

## Technical Program Oral Sessions

All Technical Program Oral Sessions will be held on Concourse 2nd Level

### Monday Afternoon

#### ►ACQ 1 Data Acquisition—Land

Session Chairmen: Tom Wells and Ray Jones Room: 217C

- 1:30 PM .....A comparison of the methodology of and results obtained from a new land 3-D generic design compared with a more conventional land 3-D design** — Tony Allen, BP Exploration; Zoubida Benmoumene, Sonatrach Exploration; David Buddery\*, BP Exploration; Amoeur Lassal, Enageo; and Nick Rose-Innes and Brian Taylor, BP Exploration (ACQ 1.1)
- 1:55 PM .....Conventional and sparse 3-D: What is in between?** — Mustafa Al-Ali\*, Richard Hastings-James, and Riyadh Al-Saad, Saudi Aramco (ACQ 1.2)
- 1:20 PM .....Analysis of the slip-sweep technique** — Julien Meunier\*, CGG; Pascal Nicodeme, TotalFinaElf; and Salvador Rodriguez, IFP (ACQ 1.3)
- 2:45 PM .....Why waste energy and money with improper sweeps?** — Yuriy Tyapkin\*, Ukrainian State Geological Prospecting Institute; and Enders Robinson, Columbia Univ. (ACQ 1.4)
- 3:10 PM .....Availability: A new specification for hyper-channel seismic recording systems** — Gary Crews\* and Angela Rogers, Input/Output Inc. (ACQ 1.5)
- 3:35 PM .....MEMS for geophysicists** — Jon Tessman\*, Bruce Reichert, Jim Marsh, Jeff Gannon, and Howard Goldberg, Input/Output Inc. (ACQ 1.6)
- 4 PM.....The effect of geophone specifications on vector fidelity** — Kees Faber\*, and Rick Laroo, Input/Output, Inc. (ACQ 1.7)
- 4:25 PM .....Improvement in seismic acquisition by 3-D global offset approach** — Paolo Dell'Aversana\* and Vittorio Zucconi, Enterprise Oil Italiana; and Daniele Colombo, Geosystem srl (ACQ 1.8)

#### ►BH 4 VSP

Session Chairman: Robert Brewer and Cemal Erdemir Room: 213

- 1:30 PM .....Seismic while drilling by using dual drill-string pilot waves** — F. Poletto\*, and M. Malusa, OGS, Trieste; and F. Miranda, ENI-Agip, Milano (BH 4.1)
- 1:55 PM .....Reliability of VSP-receiver orientations deduced from direct P-wave polarization** — Gilles Bellefleur\*, and Christof Mueller, Geological Survey of Canada; Gervais Perron, Mira Geoscience; and Dave Snyder, Geological Survey of Canada (BH 4.2)
- 2:20 PM .....Production tubing conveyed VSP acquisition: A case history** — Tacio da Silva\* and B.E. Cornish, Halliburton Energy Services Inc. (BH 4.3)
- 2:45 PM .....Q estimates from North Sea VSPs** — Fiona J. L. Reid\*, Heriot-Watt Univ.; Phi H. Nguyen, Univ. of Leeds; Colin MacBeth, Heriot-Watt Univ.; Roger A. Clark, Univ. of Leeds; and Ingrid Magnus, Norsk-Hydro (BH 4.4)
- 3:10 PM .....Horizontal resolution of 3-D VSP data** — Ketil Hokstad, and Roger Sollie\*, SINTEF, Petroleum Research, Trondheim; and Steen A. Petersen, Norsk Hydro, Bergen (BH 4.5)
- 3:35 PM .....Shear wave applications from zero-offset VSP data** — Philip Armstrong\* and Michel Verliac, Schlumberger; and Norberto Monroy, Hector Bernal Ramirez, and Alfonso Ortega Leite, Pemex (BH 4.6)
- 4 PM.....VSP while drilling for geosteering applications** — Ketil Hokstad\*, Roger Sollie, and Inge M. Carlsen, SINTEF, Petroleum Research (BH 4.7)
- 4:25 PM .....Crosscorrelogram migration of IVSPWD data** — Jianhua Yu\* and Gerard T. Schuster, Univ. of Utah (BH 4.8)

