

EAGE

EUROPEAN
ASSOCIATION OF
GEOSCIENTISTS &
ENGINEERS

First EAGE Data Processing Workshop

26-28 FEBRUARY 2024 • CAIRO, EGYPT

- **Final Announcement**

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PLATINUM SPONSOR



TECHNICAL COMMITTEE

Davide Calcagni (Co-Chair)	ENI
Steve Pitman (Co-Chair)	PGS
Alaaeldin Hassan	Independent Geophysical Consultant
Andres Landa	Troika Intl.
Dominic Lawrence	BP
Emilie O'Neill	SLB
Gabriele Busanello	SLB
Ian Jones	Brightskies Geoscience
Roald van Borselen	Shearwater GeoServices
Sergio Grion	Shearwater GeoServices
Verity Agar	TGS

WORKSHOP OVERVIEW

A common playground for all the traditional energy industry, Seismic Processing has become a foundation stone for all the activity related to the energy industry of the future and the energy transition. Moving from the evergreen 2D and 3D time processing it has been relentlessly evolving into 4D then 4C and became truly an ever larger domain becoming Data Processing spanning from Seismic to inversion from calibration to geotechnical integration in a never slowing pace of innovation. The Energy transition with all the requirements from renewables, critical minerals, decarbonisation, transition fossil fuels is demanding of a huge amount of data processing.

All this has been possible via two main enabling factors: Data acquisition technology step forwards and the availability of an unprecedented amount of Computing Power.

The full azimuth multicomponent high density data sets will allow to exploit a new frontier in the seismic imaging triggering a full technological value chain of new algorithms and work flows aimed at the most complex data inversions allowing to build subsurface models with a level of accuracy never reached so far. The necessity of building new offshore windmill farms or extensive solar plant onshore will demand for data processing in high resolution of the shallow portion of the earth crust, namely the near surface where the integration with geological and geotechnical data will allow an ever more requested de-risking of the sites. Satellite imageries data will become more and more widespread as a backbone for accurate site characterisation in the domain of agriculture and forestry allowing to respect the challenging targets of the decarbonisation pathway.

A new dawn for data processing is already rising. Come to Cairo and join the debate about it!

TOPICS

- Acquisition advancements and implications for data processing
- Additional value for data processing from new acquisition technologies
- Applications for processing from innovative acquisition technologies
- Pushing the boundaries of Data processing
- Innovation in Seismic Imaging
- The Computing revolution
- Addressing the Imaging challenges of N Africa/Med

- Embedded AI/ML- Myth or Reality
- Advances in Reservoir Characterisation
- Processing Applications for the energy transition
- Data PRE-processing and quality

Sunday 26 February 2024

GINGKO RESTAURANT

18:00 IceBreaker Reception at Gingko Restaurant, Fairmont Nile City Hotel - Sponsored by CGG

TECHNICAL PROGRAMME

Monday 26 February 2024

MAGENTA MEETING ROOM

08:00 Registration and Welcome Coffee

08:30 HSSE From Hotel

08:35 Welcome by Co-Chairs Davide Calcagni (ENI) & Steve Pitman (PGS)

08:50 Opening Address by Respected Dr Abdel Hameed El Gewaily (Vice Chairman, Exploration & Agreements - EGAS)

09:00 Keynote 1 - Prof. Kees Wapenaar (Delft University of Technology)

SESSION 1 - Pushing the Boundaries of Data Processing Part I

Session Chairs: Gabriele Busanello & Dominic Lawrence

09:30 Imaging of high-density 3D onshore data in fold and thrust belt area: challenges and lessons learned - S. Angio¹, F. Lo Duca¹, B. Webb^{1*}
¹ENI

09:55 Multi-azimuth re-processing and imaging; maximising the value of legacy streamer data in the Nile Delta - P. Brown^{1*}, P. Agnisola¹, V. Valler¹, J. Raffle¹, V. Butterworth², M. Mahmoud³
¹TGS; ²bp; ³Pharaonic Petroleum Company (PhPC)

10:20 Elastic full-waveform inversion for northern Red Sea the way to go - D. Vigh^{1*}, K. Glaccum¹, X. Tan¹
¹SLB

10:45 Morning Coffee Break

11:15 Valuable UFT as a preliminary examination to adapt future exploratory work - J. Kumar, I.A. Shakour, M. Soliman^{*}
¹PGS Imaging

11:40 Efficient Model-Independent Near-Surface Correction - A. Alfaraj^{1*}, D.J. Verschuur²
¹Saudi Aramco; ²Delft University of Technology

12:05 Surface and internal multiple attenuation: a pre-migration solution for land data - D. Carotti^{1*}, J. Deprey¹, J. Mitschler¹
¹CGG

