capsules", if well studied and characterized, can furnish extremely useful information regarding the dynamic changes in the PVTX conditions of the basinal fluids, recording the number and succession of oil impregnating episodes. They can also be used to furnish deep insights into the water/rock interaction reactions, including organic matter maturation and destruction mechanisms, the fluids being both the trigger and the by-products of these processes. This workshop will be focused on the state-of-the-art methods of fluid inclusions characterization in oil systems as well as the application of all the gathered data to the understanding of fluid evolution and entrapment within basins.

Workshop Objectives and Deliverables

The goal of this workshop is to bring together key technical experts from oil companies, contractors and research institutions to discuss the use of the fluid inclusion study techniques as tools to unravel the fluid flow history (PVTX) in petroleum systems.

Workshop Format

- Presentations and multi-disciplinary team approaches will be welcome to highlight the importance of fluid inclusion studies in state-of-the-art petroleum system characterization
- All participants are encouraged to share their experiences to promote improved understanding of all aspects of fluid inclusion studies

- All participants can may submit a poster. A short summary regarding the topic of the poster and an indication of the session for which it would be applicable is required and can be send to the convenor at fluidseage@gmail.com

Who Should Attend

This workshop is designed for professionals in both the oil and gas industry and in academia, who are interested in the role of fluids during the maturation, expulsion and accumulation of hydrocarbons. The workshop is aimed at people whose principle interest falls into any of the following categories:

- Geology/geochemistry
- Geophysics
- Basin modelling
- Earth Science Research

Workshop 11

🌟 Conditioning Reservoir Models to Dynamic Data

Convenors: *Glyn Williams (BP)*
Olivier Gosselin (Total)
Jonathan Ovens (Improved Recovery Consulting Ltd)
Francesca Verga (Politecnico di Torino)

Monday 14 June
09.30 – 16.30 hrs

Workshop Description

The workshop will be concerned with current practice and new developments in conditioning reservoir models to dynamic data. Aspects covered include: case studies; importance in making robust decisions; getting the static model right; matching 4D seismic data and assisted history matching.

Workshop Objectives and Deliverables

The objectives of this workshop are to share knowledge, understand current practice and discuss new developments on conditioning reservoir models to dynamic data. The deliverable from the workshop will be a summary document from discussions posed by keynote speakers.



Workshop Format

- Four invited keynote speakers will introduce a topic for discussion in full session, followed by a small round table group session. They have been asked to provide a short synopsis of their presentation, which will be made available to registered delegates at the workshop
- Syndicate sessions will be held in small groups to discuss questions raised by the keynote speakers. This will be followed by feedback to the whole workshop and further discussions
- All participants are encouraged to share their experiences in the discussions and syndicates to promote improved understanding
- All participants are asked to fill a survey (about 30 questions) handed out at the beginning of the workshop and collected during the break, compiled and analysed during the lunch. The results will be presented at the beginning of the afternoon
- A summary of sessions will be made available to the delegates a couple of weeks after the workshop

Who Should Attend

This workshop is aimed at professionals and academics in the oil and gas industry who are interested in multidisciplinary and integrated reservoir characterization and management and in the conditioning of reservoir models to dynamic data in particular. The most relevant disciplines for the workshop are Reservoir Engineering, Geology, Production Engineering, Petrophysics, Geophysics and Earth Science.

The Workshop Package is sponsored by Total.



Field Trips

Field Trip 1

Unraveling the Coupled Deformation and Sedimentological Evolution of Sedimentary Basins – The Progressive Unconformity Concept in Growth Strata Sequences

*Field trip leaders: Josep Anton Muñoz (University of Barcelona)
 Mariano Marzo (University of Barcelona)*

Saturday 12 June & Sunday 13 June (two-day fieldtrip)

Field Trip Description

Growth strata have been the focus of geological interest because their study has increased the understanding of the coupling of sedimentological processes and deformation mechanisms. Moreover, growth strata provide information to unravel the timing of deformation and fold and fault kinematics, which is fundamental for the construction of geological models for exploration purposes. Growth strata are widely exposed in the Ebro Basin and in the South Pyrenean foreland basin and provide a remarkable record of the contractional deformation of the Pyrenean thrust and fold belt development. They have been one of the main research topics at the University of Barcelona because the quality of the outcrops in such a nearby natural laboratory and the fundamental geological concepts derived from their analysis and understanding. The aim of this 2-day field trip is to visit the most spectacular outcrops of growth strata in the southern Pyrenees, including the classical locality of Sant Llorenç de Morunys, which led to the definition of the progressive unconformity concept by Riba (1976). Two case studies will be analysed; one involving continental sediments (Sant Llorenç) and the other one concerning a succession from deep marine to shallow water carbonates and fluvial sediments at the Bóixols thrust front (Sallent).