#### ►INV 1 Inversion and Tomography I

Session Chairmen: William W. Symes and Mrinal Sen Room: 207

- 1:30 PM .....Waveform inversion for the estimation of acquisition parameters from 3-D VHR marine data** — Claire Leleu\*, IFREMER/INRIA; Yann-Hervé; De Roeck, IFREMER; François Clément, INRIA; and Guy Chavent, Univ. of Paris 9/INRIA (INV 1.1)
- 1:55 PM .....Short-path seismic multiples in coal cyclic sequences and their impact on p-impedance inversion** — Anthony N. Fogg\*, Hampson-Russell Software Services Ltd. (INV 1.2)
- 2:20 PM .....How to handle correlated noise in seismic inversion** — Francois Renard\* and Patrick Lailly, IFP (INV 1.3)
- 2:45 PM .....Wavelet domain linear inversion with application to well logging** — Jonathan Kane\* and Felix J. Herrmann, Earth Resources Laboratory, EAPS, MIT (INV 1.4)

## Technical Program Oral Sessions

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### Monday Afternoon

► INV 1 *Inversion and Tomography I (continued)*

**3:10 PM** ..... **An optimal choice of temporal frequencies for imaging: Application to waveform inversion** — L. Sirgue\*, Ecole Normale Supérieure de Paris/CGG R&D; and R. G. Pratt, Queen's Univ. (INV 1.5)

**3:35 PM** ..... **Inversion of full waveform seismic data with a time-variant sensitivity equation** — Neill P. Symons\* and David F. Aldridge, Geophysical Technology Dept., Sandia National Laboratories (INV 1.6)

**4 PM** ..... **Hybrid inversion, elastic impedance inversion, and prestack waveform inversion** — Subhashis Mallick\*, WesternGeco (INV 1.7)

**4:25 PM** ..... **From geostatics to inversion-based inversion models** — Olivier Dubrule\*, TotalFinaElf (INV 1.8)

► MIG 2 *Migration Techniques*

Session Chairmen: Biondo Biondi and Rob Ferguson Room: 214C

**1:30 PM** ..... **Are our simple synthetic data really unmigratable?** — Benoit Lavaud\* and Bertrand Duquet, IFP (MIG 2.1)

**1:55 PM** ..... **Tilted DMO** — Vigen Ohanian\*, Joel Starr, Helen Delome, PGS; Thomas M. Snyder, LLCC (MIG 2.2)

**2:20 PM** ..... **Comparing common-offset Maslov, Gaussian beam, and coherent state migrations** — Uwe Albertin\*, David Yingst, and Herman Jaramillo, WesternGeco (MIG 2.3)

**2:45 PM** ..... **Comparing finite-difference and Kirchhoff prestack depth migration** — Phil Kitchenside\*, Uwe Albertin, Wenfong Chang, Clement Kostov, Alexandre Kleitz, Nick Moldoveanu, and David Yingst, WesternGeco; and Ananthanaraya Sugavanum, IBM (MIG 2.4)

**3:10 PM** ..... **3-D pre-SDM model building techniques: A review** — Ian F. Jones\*, GX Technology (MIG 2.5)

**3:35 PM** ..... **3-D residual velocity analysis and update toolkit for offset-domain prestack depth migration** — Wei Liu\*, Dimitri Bevc, and Alexander M. Popovici, 3DGeo Development Inc.; and Biondo Biondi, Stanford Univ. (MIG 2.6)

**4 PM** ..... **Prestack depth migration and illumination maps** — Renaud Laurain\* and Vette Vinje, NORSAR (MIG 2.7)

**4:25 PM** ..... **Integrated prestack depth migration of VSP and surface seismic data** — M. Graziella Kirtland Grech\*, Univ. of Calgary and Veritas DGC Inc.; Don C. Lawton, Univ. of Calgary; and Scott Cheadle, Veritas DGC Inc. (MIG 2.8)

► MIG 3 *Migration Examples*

Session Chairmen: Kay Wyatt and Jaime Stein Room: 214A

**1:30 PM** ..... **Velocity model-building in complex tectonics: A strategy, a case history, and related issues** — P. Sexton\*, P. Williamson; and C. Hanitzsch, TotalFinaElf EP, France (MIG 3.1)

**1:55 PM** ..... **Prestack depth imaging in southern Caspian: A step-wise approach for complex imaging** — Mehmet Tanis\*, James Mika, Tim Summers, John Etgen, and Hemang Shah, BP Amoco Exploration, Upstream Technology (MIG 3.2)

**2:20 PM** ..... **3-D prestack depth migration of the Baldpate Field using MAA traveltimes** — Theodore C. Stieglitz\*, Dept. of Geology and Geophysics, Rice Univ.; and Scott A. Morton, Amerada Hess Corp. (MIG 3.3)

**2:45 PM** ..... **Practical, accurate, full-azimuth 3-D prestack finite difference depth migration** — Zheng-Zheng Zhou\* and Jaime A. Stein, NuTec Sciences Inc. (MIG 3.4)

