EAGE
EUROPEAN
ASSOCIATION OF
GEOSCIENTISTS &
ENGINEERS

ikon Science

EDUCATION DAYS
HOUSTON 2019

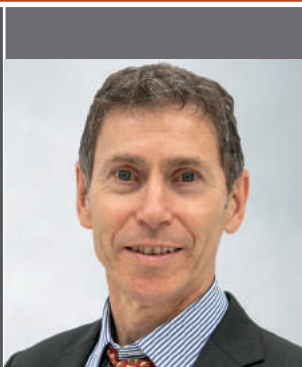## 12-15 NOVEMBER 2019 | HOUSTON, TEXAS

EAGE EDUCATION

www.LearningGeoscience.org

Welcome to Houston!

EAGE is pleased to invite you
to visit Houston for our
Education Days Houston 2019

Dear Colleagues,

The European Association of Geoscientists and Engineers (EAGE) recognizes the necessity for high-quality training and education throughout the lifetime of the industry professional. Indeed, we see educational tools as a key deliverable to our membership, especially relevant in our rapidly changing industry, and develop these accordingly.
To this end, I would like to introduce the EAGE Short Course Catalogue in which you will find an overview of more than 90 short courses from a range of experienced instructors from industry and academia. We have carefully selected these courses to be multidisciplinary, in keeping with our association's ethos, and to keep abreast of the latest trends in geoscience and engineering. Many of our courses are designed to be easily digested in bites of one to two days, sometimes longer depending on the topic, and are delivered by specialists who blend classroom theory and practical application. The EAGE organizes its courses in different formats worldwide:

- EAGE Education Days
- EAGE Education Tours
- Public short courses
- In-house courses

We also include abbreviated versions of our educational material as E-Lectures on YouTube. I strongly encourage you to participate in our short courses, which I am sure that you will find both high quality and professional in nature.

Finally, I should add that the EAGE is continually refreshing the catalogue to ensure it keeps pace with, and is relevant to, current industry developments. Should you have any suggestions or proposals for new courses please let me know.

I wish you an enjoyable and informative learning experience!

Colin MacBeth I Education Officer (EAGE Board)

Short Course Programme

12-13 NOVEMBER 2019

Mitigating Bias, Blindness and Illusion in E&P Decision Making
Creties Jenkins, Texas USA

12-13 NOVEMBER 2019

Integrated Seismic Acquisition and Processing
Jack Bouska, Calgary, Canada

14-15 NOVEMBER 2019

Challenges and Solutions in Stochastic Reservoir Modelling - Geostatistics, Machine Learning, Uncertainty Prediction
Vasily Demyanov, UK

Venue

IKON SCIENCE
12140 Wickchester Ln #400, Houston, TX 77079, USA

Accreditation

In March 2013 EAGE became the first official Continuing Professional Development (CPD) Provider of the "European Geologist" title, which is a professional accreditation established by the European Federation of Geologists (EFG). In order to obtain and maintain this title, the holder must provide a record of high quality CPD activities, which include the short courses like the ones presented in this brochure. For an overview of the provided points for
EAGE Short Courses and for more information about this accreditation system and corresponding EAGE learning activities please visit www.eage.org and www.LearningGeoscience.org.

Sponsorship

Education Days Days Houston 2019 offers excellent sponsorship opportunities to create high visibility. For more information, please refer to the EAGE website or contact us at jpo@eage.org.

EAGE Economic Hardship Programme

EAGE recognizes the current challenging status of the industry and, priding itself on the inclusive character of the Association, now has a special economic hardship assistance programme in place to reach out to its members.

EAGE Short Course discount
EAGE aims to assist its long-term members who are currently unemployed by providing contributions towards educational programmes. Under this element of the EAGE Economic Hardship Programme, members currently unemployed can attend public short courses at the Education Days Buenos Aires for a discounted course fee equal half of the lowest fee of the respective course (member early fee).

For more information we would like to refer you to the event website at events.eage.org

Registration fees

All fees include digital course material, lunch and coffee breaks.

Registered and Paid	Early Until 31st August 2019	Regular Until 20 October 2019	Onsite/Late 10 November
EAGE Bronze/Gold/Silver Member	$ 740	$ 800	$ 880
EAGE Platinum Member	$ 740	$ 740	$ 740
Non - Member	$ 860	$ 940	$ 1.015
Student Member	$ 370	$ 400	$ 440
Green Student Member	$ 405	$ 445	$ 475
Student Non-Member	$ 430	$ 470	$ 505

*Non-member fee includes EAGE Membership for 2019.
For online registration and group bookings, please refer to the event website at events.eage.org.

DISCIPLINES

Geophysics   Geology   Reservoir Characterization   Near Surface   Engineering   Training and Development

"Education Days is an ideal platform to increase knowledge and awareness of new methodology for geoscience specialists"

12-13 NOVEMBER 2019

Mitigating Bias, Blindness and Illusion in E&P Decision Making

Mr Creties Jenkins (United States America)

CPD Points: 10

Course Description

Decisions in E&P ventures are affected by cognitive bias, perceptual blindness, and various forms of illusion which permeate our analyses, interpretations and decisions. This two-day course examines the influence of these cognitive pitfalls and presents techniques that can be used to mitigate their impact.

"Bias" refers to errors in thinking whereby interpretations and judgments are drawn in an illogical fashion. "Blindness" is the condition where we fail to see an unexpected event in plain sight. "Illusion" refers to misleading beliefs based on a false impression of reality.