Who Should Attend

This field trip is designed for researchers, both in academia and in the industry, willing to gain insight into the evolution of foreland basins through the recognition and knowledge of growth strata. The field trip is aimed at people whose main interest falls into any of the following categories:

- Sedimentology and Structural Geology
- Exploration
- Basin Analysis

Tentative Programme

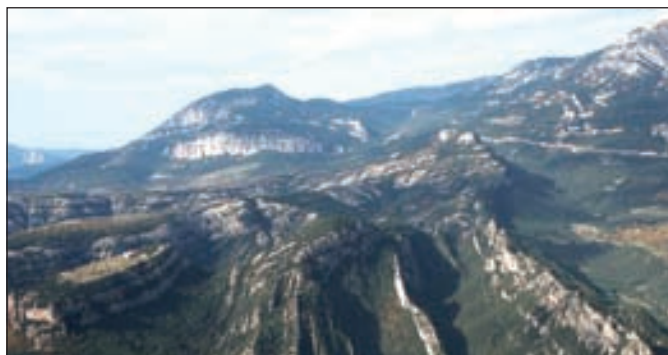
Day 1

- Stop 1: Oliana.
Overview of the South-Pyrenean thrust front and syntectonic sediments.
- Stop 2: Coll de Nargó.
General geometry of the Bòixols thrust and associated Upper Cretaceous foreland basin fill.
- Stop 3: Sallent.
The Boixols thrust front and Sallent progressive unconformity in proximal setting, including: alluvial, fluvial and fandeltaic growth strata.
- Stop 4: Barranc de les Vinyes.
Sallent progressive unconformity in deep to shallow marine growth strata.
- Overnight: Solsona.

Day 2:

- Stop 1: Hostal Cap del Pla.
The South Pyrenean Frontal Thrust and its relationships with Palaeogene alluvial conglomerates of the Ebro Basin.
- Stop 2: Turó de Vall-Illonga.
The lower part of the Sant Llorenç de Morunys progressive unconformity.
- Stop 3: Santuari de Lord. Sant Llorenç de Morunys progressive unconformity (upper part).
- Stop 4: Mirador de la Creu del Codó.
Summary view of the Sant Llorenç de Morunys progressive unconformity.

Return to Barcelona



Field Trip 2

☀️ Outcrop Analogs of the Gulf of Valencia Oil Fields, (Western Mediterranean)

Field trip leaders: *Mateu Esteban (Repsol)*
Tomás Vallaure (Repsol)

Saturday 12 June & Sunday 13 June (two-day field trip)

Field Trip Description

The superb Mesozoic and Miocene outcrops in the Garraf Mountains and Penedés region in NE Spain provide a very close analogue to the Amposta, Casablanca and other smaller fields in the Gulf of Valencia. This field trip will focus on the shallow-water, platform interior Jurassic and Cretaceous limestones and dolostones that were intensively karstified prior to their onlapping by marine Miocene skeletal limestones. The horst-and-graben structural style includes low-angle listric faults that strongly deformed the senile karst profiles in the region. The predominant productive reservoirs are controlled by multi-phase karstification and extensional deformation during the Cenozoic. No Mesozoic porosity has survived in the present-day reservoirs. Locally, there is additional production from pervasively dolomitized, onlapping Miocene conglomerates, rhodalgal ramps and fringing coral reefs. Close analogues in terms of stratigraphy, lithologies, structural styles, karst and geomorphology will be visited in the field. Outcrop observations will be complemented as a workshop with extensive subsurface documentation (seismic data, well logs, tests, production histories) and discussions to enhance the applicability to other regions with buried-hill karst reservoirs.

Who Should Attend

Geologists, geophysicists, petrophysicists and reservoir engineers interested in a classic reservoir model applicable in many regions.

Field Trip 3

☀️ The Geology of Barcelona

Field trip leaders: *Francesc Sàbat (University of Barcelona)*
Enric Vázquez Suñé (IDÆA)

Sunday 13 June
09.00 – 18.00 hrs

Field Trip Description

The geology of the Barcelona city area has been the result of the superposition of the main geological events, which have been affected the Iberian plate and the Western Mediterranean since Ordovician times. Most of the outcrops in the urban area consist of Palaeozoic rocks affected by the Variscan deformational, magmatic and thermal events. These rocks were unconformably overlaid by Triassic rocks and subsequently deformed by the



Torre de Collserola

Catalan Coastal Ranges contractional structures, which formed synchronously with the Pyrenees at the south-eastern margin of the Ebro Basin during Palaeogene times. Finally, the present landscape and geological configuration of the Barcelona urban area is the result of the Neogene extensional event related to the opening of the western Mediterranean basins. Extensional structures partially reactivated the Palaeogene contractional and strike-slip faults. Superposition of all these deformational events has resulted in a complex geological configuration, rendering it difficult to make geological models and well-constrained predictions of the subsurface, given the limited amount of outcrops in the urban area. Such a geological scenario has been represented as a nightmare for geologists and engineers in some circumstances during the management of the Barcelona subsurface. The aim of this field trip is knowledge of the geology of Barcelona city as representative of the western Mediterranean area and discussion of the geological and engineering issues related to the configuration of Barcelona's subsurface.

Who Should Attend

Geologists and engineers.

Tentative Programme

- Stop 1: Torra de Collserola (Tibidabo).
Introduction, geological setting, regional structure and structure of Barcelona graben.
- Stop 2: Parc Guell.
Palaeozoic rocks and structure.
- Stop 3: Can Pexuet (Santa Coloma).
Fault contact between Hercinian granite and Miocene sediments.
- Lunch
- Stop 4: Besos River delta.
- Stop 5: Mallorca street.
Civil works related to high-velocity railway (AVE).

Return to Barcelona

Short Courses

At the request of many of our members EAGE offers this year on the Thursday and the Friday a selection of 1 day short courses. The instructors are acknowledged experts (both industry professionals and academics). EAGE encourages them to use a combination of theory, illustration and current best practices. Course material is included in the course fee. Two special courses on the programme are the SEG/EAGE Distinguished Instructor Short Course (DISC) and the EAGE Education Tour (EET). Both tours are accompanied by a course book which is included in the attractive course fees. In addition to the EAGE courses, the SPE also offers a 1 day short course on Friday 18 June.