**3:10 PM** ..... **Elastic modeling and wave equation finite difference prestack depth migration in a complex offshore California geological setting** — John Weigant\*, Gary Hoover, and Jaime A. Stein, NuTec Sciences; and Bradley J. Clark, Benton Oil & Gas (MIG 3.5)

**3:35 PM** ..... **3-D subsalt wave equation depth imaging: A case study from the Hickory Field** — John O'Brien\*, Danny Addis, Jock Drummond, Glenn Raney, and David Walraven, Anadarko Petroleum Corp.; and John Weigant, Jaime A. Stein, and Scott Key, NuTec Sciences, Inc. (MIG 3.6)

**4 PM** ..... **Imaging through gas seeps: 3-D prestack depth migration and velocity analysis** — Don Wagner\*, Vikram Sen, Paul Foster, Deedee Albertin, and Randol Read, BP Amoco Upstream Technology Group; and Tom Burch, BP Amoco Trinidad East Business Unit (MIG 3.7)

**4:25 PM** ..... **Imaging in subsalt shadow zones using postcritically reflected waves** — Joe Stefani\*, Chevron Petroleum Technology Co. (MIG 3.8)

**4:50 PM** ..... **Cross-spread imaging by 3-D diffraction tomography** — Paolo Mazzucchelli\* and Fabio Rocca, Dip. di Elettronica e Informazione, Politecnico di Milano (MIG 3.9)

## Technical Program Oral Sessions

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### Monday Afternoon

#### ►MOD 1 Modeling I

Session Chairmen: Melvan Carter and John Washbourne Room: 212

**1:30 PM .....Wavetracing: Ray tracing for the propagation of band-limited signals: Part 1—Theory** —Kenneth P. Bube\*, Univ. of Washington; and John K. Washbourne, TomoSeis (MOD 1.1)

**1:55 PM .....Wavetracing: Ray tracing for the propagation of band-limited signals: Part 2 — Applications** — John K. Washbourne\*, TomoSeis; and Kenneth P. Bube, Univ. of Washington (MOD 1.2)

**2:20 PM .....Wavelets analysis, 3-D attributes, and hydrodynamic modeling of sedimentation patterns** — Rob L. Allen\*, Halliburton Logging and Perforating (MOD 1.3)

**2:45 PM .....Amplitudes for 3-D bending ray tracing** — Fabrice Jurado\*, KIM Research Consortium, IFP (MOD 1.4)

**3:10 PM .....Parallel finite-difference modeling of seismic wave scattering in 3-D elastic random media** — Thomas Bohlen\* and Bernd Milkereit, Kiel Univ., Germany; and Tobias Mueller, Frei Univ., Germany (MOD 1.5)

**3:35 PM .....Elastic finite difference modeling in two dimensions: Stability and dispersion corrections** — Peter M. Manning\* and Gary M. Margrave, CREWES Project, Univ. of Calgary (MOD 1.6)

**4 PM.....Single-well seismic modeling in viscoelastic media using a variable-grid finite-difference method** — Chunling Wu\*, Jerry M. Harris, and Jonathan B. Franklin, Stanford Univ. (MOD 1.7)

**4:25 PM .....Smoothing the Marmousi model** — Karel Zacek\*, Dept. of Geophysics, Charles Univ., Prague (MOD1.8)

#### ►MS 1 Multiple Suppression I

Session Chairmen: Frank Boyle and Bill Dragoset Room: 206

**1:30 PM .....New info** — (MS 1.1)

**1:55 PM .....Investigation of vendor demultiple technology for complex subsalt geology** — Kevin Bishop\* and Joseph Keliher, Texaco; Josef Paffenholz and Dean Stoughton, BHP; Scott Michell, BP; Ray Ergas, Chevron; and Mohamed Hadidi, ExxonMobil (MS 1.2)

**2:20 PM .....Optimizing surface-related multiple elimination on a synthetic subsalt data set** — Monica Miley\* and Kent Hall, Chevron Petroleum Technology Co.; Josef Paffenholz, BHP Petroleum; and Scott Michell, BP (MS 1.3)

**2:45 PM .....Estimation of 3-D seafloor geometry for multiple prediction using a simulated annealing algorithm** — Abdul Aziz Alaslani\*, Paul L. Stoffa, and Mrinal Sen, Institute for Geophysics, Univ. of Texas, Austin (MS 1.4)

**3:10 PM .....3-D surface multiple prediction using sparse inversion** — E.J. van Dedem\* and D.J. Verschuur, Delft Univ. of Technology (MS 1.5)

**3:35 PM .....An application of inverse Kirchhoff scattering multiple attenuation method to Pluto 1.5 data set** — Seung Yoo\* and Luc T. Ikelle, CASP Project, Texas A&M Univ. (MS 1.6)