All three—Bias, Blindness, and Illusion--can lead to poor decisions regarding which work to undertake, what issues to focus on, and whether to continue investing time, effort, and money in a given project.

The course begins by examining how these cognitive errors affect us. Several different errors are discussed, including: Perceptual Blindness; Illusions of Potential, Knowledge and Objectivity; and Anchoring, Availability, Confirmation, Framing, Information, Overconfidence and Motivational Biases. Exercises, videos, and examples help illustrate how these manifest themselves in our daily activities and affect our judgment, often without us realizing it. We then focus on the oil and gas industry where drilling portfolios, production forecasts, resource assessments, and other activities are regularly impacted. Techniques are presented that can be used to mitigate cognitive errors and examples are shown where these techniques have worked.

A key element of the course are the mitigation exercises which give participants a chance to apply what's been learned to real-life situations. For example, what elements of the "anchoring bias" led to the belief that the exploration potential of a prospect offshore Brazil was much greater than it turned out to be? Or, what elements of the "confirmation bias" led to a decision regarding which analogous data should be used to predict the outcome of a new drilling project?

The second day includes a series of exploration and appraisal case studies resulting in both positive and negative outcomes. Participants are asked to identify cognitive errors contributing to the project results, and which of these had the greatest impact. This is followed by a 3-hour, real-world exercise using project data to give participants practice in addressing cognitive errors. The exercise requires participants to list all of their assumptions followed by a list of the contrary assumptions. This is followed by an assessment of the impacts if the contrary assumptions are true, and what key types of data / analyses will be required to determine which set of assumptions are correct. Finally, the participants identify cognitive errors leading to the actual project outcome.

The course concludes by presenting a summary 'toolkit' with mitigation techniques that can immediately be applied to project work and decisions. This includes a laminated card listing the various types of bias, blindness and illusion on one side, and the six key steps to mitigate these cognitive errors on the flip side. This helps participants immediately apply the concepts to their daily work.

Participants' profile

This course is designed to have broad appeal to all levels and disciplines within an organization: junior to senior level geoscientists, junior to senior level engineers, analysts, landmen, HSE, HR, etc. And mid-level to senior managers and executives.

Integrated Seismic Acquisition and Processing

Mr Jack Bouska (Calgary, AB, Canada)

CPD Points: 10

Course Description

This course covers both modern and future practices in 3D seismic acquisition survey design and field operations. The seismic experiment is introduced as part of a larger integrated system, one composed of acquisition design, field operations, data processing, imaging and interpretation. This two-day course emphasizes how real-world aspects of interpretation, data processing, imaging and field operations can either constrain or liberate various survey design parameter choices.

The course material conveys the full breadth of knowledge and tools required to select and adjust survey design parameters for optimum imaging of the subsurface target, while honouring equipment limits and surface constraints. The syllabus develops a practical set of survey design skills, using a combination of both presentations and in-class exercises. This knowledge and skill base is also reinforced using specific examples of cutting edge seismic acquisition projects from around the globe. All case histories were selected to emphasize the value of long offset, wide azimuth and simultaneous source techniques for onshore and offshore ocean bottom seismic acquisition 3D designs, employing both large and small field crews.

Participants' profile

The course is designed for:
1. Seismic acquisition specialists who wish to learn more about designing cost-effective acquisition programmes, that are well matched to state-of-the-art processing and imaging techniques, along with strategies to exploit the future of high channel count crews in order to create ultra-high quality images;
2. Seismic processing specialists who wish to learn about how acquisition geometry parameter choice directly affects the ability to attenuate noise, and image the subsurface, in the context of a modern processing scheme.
3. Seismic interpreters with a desire to know more about both of the above.

Challenges and Solutions in Stochastic Reservoir Modelling - Geostatistics, Machine Learning, Uncertainty Prediction

Dr Vasily Demyanov (Exxon Mobil Heriot-Watt University, Scotland)

CPD Points: 5

Course description

Reservoir prediction modelling is subject to many uncertainties associated with the knowledge about the reservoir and the way they are incorporated into the model. Modern reservoir modelling workflows, which are commonly based on geostatistical algorithms, aim to support development decisions by providing adequate reservoir description and predict its performance. Uncertainty about reservoir description needs to be accounted for in modelling workflows to quantify the spread of reservoir predictions and its impact development decisions.

The course aims to build awareness of the impact the modelling choices on the reservoir predictions and their relation to the way uncertainty is incorporated into reservoir modelling workflows. The course addresses the problem of tying the workflow with the expected geological vision of a reservoir subject to uncertainty. This is associated with one of the common issues, when standard assumptions of a workflow are not consistent with the model geology or do not reflect possible variations due to existing uncertainty.

The course demonstrates the implementation of geostatistical concepts and algorithms in geomodelling workflows and the ways uncertainty is accounted for in reservoir description and predictions. The course includes an overview of the state-of-the art conventional techniques and some novel approaches, in particular machine learning for reservoir description.

Machine learning provides new opportunities in data integration and the model control to tackle the modelling challenges related to non-stationary multi-scale correlation structure and complex connectivity patterns in reservoirs. Novel machine learning techniques are good at capturing dependencies from data, when their parametric description is difficult; and controlling the impact of noisy and ad-hoc data.

Participants' profile

The course is designed for a wide audience of reservoir modellers, geologists and engineers with range of experience from novices to experienced practitioners.

For more information and tailored advice, please visit our Education portal

www.LearningGeoscience.org or contact us at education@eage.org