Short Course 1

EAGE Education Tour (EET) IV: Modern Seismic Imaging: A Review of the Techniques, their Principles, Merits and Limitations

Instructor:

Etienne Robein (Total)

Thursday 17 June

09.30 – 17.30 hrs

Short Course Description

This course will give the audience an overview of today's most popular seismic imaging techniques used in the oil and gas industry. Two main classes of techniques are addressed: time-imaging and depth-imaging. The course will present in simple terms (no equations!) the principle of different techniques in each class of methods, while pointing out their respective merits and limitations. The relationship between acquisition and imaging on the one hand and interpretation and imaging on the other, will also be discussed.

Topics Covered

- What is a "reflection seismic image" exactly?
- Concepts behind Kirchhoff migrations
- Pre-Stack Time Migrations (PreSTM)
- Ray-based depth migrations (Kirchhoff and beam migrations)
- Wavefield extrapolation-based migrations (Shot migration and RTM)
- Full waveform inversion (FWI)
- Relations between seismic imaging and seismic acquisition
- Depth imaging and seismic interpretation

Who Should Attend

The course is aimed at geoscientists involved in exploration and production projects where seismics play a role. The course will also benefit students.



Short Course 2

Sedimentary Structures and their Relation to Bed Forms and Flow Conditions

Instructors: *Djin Nio (Enres)*
Janrik van den Berg (Enres and University of Utrecht)

Thursday 17 June
09.30 – 17.30 hrs

Short Course Description

The evaluation of reservoir properties such as geometry, porosity and permeability requires knowledge of the depositional environments that created the rocks, their spatial variability and temporal change. In this short course we will restrict ourselves to the analysis of physically formed sedimentary structures, such as cross-stratification. These are the “building blocks” of any depositional facies or depositional sequence. A proper and accurate interpretation of these “building blocks” in terms of bedforms and flow conditions is essential for understanding the origin and development of any depositional facies or depositional sequence.

Knowledge of the physical background of the preserved structures is a prerequisite to understanding the mutual relations of structures found in cores that guide us in interpretation solutions and help us to keep our imagination of the palaeo-environment within realistic borders.

Topics Covered

- Fundamentals of flowing water and sediment transport
- Bedforms and sedimentary structure formed by unidirectional flow
- Influence of wave action on bedforms and sedimentary structure
- Influence of tides on sedimentary structures
- Soft sediment deformation structures
- Aeolian sedimentary structure
- Practical on structures from fluvial, fluvial-tidal, fluvial terminal fans, aeolian, estuarine and shallow marine to shoreface depositional facies

Who Should Attend

This short course is appropriate for geoscientists involved in core descriptions, core evaluations and borehole image interpretations. It is also recommended for those who use existing core description for further evaluations, specifically sedimentologists, stratigraphers and reservoir geologists.

Short Course 3

SEG/EAGE DISC 2010: Geophysics under Stress: Geomechanical Applications of Seismic and Borehole Acoustic Waves

Instructor: *Colin Sayers (Schlumberger)*

Friday 18 June
09.30 – 17.30 hrs

Short Course Description

The purpose of this course is to provide an overview of the sensitivity of elastic waves in the Earth to the *in-situ* stress, pore pressure and anisotropy of the rock fabric resulting from the depositional and stress history of the rock and to introduce some of the applications of this sensitivity. The course will provide the basis for applying geophysics and rock physics solutions to geomechanical challenges in exploration, drilling and production.

Topics Covered

- Introduction to the effects of stress in the Earth. Why pore pressure, *in-situ* stress and geomechanical properties are important
- Sediment compaction and the state of stress in the Earth. Tectonic strains
- Pore pressure. Velocity versus effective stress relations. Dipping layers and lateral pore pressure transfer
- Stress sensitivity of sandstones. Third-order elasticity theory. The use of elastic waves to monitor stress-induced damage
- Wellbore stability and wave velocities near a borehole
- Reservoir geomechanics and 4D seismic monitoring. Reservoir stress path
- Fractured reservoirs. Effects of fractures on seismic waves. Microstructural models of fracture compliance
- The seismic anisotropy of shales

Who Should Attend?

This course does not require a theoretical background, so it is suitable for individuals from all subsurface disciplines, including geophysics, geomechanics, rock physics, petrophysics, geology, geomodelling and drilling, reservoir and petroleum engineering.

Short Course 4

Principles and Applications of Seismic Interferometry in Hydrocarbon Exploration

Instructor: Gerard Schuster (KAUST and University of Utah)

Friday 18 June
09.30 – 17.30 hrs

Short Course Description

This course is designed for a broad range of seismic researchers, data processors and interpreters working in the petroleum industry. The course teaches the principles of seismic interferometry and its applications to surface seismic data, VSP data and OBS data. The ultimate objectives are to enable geophysicists to evaluate the potential of seismic interferometry in uniquely solving their problems and to give them a basic working knowledge so they can explore the possibility of interferometric solutions.

Topics Covered

- Overview of Seismic Interferometry
- Background Review on Green's functions
- Reciprocity Theorems
- VSP Interferometry
- Surface Wave Interferometry
- Interferometry Aliasing Condition and Anti-Aliasing Filter
- Interferometric Interpolation
- Passive Interferometry
- Elastic Interferometry
- Least-Squares Interferometry

Who Should Attend

The integrated nature of this course means that it is suitable for seismic interpreters, researchers, and data processors. Managers are encouraged to attend in order to consider the potential of seismic interferometry in solving some of their exploration and reservoir problems.