**4 PM.....CFP-based internal multiple removal, the layer-related case** — D.J. Verschuur\* and A.J. Berkhout, Delft Univ. of Technology (MS 1.7)

**4:25 PM .....Migration multiples and primaries in CDP data by crosscorrelogram migration** — Jianming Sheng\*, Univ. of Utah (MS 1.8)

#### ►NSG 1 Near-Surface Groundwater Studies

Session Chairmen: Mustafa Saribudak and Alf Hawkins Room: 205

**1:30 PM .....A 3-D seismic survey for groundwater protection** — G. Rossi\*, G. Dal Moro, D. Nieto, S. Picotti, A. Vesnaver, and A. Vuan, OGS, Italy; and T. Mammo, Addis Ababa Univ., Ethiopia (NSG 1.1)

**1:55 PM .....High-resolution 3-D seismic investigations at a groundwater contamination site: Initial results** — D. Dana\*, A. Azaria, A. Levander, I. Morozov, C. Zelt, and M. B. Magnani, Center for Computational Geophysics, Rice Univ. (NSG 1.2)

**2:20 PM .....Joint inversion for mapping subsurface hydrological parameters** — Hung-Wen Tseng\* and Ki Ha Lee, Lawrence Berkeley National Laboratory (NSG 1.3)

**2:45 PM .....Use of crossed dipole antennas in 3-D imaging of multicomponent GPR data** — Jan van der Kruk\*, Delft Univ. of Technology (NSG 1.4)

**3:10 PM .....Time-lapse GPR measurement to study the imaging operator** — Jan Harry Zeeman\*, Jeroen Groenenboom, Jan van der Kruk, Delft Univ. of Technology (NSG 1.5)

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### Monday Afternoon

►NSG 1 *Near-Surface Groundwater Studies (continued)*

**3:45 PM** .....**Amplitude and phase variation with offset (APVO) analysis of ground-penetrating radar data** — Thomas E. Jordan\* and Gregory S. Baker, Univ. at Buffalo (NSG 1.6)

**4 PM** .....**Ray-based amplitude tomography for crosshole georadar data: What does it tell us?** — Klaus Holliger, Martin Musil, and Hansruedi Maurer\*, Swiss Federal Institute of Technology (NSG 1.7)

**4:25 PM** .....**Finite-difference modeling of ground-penetrating radar system response** — Bernhard Lampe and Klaus Holliger\*, Swiss Federal Institute of Technology (NSG 1.8)

►SP 1 *Signal Processing I*

Session Chairmen: David Liebmann and Sam Holt Room: 210

**1:30 PM** .....**A compact nonstationary wavelet parameterization for deconvolution and Q estimation** — Michael Denisov\*, Dmitri Finikov, and Dmitri Oberemchenko, Geotechsystem (SP 1.1)

**1:55 PM** .....**DMO deconvolution** — Min Zhou\* and Jianxing Hu, Univ. of Utah (SP 1.2)

**2:20 PM** .....**Transition zone phase matching: A seismic processing case history** — Robert W. Vestrum\*, Vlada Avramic, and Rob Tilson, Kelman Technologies Inc. (SP 1.3)

**2:45 PM** .....**Modeling the seismic wavelet with model-based wavelet processing** — Douglas I. Hart\*, Bruce W. Hootman, and Alexander R. Jackson, WesternGeco (SP 1.4)

**3:10 PM** .....**Retrieval of high-resolution components by deterministic deconvolution: A field example** — Hua-wei Zhou\*, Khalid Al-Rufaii, and Joongmoo Byun, AGL, Univ. of Houston; and Steve L. Roche, Output Exploration, LLC (SP 1.5)

**3:35 PM** .....**Robust surface-consistent deconvolution with noise suppression** — Franz Kirchheimer\*, WesternGeco, Germany; and Ralf Ferber, Schlumberger, England (SP 1.6)

**4 PM** .....**Generalized Hilbert transform and its applications in geophysics** — Yi Luo\*, Saudi Aramco; Krish P. Gunaratnam, WesternGeco; and Andrew H. Wu; and Mohammed Alfaraj, Saudi Aramco (SP 1.7)

**4:25 PM** .....**Surface-consistent phase correction** — Jiuying Guo\*, Veritas DGC Inc.; and Xingyuan Zhou, GRI, BGP, CNPC (SP 1.8)

►SS 1: *Recent Advances and the Road Ahead*

Session Chairmen: Fred Aminzadeh and Robert H. Tatham Room 217A

**1:30 p.m.** .....**Recent advances in exploration and development geophysics** — Robert H. Tatham, Univ. of Texas, Austin; Fred Aminzadeh, dGB-USA and FACT