12:30 Lunch Break - Saigon Restaurant

Poster Session I: Seismic Imaging

Session Chairs: Davide Calcagni & Steve Pitman

13:15 Lightning Session - Seismic Imaging

13:20 A VMB Case Study Using FWI To Extract More Value From 3D Legacy Seismic Data - M. Ahmed^{1*}, H. Elsayed, D. Romyantsev, M. Georgy, L. Limonta
¹Pgs

Minimizing drilling uncertainties by applying advanced reprocessing techniques, case history from Western Desert, Egypt - T. Saleh¹, F. Ibrahim^{1*}, K. El-Serafy¹, H. Abdel Wahab¹, A. Zaghloul¹, H. Elfouly¹, G. Woolf², S. Allison²
¹WesternGeco-Schlumberger; ²Apache

Converted wave attenuation case study from East Mediterranean Sea - M. Salem^{1*}, J. Kumar¹
¹PGS

13:45 Keynote 2 - Marine Acquisition changes and what they might mean for survey design and the future of processing - David Monk (ACTeQ)

Session 2: Acquisition Advancements And Implications For Data Processing - Part I

Session Chairs: Sergio Grion & Alaaeldin Hassan

14:15 Value of low-volume apparition sources. - L. Casasanta^{1*}, S. Grion¹
¹Shearwater Geoservices

14:40 De-Blending Using the Extended Multistage Iterative Simultaneous Sources Separation with Priors, Red Sea Case Study - A. Moussa¹, M. El Attar¹, M.S. Ouda¹, I. Mihaljevic¹, U. Abdel Kader¹
¹Slb

15:05	OBN Survey Design: Planning Optimal Node Spacing Using Parametric RTM Images - M. Buia ^{1*} , S. Moschella ¹ , F. Priore ¹ , D. Maggi ¹ , S. Baudo ¹ ¹ ENI
15:30	Afternoon Coffee Break
16:00	The impact of marine-streamer acquisition technology on broad-band time-lapse (4D) seismic data - P. Smith ^{1*} , P. Glenister ¹ , D. Fischer ² , H.M. Blekastad ² , I. Selle Østgård ² ¹ SLB; ² Equinor ASA
16:25	Solving East Nile Delta's imaging challenges through new OBN acquisition and advanced processing sequence - D. Baptiste ¹ , D. Lawrance ¹ , E. Fawzi ² , V. Butterworth ^{1*} , M. Rashid ² , M. Mahmoud ² ¹ bp; ² Pharaonic Petroleum Company (PhPC)
16:50	Advanced imaging of hybrid acquisition data - S. Masclet ^{1*} , F. Wang, L. Janot, H. Jiang ¹ CGG
17:15	Closing Remarks by Chair

Tuesday 27 February 2024

MAGENTA MEETING ROOM	
08:00	Registration & Welcome Coffee
08:30	Review of Day 1 & Welcome to Day 2 by Co-Chairs
08:40	Keynote 3 - Multi-Dimensional Deconvolution: Current Status and the Road Ahead - Matteo Ravasi (KAUST)
Session 3: Acquisition Advancements And Implications For Data Processing - Part II Session Chairs: Ian Jones & Alaeldin Hassan	
09:10	Data processing case studies of distributed acoustic sensing recordings on the surface (S-DAS) - G. Busanello ^{1*} , R. Bachrach ¹ , B. Soliman ¹ , S. Gupta ¹ , A. Sayed ¹ , K. Ramani ¹ , M. Wilk-Lopes ¹ , C. Thorgersen ¹ , S. Sonika ¹ , F. Twaynam ¹ , D. Brager ¹ ¹ SLB
09:35	Marine vibrators: seismic data processing implications of new survey designs - S. Grion ^{1*} , A. JafarGandomi ¹ , A. Nath ¹ ¹ Shearwater GeoServices
10:00	Machine learning processing test for a Fast-Track deep marine 4D OBN survey - J. Fasterling ^{1*} , A. Grandi ^{1*} , R.O. Salami ^{1*} , C. Dupinet ¹ ¹ TotalEnergies
10:25	Morning Coffee Break
SESSION 4: Addressing the Imaging Challenges of North Africa / Mediterranean Session Chairs: Juergen Fruehn & Emilie O'Neill	
10:55	Shallow and deep imaging using OBN data at Atoll, offshore Egypt/BEIN - B. Hasan ^{1*} , M. Cheung ¹ , R. Haacke ¹ , M. Chappell ¹ , V. Butterworth ² , D. Baptiste ² ¹ CGG; ² BP
11:20	Addressing imaging challenges in the Nile Delta, results from various multi-azimuth towed streamer case studies - J. Fruehn ^{1*} , M. Romanenko ¹ , V. Butterworth ² , A. Crosby ² ¹ TGS; ² bp
11:45	Learning from Elastic FWI and Its Implication for Pre-Messinian Imaging - D. Lawrance ^{1*} , L. Jiang bp
12:10	A Case Study Solving VMB Overburden Complexities In The Eastern Mediterranean Sea Using FWI And RTM - T. Darwish ^{1*} , J. Kumar ² , M. Ahmed ³ , M. Georgy ⁴ , M. Ahmed ⁵ ¹ PGS; ² PGS; ³ PGS; ⁴ PGS; ⁵ PGS
12:35	Lunch Break - Saigon Restaurant
Poster Session II: Processing Session Chairs: Davide Calcagni & Steve Pitman	
13:20	Lightning Session - Processing
13:25	Shear noise removal for Gulf of Suez data using integration of horizontal geophones and curvelet transformation. - M. Sobh ^{1*} , A. Abouelela ¹ , A. Kanrar ¹ , W. Saleh ¹ , T. Eid ² , S. Elnabty ² , K. Hussein ² , M. Khdhaouria ³ , Y. Ibrahim ² ¹ Slb; ² GUPCO; ³ Dragon Oil
	Resolving deep structures beyond diving waves with enhanced template matching full waveform inversion - L. Zhang ^{1*} , L. Hernandez Trevino ¹ , J.R. Ruiz Torres ¹ , A. Ibrahim Abouelela ¹ , C.A. Gamez Mayes ¹ , A. Wisden ¹ , M. Acosta Perez ¹ , S. Dominguez Garcia ² , J. Diaz de Leon Chagoya ² , A. Vazquez Cantu ² ¹ SLB; ² PEMEX
PANEL SESSION	
13:50	Introduction to Panel Session and Panelists; Topic: "Beyond the Technical Frontier: The Next Steps in Seismic Processing"