SPE Short Course

Geological Sequestration of CO₂

Instructors: Charles Fox (Kinder Morgan)
Sam Avasthi (Avasthi & Associates, Inc.)
Scott Rennie (ConocoPhillips Company)
Jay Avasthi (Avasthi & Associates, Inc.)

Friday 18 June
09.30 – 17.30 hrs

Short Course Description

This course is intended to serve as an introduction to geological storage or sequestration of CO₂. Geological storage of CO₂ is emerging as an important tool for combating global warming and over the last few years, has developed rapidly. Although much of the technology is similar to that of CO₂ enhanced oil recovery (EOR), as practised in the Permian Basin of West Texas, there are important differences, which require adaptation of the industry's subsurface knowledge to this new application. The information presented in this course is drawn from the instructors' extensive practical experience in EOR projects in West Texas and in emerging development of CO₂ storage projects, as well as from numerous conferences, workshops, literature and research projects in which the instructors have participated.

In teaching this course, the instructors will: (1) present the latest information available in this rapidly evolving field, (2) spend most of the time discussing the practical aspects of CO₂ sequestration and keep discussion on the theoretical topics to a minimum and (3) provide each course attendee a workbook containing copies of the instructors' PowerPoint presentations.

Topics Covered

- Carbon Capture and Storage Challenge
- CO₂ Capture and Transportation
- Types of CO₂ Storage
- CO₂ EOR / West Texas CO₂ Injection/ EOR experience
- CO₂ EGR
- CO₂ ECBM
- Deep Saline Reservoirs
- Problem (Saline Storage)
- CO₂ Trapping Mechanisms
- Reservoir Seals
- Wellbore Construction and Leakage Mechanisms
- CO₂ Monitoring and Verification
- Risk Assessment

Who Should Attend

Petroleum engineers, reservoir engineers, production engineers, facilities engineers, managers, government officials and others involved or interested in CO₂ sequestration. **The course registrants should bring their calculators, to work on the class problems.**

Student Programme

Introduction

EAGE is offering students the opportunity to participate in the best Student Programme to date at the 72nd EAGE Conference & Exhibition incorporating SPE EUROPEC 2010 in Barcelona, Spain. The theme of this year's Student Programme is 'Go for the Goal' which will include many exciting and entertaining activities pertaining to football taking place in the Student Sports Café. The EAGE Student Programme has improved its standards while maintaining the core fundamental offerings in up-to-date industry knowledge and skill development, giving student participants the best opportunities towards pursuing their careers in geology, geophysics and/or petroleum engineering.

Student Sports Café Registration

All full delegate students must be completely registered in order to participate in the Student Programme and will follow a two step registration process; students must first register at the official registration desk upon arrival at Barcelona CCIB. Secondly, students must go to the Students Sport Café in room 111 to complete their registration.

Opening Hours Student Registration:

Monday 14 June	10.30 – 20.00 hrs
Tuesday 15 June	09.30 – 18.00 hrs
Wednesday 16 June	09.30 – 18.00 hrs
Thursday 17 June	09.30 – 16.00 hrs

Student Programme Highlights

Geo-Quiz

Tuesday 15 June
17.30 – 19.00 hrs

The Geo-Quiz challenges university students to prove their geoscience knowledge and skills learned during the course of their studies. The quizmaster will put this challenge to the test as 20 teams compete to outwit each other, striving to win fabulous prizes!

Student Evening

Tuesday 15 June
19.00 – 24.00 hrs

EAGE specially announces the exciting Student Evening offering Spanish style dinner, drinks, DJ and dance floor, VIP industry professionals, EAGE Board Members, an international environment, relaxed atmosphere, eventful announcements,

entertaining interactive activities and lots of fun. All participating students will also receive a special student gift during the celebration.

Due to the improvement of the student evening, students interested in attending the conference evening on Wednesday 16 June will be subject to an additional charge.

Student Programme Overview

The Student Programme is divided into 4 parallel sections, including the Student Sports Café activities, student poster sessions, student short courses and trial interviews.

Student Sports Café Activities

Tuesday 15 / Wednesday 16 / Thursday 17 June
10.00 – 19.00 hrs

The Students Sport Café will offer exhibition tours, young professional debates, 'Go for the Goal' football challenge competitions, special presentations and other activities.

Student Poster Sessions

Tuesday 15 / Wednesday 16 / Thursday 17 June
09.30 – 18.00 hrs

Given the considerable growth in the number of the student poster presentations in Amsterdam, EAGE has decided to move the student poster presentations to the regular technical programme poster area. In this way, students will be able to present their poster to a broader audience of geoscientists. Approximately 14 days before the start of Barcelona 2010, all accepted student submissions will be added to EarthDoc, where more than 20,000 submissions are already presented from EAGE events since 1982.

Apply online now until 10 February 2010 to present your student poster in Barcelona! Visit the student webpage at www.eage.org.

Student Short Courses

Tuesday 15 / Wednesday 16 June
11.00 – 17.00 hrs

The student short courses, assist students in gaining specific practical or technical knowledge to benefit their career development. Both the practical soft skills short courses (2 hrs) and half-day technical short courses (3 hrs), will cater to intimate audiences offering a more personal and interactive learning experience. Student short course topics to be announced shortly!

'We're Serious About Students!'

Trial Interviews

Tuesday 15 / Wednesday 16 / Thursday 17 June
10.30 – 16.10 hrs

Practice, practice, practice! Trial interviews offer an amazing opportunity for students to sign up for a 30-minute official interview, including a 10-minute feedback session! This opportunity allows students to experience an interview and learn from the pros!