**1:55 p.m.** .....**New methods of delivering uncertainty of our interpretation to decision makers** — Bill Abriel, Chevron

**2:20 p.m.** .....**Turning ray tomography and tomostatics** — Xianhuai Zhu, PGS; Kay Wyatt, Phillips; August Lau, Apache

**2:45 p.m.** .....**Permanently placed phones** — Bjorn Ursin, Norwegian Univ. of Science and Technology

**3:10 p.m.** .....**Shear wave technology for reservoir characterization** — Reinaldo Michelino, Intevep

**3:35 p.m.** .....**Is seismic amplitude analysis friendly or a teaser in deep water plays?** — Wafik B. Beydoun and Philippe Julien, Totalfinaelf

**4 p.m.** .....**Seismic imaging technology** — Phil Schultz, Unocal

**4:25 p.m.** .....**Synthetic aperture imaging and applications in seismic processing** — Tim Davies, Minus Technologies

## Technical Program Oral Sessions

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### Tuesday Morning

#### ►ACQ 2 Data Acquisition—Marine

Session Chairmen: Mike Hall and TBA Room: 214C

- 8:30 AM** ..... **Single-sensor towed streamer acquisition: A case study from the Gulf of Mexico** — Jeff Pan\*, Kerr-McGee Oil & Gas Corp.; and Nick Moldoveanu, WesternGeco (ACQ 2.1)
- 8:55 AM** ..... **Extending the bandwidth of marine seismic data** — Tony Curtis\* and Terry Davies, WesternGeco (ACQ 2.2)
- 9:20 AM** ..... **Measurement of air-gun signatures with gun-port pressure transducers** — Anton Ziolkowski\*, Dept. of Geology and Geophysics, Univ. of Edinburgh (ACQ 2.3)
- 9:45 AM** ..... **Optical interference type micro hydrophone fabricated by micro-machining** — Hiroshi Asanuma\*, Satoshi Hashimoto, Gaku Suzuki, and Hiroaki Niitsuma, Graduate School of Engineering, Tohoku Univ., Japan; and Masayoshi Esashi, New Industry Creation Hatchery Center, Tohoku Univ., Japan (ACQ 2.4)
- 10:10 AM** ..... **Single source 3-D acquisition—A high quality and cost-effective alternative** — Stian Hegna\*, Bard Krokan, and Tormod Selbekk, PGS (ACQ 2.5)
- 10:35 AM** ..... **An azimuth-invariant source array** — Jon-Fredrik Hopperstad, Johan-Fredrik Synnevaag\*, and Peter Vermeer, WesternGeco (ACQ 2.6)
- 11 AM** ..... **PP and PS subsalt target illumination: A comparison study for different acquisition geometries** — Nick Moldoveanu\* and Curt Schneider, WesternGeco (ACQ 2.7)
- 11:25 AM** ..... **Model-space vs. data-space normalization for finite-frequency depth migration** — James Rickett\*, Geophysics Dept., Stanford Univ. (ACQ2.8)

#### ►ANI 1 Anisotropy I

Session Chairmen: Subhashis Mallick and Joe Dellinger Room: 207

- 8:30 AM** ..... **Shear-wave splitting and fracture orientation analysis from PS waves—examples from synthetic and field OBC data** — Min Lou\*, Yaohui Zhang, and Long Don Pham, Seres Division, PGS (ANI 1.1)
- 8:55 AM** ..... **Seismic velocity anisotropy analysis at Pike's Peak, Saskatchewan, Canada** — Rachel T. Newirck\*, Don C. Lawton and Deborah A. Spratt, Dept. of Geology and Geophysics, Univ. of Calgary (ANI 1.2)
- 9:20 AM** ..... **A new method for azimuthal velocity analysis and application to a 3-D survey, Weyburn Field, Saskatchewan, Canada** — Edward Jenner\*, CSM; Marty Williams, AXIS Geophysics; and Tom Davis, CSM (ANI 1.3)
- 9:45 AM** ..... **Approximate explicit ray velocity functions and travel times for P-waves in TI media** — Fanmin Zhang\* and Norm Uren, Dept. of Exploration Geophysics, Curtin Univ. of Technology (ANI 1.4)
- 10:10 AM** ..... **Mapping fractures and stress using full-offset full-azimuth 3-D PP data** — Colin MacBeth\*, Heriot-Watt Univ.; and Heloise Lynn, Lynn Inc. (ANI 1.5)
- 10:35 AM** ..... **Traveltimes, conversion points and parameter estimation in layered, anisotropic media** — Mirko van der Baan\* and J-Michael Kendall, School of Earth Sciences, Univ. of Leeds; and Dirk Smit, Shell Expro, Aberdeen, U.K. (ANI 1.6)
- 11:00 AM** ..... **The use of P-wave reflectivity to detect fractured sands and anisotropic clays** — Fatkhan\* and Milovan Urosevic, Dept. of Exploration Geophysics Curtin Univ. of Technology (ANI 1.7)
- 11:25 AM** ..... **Synthetic multicomponent AVO study of fractured reservoir models with multiple fracture sets** — He Chen\*, Institute for Exploration and Development Geosciences, Univ. of Oklahoma; Raymon L. Brown, Oklahoma Geological Survey; and John P. Castagna, Institute of Exploration and Development Geosciences, Univ. of Oklahoma (ANI 1.8)
- 11:50 AM** ..... **Frequency dependent anisotropy** — Evgeni Chesnokov\*, John Castagna, Univ. of Oklahoma; John Queen, John Hooper, Baishali Roy, CONOCO; Alexandr Vichorev, Irina Bayuk, Institute of Physics of the Earth; Heloise Lynn, Lynn Inc. (ANI 1.9)