14:00	Panelists: Prof. Kees Wapenaar/ Matteo Ravasi/ Myrna Staring/ Lorenzo Casasanta
14:50	Afternoon Coffee Break
SESSION 5: Pushing the Boundaries of Data Processing Part II Session Chairs: Gabriele Busanello & Dominic Lawrance	
15:20	Reconstruction and processing of 5D seismic data with Tile-Low-Rank Matrix Completion - D. Vargas ¹ , I. Vasconcelos ^{1*} , M. Ravasi ² , N. Luiken ² ¹ Shearwater Geoservices; ² KAUST
15:45	Seismic processing in the compressed domain: application to wavefield separation and deghosting. - M.O. Faouzi Zizi ^{1*} , P. Turquais ¹ , A. Day ¹ , M.W. Pedersen ¹ ¹ PGS
16:10	An automated framework for coherent noise suppression - R. Bachrach ¹ , S. Re ^{2*} , M. Clementi ² , C. Wilson ¹ ¹ SLB; ² SLB
16:35	Integrated workflow for CCS site evaluation and near field exploration: a UK Southern North Sea study. - C. Reiser ^{1*} , D. Ruyantsev ¹ , E. Mueller ¹ , N. Pernin ¹ ¹ PGS
17:00	Closing Remarks by Chair
20:00	Workshop Dinner at Nile Maxim Luxury Cruise