Have We Got Your Attention Yet?

EAGE hopes to assist as many students as possible in bridging the gap from student to working professional and the Student Programme in Barcelona offers all participating students the ultimate opportunity to explore options, leading to a bright future within a competitive but rewarding industry.

Travel Grants

All students are eligible to apply for the travel grants. Accepted student poster presenters or those involved in the technical or student programme will be preferred recipients of the EAGE student travel grant. The travel grants offer students support towards their participation in the Barcelona Conference or more specifically; in the Student Programme activities.

Apply online now for available travel grants until 10 March 2010! Please contact the Student Coordinator at students@eage.org for more information. We look forward to seeing you in Barcelona!

The Student Programme and Evening are sponsored by the EAGE Student Fund, ExxonMobil, CGGVeritas and Statoil.



ExxonMobil

CGGVERITAS

Statoil



El Poble Espanyol, the spectacular location for the Conference Evening

Icebreaker Reception

The Icebreaker Reception is an excellent way to kick off the week. Have a sneak peek at the exhibition hall and enjoy food and drinks with attendees from around the globe.

Conference Evening

The conference evening has become a traditional feature of the annual EAGE Conference & Exhibition, allowing attendees from all disciplines to relax, meet with colleagues and have some food and drinks in an informal environment. This wonderful evening will be held at a fantastic location: El Poble Espanyol. Since it was conceived in 1929, El Poble Espanyol has been considered as a different, unique space in Barcelona. Its urban layout, a real village with streets and squares, without wheeled traffic and in the natural surroundings of the hill at Montjuïc, has helped to create a special microcosm, offering an invitation to escape the city's daily routine. It will be an unforgettable experience. Don't miss it!

The Conference Evening is sponsored by Maersk Oil.

 **MAERSK OIL**

Family Members

We welcome all family members to join us in Barcelona. All registered family members have access to the social programme, which includes the Icebreaker Reception and the conference evening. In addition, registered family members have access to the exhibition and are invited to attend the family members' tour.

Social Programme

To complement the conference and exhibition, EAGE is organizing a social programme that offers culture, hospitality and gastronomy in original surroundings. Entertainment for delegates and registered family members will be part of the programme. Since Barcelona is a city with a great deal to offer, we will make sure you do not regret coming to this magnificent city.

Family Member Tour

A family member tour will be organized on Tuesday 15 June from 10.00 hrs onwards.

This tour will show the Modernist movement in the architecture of the "Eixample" district. A central sector of the Eixample is the Quadrat d'Or (Golden Square) because of its concentration of Modernist Buildings. A trip through the Catalan Modernism – Art Deco, Modern Style – an artistic current which manifested in Europe around the turn of the 20th century, whose main features are the variety of forms and the richness of its decorative elements. A large proportion of the masterpieces of modernist architects such as Gaudí, Domènech I Montaner and Puig i Cadafalch are concentrated in the "Eixample" quarter. We will also visit the masterpiece of Gaudí's work: the Parc Güell, now a UNESCO heritage site, where nature and art coexist. This fantasy garden is also one of the best spots from which the city can be seen. We will end the tour with a typical Spanish lunch.

Family Member Desk

There will be a family member desk located in the registration area. Our hostess will be able to give you all the information you may need.

Tours

A selection of tours in and around Barcelona will be offered by Grupo Pacifico before, during and after the event. More information will be available on the EAGE website soon. Please note that these tours are not included and should be booked and paid for directly to the Grupo Pacifico. For more information, please contact EAGE2010@pacifico-meetings.com.

Exhibition

About 300 exhibitors will occupy approximately 8,000 m² of exhibition space. We welcome you to visit the exhibition during the opening hours to learn about the latest developments in the industry and to meet and network with professionals from the industry. Should you be interested in exhibiting, please note that interest in Barcelona 2010 is high and the space is limited. To secure booth space, please go to our website for availability or send an e-mail to exhibition@eage.org.

Opening Hours Exhibition

Monday 14 June	18.45 – 20.30 hrs (Icebreaker Reception)
Tuesday 15 June	10.00 – 18.30 hrs
Wednesday 16 June	10.00 – 18.30 hrs
Thursday 17 June	10.00 – 18.30 hrs

EAGE Pavilion and Bookshop

The EAGE Pavilion and Bookshop will be located right at the entrance of the exhibition hall. The bookshop will once again offer a wide variety of book titles (over 500 titles!) that will be available at attractive prizes. Also, free copies will be available of all the EAGE journals. At the pavilion, you can collect your CD-ROM with conference material and your ticket to the conference evening. The EAGE staff at the pavilion will be happy to answer any questions you may have about Barcelona 2010 or upcoming EAGE activities.

Job Centre

For the past decade there has been increasing concern expressed in the Oil and Gas industry over the growing demand for E&P (technical) personnel. The Job Centre is one of the ways EAGE wishes to contribute to these recruitment challenges. It will be organized for the fifth time, following successful appearances in Vienna, London, Rome and Amsterdam. With 6,000 geoscientists and engineers expected to visit, what better place is there for recruiters, students and professionals to meet and do business? For more information about the Job Centre and the opportunities on offer, please contact the Advertising Account Manager (advertising@eage.org).

Consultancy Square

It is a recognition of consultants as an important group in the EAGE membership. The Consultancy Square will offer consultants an excellent opportunity to have their own exclusive area where they can meet clients and present their services to a wide target audience. For more information, please contact exhibition@eage.org or refer to the EAGE website.