#### ►BH 1 Borehole Geophysics I

Session Chairmen: Carlos Torres-Verdin and Mike Wilt Room: 213

- 8:30 AM** ..... **A practical sonic slowness evaluation behind casing** — H.P. Valero, O. Skelton\*, and H.Cao, Schlumberger Oilfield Services (BH 1.1)
- 8:55 AM** ..... **Ultrasonic detection of pore saturant in a cased-hole laboratory model** — Fernando Garcia\*, Augusto L. Podio, Elmer L. Hixson, Univ. of Texas, Austin; and Alvin R. Gregory, retired from Gulf Research & Development Co. and Univ. of Texas, Austin (BH 1.2)
- 9:20 AM** ..... **Stress-induced changes in the borehole Stoneley and flexural dispersions** — Bikash K. Sinha\*, Schlumberger-Doll Research (BH 1.3)

## Technical Program Oral Sessions

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### Tuesday Morning

► **BH 1** Borehole Geophysics I (continued)

**9:45 AM** ..... **Determining shear-wave transverse isotropy from borehole Stoneley waves** — Xiao Ming Tang\*, Baker Atlas, Houston (BH 1.4)

**10:10 AM** ..... **A nonsplitting PML for the FDTD simulation of acoustic wave propagation** — Tsili Wang\* and Xiao Ming Tang, Baker Atlas, Houston (BH 1.5)

**10:35 AM** ..... **An upgridding method for 3-D finite-difference resistivity modeling** — Tsili Wang\*, Baker Atlas, Houston (BH 1.6)

**10:10 AM** ..... **Numerical modeling of the effects of borehole reflections on 3-C EM induction logging** — Darrell Stanley\* and David Alumbaugh, Univ. of Wisconsin, Madison (BH 1.7)

**11:25 AM** ..... **Focusing inversion of tensor induction logging data in anisotropic formations and deviated well** — Arvidas B. Cheryauka\* and Michael S. Zhdanov, Univ. of Utah (BH 1.8)

**11:50 AM** ..... **A fast inversion method for multicomponent induction log data** — Liming Yu\*, Berthold Kriegshauser, Otto Fanini, and Jiaqi Xiao, Baker Atlas (BH 1.9)

► **INT 5** Case Histories I

Session Chairmen: Hal Pardue and Rod Cotton Room: 217C

**8:30 AM** ..... **Understanding amplitude variations in 3-D acquisition and processing for subsalt imaging** — Bruce VerWest\*, J. D. Liang, Robert Hobbs, and Jerry Young, Veritas DGC Inc. (INT 5.1)

**8:55 AM** ..... **Three-dimensional prestack inversion, Lobo Trend, south Texas** — Phil D. Anno\*, Mark E. Wuenschel, Robert J. Corbin, John M. Hooper, and Frank J. Chlumsky, Conoco Inc. (INT 5.2)

**9:20 AM** ..... **Turbidite reservoir characterization: Multioffset stack inversion for reservoir delineation and porosity estimation: A Gulf of Guinea example** — Dominique Dubucq\*, TotalFinaElf; and Sito Busman and Paul Van Riel, Jason Geosystems (INT 5.3)

**9:45 AM** ..... **Deepwater geohazard analysis using prestack inversion** — Rob de Kok, Nader Dutta\*, Mashuir Khan and Subhashis Mallick, WesternGeco (INT 5.4)

**10:10 AM** ..... **Improved characterization of a complex structure in the Azerbaijan offshore revealed by 3-D prestack depth migration and depth continuity cube applications** — Francesco Bertello\*, Calvin Cooper, Piero Castellano, and Giovanni Pietro Ronchitelli, ENI Divisione AGIP, San Donato Milanese (INT 5.5)