Wednesday 28 February 2024

MAGENTA MEETING ROOM	
08:00	Registration and Welcome Coffee
08:30	Review of Day 2 & Welcome to Day 3 by Co-Chairs
08:40	Keynote 4 : Unlocking Imaging Challenges of Middle East: Successes and Promises of FWI - Gilles Lambare (CGG)
SESSION 6: Innovation in Seismic Imaging Session Chairs: Dominic Lawrance & Emilie O'Neill	
09:10	Deep structural imaging in the Vienna basin - A. Mamdouh ^{1*} , K. Pelz ² , S. Bezdán ² , E. Angerer ² , A. Oteleanu ² , H. Granser ² , A. Abubakr ¹ , A. Sakharov ¹ , I. Jones ³ ¹ Brightskies Geoscience; ² OMV; ³ Brightskies Geoscience; ⁴ SeisEdge
09:35	A complex demultiple workflow dramatically improves the imaging of the Alpha field - D. Rosa ^{1*} , B. Webb ¹ ¹ ENI
10:00	"Real time" imaging of blended seismic data - A. Alzayer ^{1*} , C. Tsingas ¹ ¹ Expec Advanced Research Center
10:25	Morning Coffee Break
10:55	Reservoir focused imaging with simultaneous inversion of velocity and angle-dependent reflectivity. - Ø. Korsmo ^{1*} , A. Pankov ¹ , B. Caselitz ¹ , J. Kumar ¹ PGS
11:20	A Novel Least-squares RTM for Enhanced Subsalt Imaging - K. Liao ^{1*} , M. Chappell ¹ , A. Ratcliffe ¹ , N. Benfield ² ¹ CGG; ² Shell
11:45	Differentiable dynamic-time-warping in full-waveform inversion - L. Casasanta ¹ , M. Kalita ^{1*} ¹ Shearwater Geoservices
12:10	High-frequency elastic FWI with automated decision making – improving imaging in high-contrast geological environments. - O. Lewis ^{1*} , A. Cooke ¹ , G. Apeland ¹ , C. Thorgersen ¹ ¹ Slb
12:35	Lunch Break - Saigon Restaurant
Poster Session III: Data PRE-Processing Session Chairs: Davide Calcagni & Steve Pitman	
13:20	Lightning Session - Data PRE-Processing
13:25	Internal multiple attenuation using data-driven prediction and curvelet-based adaptive matching in the Permian Basin - F. Xavier de Melo ^{1*} , A. Walz ¹ , R. Hammans ¹ ¹ SLB
	Signal and Image recover through matching pursuit fourier interpolation. A case study - V. Leonardo Gonzalez Mendez ¹ , W. Jacqueline Barragan Valdez ¹ , E. Serrano Casillas ² ¹ Slb; ² Universidad Olmecca; ³ PEMEX Exploration & Production
13:50	Keynote 5: How nodes can bridge the gap between single-sensor and array acquisitions - Amine Ourabah (Stryde)
SESSION 7: Data PRE-processing and Quality Session Chairs: Ian Jones and Sergio Grion	
14:20	A hybrid demultiple workflow for the affective attenuation of surface multiples in shallow water environments - M.T. Raafat ^{1*} , J. Suffert ¹ PGS

Wednesday 28 February 2024

14:45	Estimating temporal and spatial water layer velocity variations for the correction of OBS data - P. Scholtz ^{1*} , T. Nguyen ¹ , A. JafarGandomi ¹ , J. Holden ¹ ¹ Shearwater Geoservices
15:10	Surface consistent deconvolution: A new perspective - D. Zhang ^{1*} , M.S. Mubarak ¹ , C. Tsingas ¹ ¹ Saudi Aramco
15:35	Afternoon Coffee Break
SESSION 8: The Grand Finale Discussion Session Chairs: Davide Calcagni & Steve Pitman	
16:05	In this final session, we will collectively reflect on the highlights, key take-aways, and transformative moments that have defined our time together. It's an opportunity to distill the essence of our discussions
16:50	Final Closing Remarks by Co-Chairs

REGISTRATION FEES

(All registration rates are in USD)

REGISTERED AND PAID	Onsite Registration Fees
EAGE Green Member ^{1,5}	\$ 1540
EAGE Bronze/Silver/Gold Member ^{1,5}	\$ 1390
EAGE Platinum Member ^{1,5}	\$ 940
Non-member ³	\$ 1640
EAGE Student Green Member ^{1,2,5}	\$ 645
EAGE Student Bronze/Silver/Gold Member ^{1,2,5}	\$ 570
Student Non-member ^{2,3,4}	\$ 670

Members please note: To qualify for the member registration fee, your EAGE membership dues for 2023 must have been paid and confirmed. The processing time for membership applications or renewals is 10 working days.

To qualify for the reduced student registration fee:

- Students must be enrolled in a full time study programme at a recognized university or institute
- The registration must be accompanied by a copy of a student ID card and/or official proof of enrolment

The Non-member fee includes EAGE membership for the remainder of 2024 (31/12/2024). This membership will be activated shortly after the event.

Student Non-members cannot be older than 34 years of age (when registering).

Green membership status gives you a USD 50 discount (USD 25 for students) on the Non-member fee for each EAGE event registration; starting from the Bronze status, you can benefit from an even greater reduced EAGE member registration fee. Find here for more information on the recognition programme.

All fees are in USD. One US Dollar of your total registration fee is donated to the EAGE Green Fund.

Please note: The deadlines are following the Local Time in the Netherlands.

EAGE reserves the right to cancel the short course(s), conference(s), workshop(s) or field trip(s) due to low participation. In this case, payment will be refunded in full.

SOCIAL PROGRAMME

Icebreaker Reception

Sunday 25 February, 18:00hrs - 20:00hrs

Venue: Gingko, Fairmont Nile City Hotel

Gala Dinner

Tuesday 27 February, 19:30hrs - 22:00hrs

Venue: Nile Maxim Cruise

VENUE

Fairmont Nile City Hotel

Nile City Towers, 2005 B Corniche, Boulaq Num.1, El Nil, Cairo Governorate 11311, Egypt

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