Learning Geoscience Square

New in Barcelona is the Learning Geoscience Square. At this square, an overview of the market for education services in the geology, geophysics and engineering sciences will be created. The Learning Geoscience Square will offer companies an excellent opportunity to have their own exclusive area where they can network, meet clients and present services to a wide target audience.

Sponsoring Opportunities

Sponsorship is perceived as a highly cost-effective method. When you are a sponsor you will gain high visibility in a qualitative and uncluttered environment that makes your message stand out. EAGE is synonymous with quality, with proven track records in the past. The event programme offers a diverse menu that is sure to help you to reach your target audience. To maximize the benefits of an EAGE sponsorship, please contact sponsoring@eage.org or refer to the Exhibition & Sponsor Guide available on the EAGE website and make your selection. We will be happy to advise you.



Exhibitors List (12 November 2009)

- | | | |
|--|---|---|
| <p>A</p> <ul style="list-style-type: none"> • Acoustic Geophysical Services • Advanced Geosciences Europe S.L. • Aeroquest Ltd • A-G Geophysical Products Inc. • Amphenol Steward Enterprises • ANEGA Holding LLC • APG Airborne Petroleum Geophysics • Aretech Solutions S.A. • ARK CLS Ltd • ARKeX Ltd • Ascend Geo • Atlas Seistech • Avalon Sciences Ltd | <p>E</p> <ul style="list-style-type: none"> • Earthworks Environment & Resources Ltd • Eliis • EMGS ASA • Energistics • Engenius Software • Enres International • ESG • ESRI • Exploration Electronics Ltd • Exxonmobil International Ltd | <ul style="list-style-type: none"> • GEOMOTIVE Inc. • Geophysical Survey Systems Inc. • GeoScience Ltd • Geosoft Europe Ltd • GeoTomo • Geotomographie GmbH • Geotrace • Global Geophysical Services Inc. • GNS Science |
| <p>B</p> <ul style="list-style-type: none"> • Beicip-Franlab • Bennex AS • Bergen Oilfield Services • BGP Inc • Blueback Reservoir AS • Bolt Technology Corporation • Bull SAS | <p>F</p> <ul style="list-style-type: none"> • Fairfield Industries • Flodim • Fraunhofer ITWM • Fugro | <p>H</p> <ul style="list-style-type: none"> • Halliburton • Headwave Inc. • Hydrosience Technologies Inc. |
| <p>C</p> <ul style="list-style-type: none"> • Cepsa E.P., S.A. • CGGVeritas | <p>G</p> <ul style="list-style-type: none"> • Gardline Geosurvey Ltd • GAS NATURAL • GAS S.r.l. Geological Assistance & Services • GEDCO • Geo Publishing Ltd • Geocable Systems • GeoCenter LP • Geofizyka Kraków Sp. z o.o. • Geofizyka Torun Sp zoo • GeoGlobal • Geokinetics Inc. • GeoKnowledge AS • Geological Survey of Norway • Geomage • Geometrics Inc. | <p>I</p> <ul style="list-style-type: none"> • IFP • Ikon Science Ltd • Industrial Vehicles International Inc. • Infinity Seismic • INT (Interactive Network Technologies) • ION • IRIS Instruments • iSeis • ISI International Seismic Interpretation GmbH • Isys - The Imaging Systems Group Inc. |
| <p>D</p> <ul style="list-style-type: none"> • DECO Geophysical Co. Ltd • dGB Earth Sciences • DMNG (Dalmorneftegeophysica) • DMT GmbH & Co. KG • DownUnder GeoSolutions • Dynamic Technologies | <p>J</p> <ul style="list-style-type: none"> • Jaguar Exploration Inc • JDR Marine Cables • JOA Oil & Gas B.V. | <p>J</p> <ul style="list-style-type: none"> • Jaguar Exploration Inc • JDR Marine Cables • JOA Oil & Gas B.V. |
| <p>K</p> <ul style="list-style-type: none"> • Kinemetrics Inc • Kuwait Oil Company | <p>L</p> <ul style="list-style-type: none"> • LandOcean Energy Service Co. Ltd • Lynx Information Systems Ltd | <p>K</p> <ul style="list-style-type: none"> • Kinemetrics Inc • Kuwait Oil Company |
| <p>M</p> <ul style="list-style-type: none"> • Macha International Inc. • Maersk Oil • Marac Enterprises Inc. • Marine Arctic Geological Expedition (MAGE) • MicroSeismic Inc. • Mitcham Industries Inc. | <p>M</p> <ul style="list-style-type: none"> • Macha International Inc. • Maersk Oil • Marac Enterprises Inc. • Marine Arctic Geological Expedition (MAGE) • MicroSeismic Inc. • Mitcham Industries Inc. | <p>M</p> <ul style="list-style-type: none"> • Macha International Inc. • Maersk Oil • Marac Enterprises Inc. • Marine Arctic Geological Expedition (MAGE) • MicroSeismic Inc. • Mitcham Industries Inc. |
| <p>N</p> <ul style="list-style-type: none"> • Network Appliance Inc. • Norsar Innovation AS • Numerical Rocks AS | <p>N</p> <ul style="list-style-type: none"> • Network Appliance Inc. • Norsar Innovation AS • Numerical Rocks AS | <p>N</p> <ul style="list-style-type: none"> • Network Appliance Inc. • Norsar Innovation AS • Numerical Rocks AS |

O

- Octio AS
- Odin Petroleum AS
- OHM Rock Solid Images
- OpenSpirit Corporation
- Oyo Corporation
- OYO Geospace Corporation

P

- Panasas Inc.
- PanTerra Geoconsultants BV
- Paradigm
- Parallel Geosciences Corporation
- PartnerPlast AS
- PBG Ltd
- Petrologic Geophysical Services GmbH
- PetroMarker AS
- PetroSkills
- Petrosys Europe Ltd
- Petroleum Geo-Services
- Phillystran Europe BV
- Phillystran Inc.
- Phoenix Geophysics Ltd

- Pico Envirotec
- Polarcus
- Prospectiuni S.A.