**10:35 AM** ..... **Anisotropic depth migration in the central Alberta foothills: An exploration case history** — Robert W. Vestrum\*, Kelman Technologies Inc./ Claire D. Callahan, Suncor Energy; and Don C. Lawton, CREWES Project, Univ. of Calgary (INT 5.6)

**11 AM** ..... **Depth prediction from a prestack depth image: A Dutch North Sea case study** — Nick Crabtree\* and David Hill, Scott Pickford Group. Ltd.; and Hage Veltmeijer, Wintershall Noordzee B.V. (INT 5.7)

**11:25 AM** ..... **Joint inversion of PP and PS reflection data for VTI media: a North Sea case study** — Vladimir Grechka, Center for Wave Phenomena, CSM; Andrey Bakulin\*, Schlumberger Cambridge Research; Ilya Tsvankin, Center for Wave Phenomena, CSM; Jan Ove Hansen, Schlumberger Stavanger Research (INT5.8)

► **INV 2** Inversion and Tomography II

Session Chairmen: Indrajit Roy and David Nobles Room: 210

**8:30 AM** ..... **Seismic waveform tomography: Results from the Nimr Field in Oman** — R.G. Pratt\*, Queen's Univ., Ontario; and R. E. Plessix and W. A. Mulder, Shell Int'l E&P, The Hague (INV 2.1)

**8:55 AM** ..... **3-D finite-offset tomographic inversion or CRP-scan data, with or without anisotropy** — Patrice Guillaume\* and François Audebert, CGG; Philippe Berthet, TotalFinaElf; and Bernard David, Ariane Herrenschmidt, and Xiaoming Zhang, CGG (INV 2.2)

**9:20 AM** ..... **Data-driven tomographic inversion of focusing operators** — Barbara E. Cox\* and D. J. Verschuur, Delft Univ. of Technology (INV 2.3)

**9:45 AM** ..... **Toward the tomographic inversion of prismatic reflections** — Karine Broto\* and Patrick Lailly, IFP (INV 2.4)

**10:10 AM** ..... **Target-oriented time-lapse analysis by AVO and tomographic inversion** — A. Vesnaver\*, OGS; G. Janex, TotalFinaElf; G. Madrussani, OGS; A. Mazzotti, Univ. of Milan; J. Pajchel, Norsk Hydro; E. Stucchi, Univ. of Milan; and P. Williamson, TotalFinaElf (INV 2.5)

**10:35 AM** ..... **Porosity from artificial neural network inversion for Bermejo Field, Ecuador** — Qiang Sun\*, Mohamed Eissa, and John Castagna, Univ. of Oklahoma; Dario Sergio Cersosimo, Tecpetrol; and Shengjie Sun and Carrie Decker, Univ. of Oklahoma (INV 2.6)

## Technical Program Oral Sessions

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### Tuesday Morning

► INV 2 *Inversion and Tomography II (continued)*

**11 AM**.....**Reducing ambiguity in predicting log properties from multiple seismic attributes by AVF-based detuning** — Hongliu Zeng\* and Dingshan Zhou, Bureau of Economic Geology, Univ. of Texas, Austin (INV 2.7)

**11:25 AM**.....**Estimating the correlation function of a self-affine random medium** — Ludek Klimes\*, Department of Geophysics, Charles Univ., Prague (INV 2.8)

► MIG 4 *Migration Problems and Solutions*

Session Chairmen: *Phil Bording and Mehmet Tanis* Room: 212

**8:30 AM**.....**How much does the migration aperture actually contribute to the migration result?** — Shuang Sun\* and John C. Bancroft, CREWES Project, Univ. of Calgary (MIG 4.1)

**8:55 AM**.....**Determining the optimum migration aperture from traveltimes** — Claudia Vanelle\* and Dirk Gajewski, Univ. of Hamburg (MIG 4.2)

**9:20 AM**.....**Some basic imaging problems with regularly sampled seismic data** — Peter W. Cary\* and Xinxiang Li, Sensor Geophysical Ltd. (MIG 4.3)

**9:45 AM**.....**The limitations of time migration and trace stretch in the presence of lateral velocity gradients** — Steve Kelly\* and Jiaxiang Ren, PGS Seres Division, Houston (MIG 4.4)

**10:10 AM**.....**Factors affecting AVO analysis of prestack-migrated gathers** — Ye Zheng, Sam Gray, Scott Cheadle, and Paul Anderson\*, Veritas DGC Inc. (MIG 4.5)