R

- R.T. Clark Companies Inc.
- Real Time Systems
- Repsol Exploracion S.A.
- Reservoir Imaging Ltd
- Robertson Geologging Ltd
- Rock Deformation Research Ltd
- Roxar Software Solutions AS
- RXT - Reservoir Exploration Technology AS

S

- Sander Geophysics
- SATPOS AS
- Saudi Aramco
- Schlumberger Oilfield Services
- Scintrex
- Scout Recruitment
- SeaBird Exploration

- Seismic Equipment Solutions
- Seismic Image Processing Ltd
- Seismic Micro-Technology Europe Ltd
- Seismotekhnika
- Seisquare
- Seistronix
- Sercel
- Sevmorneftegeofizika (SMNG)
- SkyTEM Aps
- Sonardyne International Ltd
- Spectraseis AG
- SPT Group AS
- Statoil ASA
- Stingray Geophysical Ltd
- StratoChem Services
- System Development Inc. (SDI)

T

- TechnoImaging LLC
- TEEC
- TEECware
- Teledyne Marine Geophysical Instruments
- Tele-Rilevamento Europa - TRE S.r.l.
- TERRASYS Geophysics GmbH & Co. KG
- TGS-NOPEC Geophysical Company (UK) Ltd
- TNO
- Total
- Trelleborg Offshore Barrow-in-Furness Ltd
- Troika International
- Tsunami Development

U

- University of Edinburgh

V

- Vehicle Source Products Inc.
- Verif-i Limited
- VNIIOkeangeologia
- VSG (Visualization Science Group)

W

- W.L. Gore & Associates GmbH
- Weatherford
- WesternGeco Ltd
- WGP Exploration Ltd
- Working Smart Ltd

X

- Xi'an Senshe Electronic Technology Corporation
- xPort Group Inc.



Registration

All fees are in Euros (€) (incl. 7% VAT where applicable)
VAT number: N0032626 D

We encourage online registration via www.eage.org. Offline registration (by using the enclosed registration form or downloading a pdf file from our website) is subject to a € 10 administration fee.

Registered and paid	until 15/03/2010	16/03/2010 – 15/05/2010	16/05/2010 – on-site
Conference & Exhibition			
EAGE/SPE active member	€ 435	€ 475	€ 565
EAGE retired member	€ 160	€ 180	€ 235
Non-member ¹	€ 615	€ 655	€ 745
Family member	€ 215	€ 245	€ 275
Day registrant conference (EAGE/SPE member)	n/a	n/a	€ 210
Day registrant conference non-member	n/a	n/a	€ 275
Students			
EAGE/SPE student member ²	€ 85	€ 125	€ 165
Full-time student non-member ^{1,2}	€ 160	€ 195	€ 245
Conference Evening ³	€ 45	€ 45	€ 45
Students please note: registration for one or more student programme activities is mandatory (see page 24 and 25)			
Exhibition Only			
Exhibition 3 days	€ 115	€ 125	€ 145
Exhibition 1 day	n/a	n/a	€ 70
Workshop Package			
EAGE/SPE member	€ 100	€ 130	€ 175
EAGE/SPE student member ²	€ 65	€ 75	€ 85
Non-member	€ 200	€ 230	€ 275
Full time student non-member ²	€ 90	€ 105	€ 125
Short Courses⁵			
EET IV			
EAGE member	€ 75	€ 75	€ 95
Non-member ⁴	€ 150	€ 150	€ 170
SEG/EAGE DISC			
EAGE/SEG member	€ 75	€ 75	€ 95
Non-member ⁴	€ 150	€ 150	€ 170
EAGE short courses (short course 2+4)			
EAGE member	€ 445	€ 445	€ 465
Non-member ⁴	€ 545	€ 545	€ 565
SPE short course			
EAGE/SPE member	€ 445	€ 445	€ 465
Non-member	€ 545	€ 545	€ 565
Field Trips⁵			
Registered and paid before 15/04/2010	Field Trip 1	Field Trip 2	Field Trip 3
EAGE/SPE member	€ 495	€ 395	€ 195
Non-member	€ 595	€ 495	€ 295

¹ The non-member fee includes EAGE/SPE membership for the remainder of 2010.

² To qualify for the reduced registration fee, a copy of your student identification card for a geoscience institute must be submitted together with your registration form.

³ Students interested in attending the conference evening on Wednesday 16 June will be subject to an additional charge.

⁴ The non-member fee includes EAGE membership for the remainder of 2010.

⁵ Please note that the EAGE or SPE reserves the right to cancel the short course or field trip(s) due to low participation. In that case, payment will be refunded in full.

Members please note: you only qualify for the member registration fee if your membership dues for 2010 have been paid and received (for EAGE members before 15 March 2010).

Non-members please note: the conference fee for non-members includes membership for EAGE or SPE for the remainder part of 2010.

Non-members please note: in order for SPE membership to be activated an application form requesting additional information must be completed. This form will be e-mailed to you shortly after the event. Your membership will be activated soon after completion of the application form and valid through until 31 December 2010.

Do not mislay your badge: new badges are not available free of charge.

Please note the cancellation and changes policy stated on page 31.

Registration Fee Includes

	Admission Workshops	Participation Field Trip	Admission Technical Sessions	Admission Exhibition	Admission Short Course	Barcelona 2010 CD-ROM	Delegate Bag	Family Member Tour	Public Transport Card	Icebreaker Reception	Student Programme	Student Evening	Conference Evening
Full Delegates (registered for Conference & Exhibition)			•	•	•	•		•	•				•
Student Delegates (registered for Conference & Exhibition)			•	•	•	•		•	•	•	•		
Family Members				•			•	•	•				•
Day Registrants Conference			•	•	•	•							
Exhibition Only Delegates				•					•				
Workshop Delegates	•												
Field Trip Participants		•											
Short Course Participants					•								

How to Register

The best way to register is by using the online registration form (www.eage.org). You can also complete the enclosed registration form and return it to:

EAGE Head Office
 Registration Department
 PO Box 59, 3990 DB Houten
 The Netherlands
 Fax: +31 30 6343534
 E-mail: registration@eage.org

Please note that offline registration is subject to an additional € 10 administration fee.

Registration forms will not be accepted unless accompanied by full payment. Should you apply for the member's fee, please state your EAGE/SPE membership number.



It is requested that collective remittances are accompanied by a list of names and membership numbers, if applicable. After receipt of registration and payment, delegates will receive a confirmation letter, which should be exchanged on-site for a badge and vouchers.

Workshop Package

Please indicate on the (online) registration form which of the workshops you would like to attend (one per day), in order to reserve your workshop material(s) and seat.

Methods of Payment

All payments must be made in Euros (€).

- By credit card (VISA, Master card, AMEX) through our secure web server¹
- By credit card authorization on the registration form
- By bank transfer. Made out to: EAGE Conferences BV,
Bank: ABN-AMRO Bank, The Netherlands
Account number: 44.62.55.300
IBAN number: NL09ABNA0446255300
BIC/Swift code: ABNANL2A

¹ Please note that credit card authorizations not done online will require a signed credit card authorization form to be sent by post, fax or scanned to e-mail.

Please indicate your name clearly on all bank transfers. Due to postal or bank delays, registration by post and/or bank transfer will not be accepted after **15 May 2010**.



Exhibitors' Badges

All exhibitors **MUST** register. Please take note that for every 9 square metres booked and paid for, two vouchers are issued. These vouchers can be used for:

- Free registration of **one full delegate** (Conference & Exhibition) costs **2 vouchers**
- Free registration for access to the **Exhibition only** costs **1 voucher**

The vouchers must be used for pre-registration by 15 May 2010 at the latest. After this date, vouchers can no longer be used. Vouchers cannot be used for on-site registration. Please refer to the exhibitors manual, which will be available online in December 2009.

Official Invitations

Official invitations for visa purposes will be issued by the EAGE Head Office to those who have **registered and paid** for the 72nd EAGE Conference & Exhibition incorporating SPE EUROPEC 2010. In order to obtain an official invitation, the online application form must be completed. Applications should be submitted before **15 May 2010**. Handling of applications received after this date cannot be guaranteed.

Please allow at least two weeks for processing and note that delegates are responsible for requesting an official invitation in due time.

As of January 1st, an online invitation will be available on the member section of the EAGE website, www.eage.org.

Cancellation and Changes Policy

Registration fees will be refunded as follows:

- Cancellation received **before 15 April 2010**:
Full refund (after the conference) minus an administration fee of € 35 per person.
Non-members please note: membership fee included in the conference fee will not be refunded; membership will remain active.
- Cancellation received **on or after 15 April 2010**
No refund will be made. For non-members, please note your included membership will remain active for the remainder of 2010.
- Transfer of your registration to another name will cost a € 35 administration fee notwithstanding possible differences in applicable registrations fees (for instance when changing a registration from a member to a non-member).

Cancellation or changes to any registration must be made in writing (letter, fax or e-mail) to:

EAGE Head Office
Registration Department
PO Box 59
3990 DB Houten
The Netherlands
Fax: +31 30 6343534
E-mail: registration@eage.org

Liability Clause

EAGE cannot be held liable for non attendance due to visa issues or any other travel or legal obstructions. If an event or part of an event is cancelled, EAGE shall not be responsible for airfare, hotel or other costs incurred by the registrants. Speakers and program agenda are subject to change. EAGE shall not be liable for damages, expenses, personal injury or loss except when caused by gross fault or negligence on the side of EAGE. EAGE's liability is expressly limited to the amount paid for this event by the participant to EAGE.

EAGE

EUROPEAN
ASSOCIATION OF
GEOSCIENTISTS &
ENGINEERS

EAGE Head Office

EAGE Office
PO Box 59
3990 DB Houten
The Netherlands

Tel.: +31 88 9955055
Fax: +31 30 6343524
E-mail: eage@eage.org
Website: www.eage.org

EAGE Regional Office Russia & CIS

EAGE Geomodel LLC
Starokaluzhskoye shosse, 62,
build.1, korp. 6, 3rd floor
117630 Moscow, Russia

Tel.: +7 495 6619285
Fax: +7 495 6619286
E-mail: eage@eage.ru
Website: www.eage.ru

EAGE Regional Office Middle East

EAGE Middle East FZ-LLC
Dubai Knowledge Village
PO Box 501711
Block 13, Office F-25
Dubai, United Arab Emirates

Tel.: +971 4 3693897
Fax: +971 4 3604702
E-mail: middle_east@eage.org
Website: www.eage.org