**10:35 AM**.....**Offset-dependent resolution of seismic migration** — Jörg. Schleicher\* and L.T. Santos, State Univ. of Campinas (MIG 4.6)

**11 AM**.....**Theory of migration anti-aliasing** — Yu Zhang\*, Sam Gray, James Sun, and Carl Notfors, Veritas DGC Inc. (MIG 4.7)

**11:25 AM**.....**The influence of traveltimes operators on spatial resolution in migrated images** — Richard L. Gibson Jr.\*, Texas A&M Univ.; and Theodore C. Stieglitz, Rice Univ. (MIG 4.8)

► MS 2 *Multiple Suppression II*

Session Chairmen: *William Dragoset and Josef Paffenholz* Room: 206

**8:30 AM**.....**MAGIC: Shell's surface multiple attenuation technique** — J.Biersteker\*, Applied Geophysical Research, Royal Dutch Shell (MS 2.1)

**8:55 AM**.....**Multiple attenuation using a t-x pattern-based subtraction method** — Antoine Guitton\*, Morgan Brown, James Rickett, and Robert Clapp, Stanford Univ. (MS 2.2)

**9:20 AM**.....**The suppression of water-column multiples by wavefield separation and cross-correlation** — Y. Yan\* and R.J. Brown, CREWES Project, Univ. of Calgary (MS 2.3)

**9:45 AM**.....**Quantifying multiple suppression of stacking over offset** — John F. Parrish\*, Periseis Co. (MS 2.4)

**10:10 AM**.....**Multiple attenuation techniques, case histories from Kuwait** — Adel El-Emam\*, Abdullatif Mohamed, and Hanadi Al-Qallaf, Kuwait Oil Co. (MS 2.5)

**10:35 AM**.....**A hybrid surface-related multiple attenuator** — Stewart A. Levin\* and David E. Johnston, Landmark Graphics (MS 2.6)

**11:00 AM**.....**High-resolution Radon demultiple** — Neil Hargreaves\* and Nick Cooper, Veritas DGC, U.K. (MS 2.7)

**11:25 AM**.....**An optimization of inverse scattering multiple attenuation method for OBS and VC data** — Luc T. Ikelle and Seung Yoo\*, CASP Project, Texas A&M Univ.; and Lasse Amundsen, Statoil Research Centre (MS 2.8)

► NSG 2 *Near-Surface Seismic Acquisition, Processing, and Interpretation*

Session Chairmen: *Michael Powers and Jeff Paine* Room: 205

**8:30 AM**.....**The mining machine as a seismic source for in-seam reflection mapping** — Neil Taylor\*, Jim Merriam, and Don Gendzwill, Univ. of Saskatchewan; and Arnfinn Prugger, Potash Corp. of Saskatchewan (NSG 2.1)

**8:55 AM**.....**Obtaining CMP data with automatically planted geophones** — Kyle T. Spikes\*, Matt D. Ralston, and Don W. Steeples, Univ. of Kansas (NSG 2.2)

**9:20 AM**.....**Challenges in imaging shallow high-resolution seismic data** — David C. Henley\*, CREWES Project, Univ. of Calgary (NSG 2.3)

**9:45 AM**.....**Love waves: A menace to shallow shear wave reflection surveying** — Richard D. Miller\*, Jianghai Xia, and Choon B. Park, Kansas Geological Survey (NSG 2.4)

## Technical Program Oral Sessions

All Technical Program Oral Sessions will be held on Concourse 2nd Level

### Tuesday Morning

- NSG 2 *Near-Surface Seismic Acquisition, Processing, and Interpretation (continued)*
- 10:10 AM** .....**Feasibility of determining Q of near-surface materials from Rayleigh waves** — Jianghai Xia\*, Richard D. Miller, Choon B. Park, and Julian Ivanov, Kansas Geological Survey (NSG 2.5)
- 10:35 AM** .....**High-resolution 3-D seismic survey applying effective acquisition and new processing strategies** — Roman Spitzer, Frank O. Nitsche\*, Alan G. Green, and Heinrich Horstmeyer, Institute of Geophysics, Swiss Federal Institute of Technology (NSG 2.6)
- 11 AM**.....**Cost-effective near-surface 3-D seismic imaging in heterogeneous subsurface using portable geophone array and a laptop** — Ran Bachrach\*, Dept. of Geological Sciences, Michigan State Univ.; and Tapan Mukerji, GeoG2: Geotechnical and Geoenvironmental Geophysics LLC (NSG 2.7)
- 11:25 AM** .....**Seismic reflection imaging of hydrostratigraphic facies in Boise: A tale of three scales** — Lee M. Liberty\*, Spencer H. Wood, and Warren Barrash, Center for Geophysical Investigation of the Shallow Subsurface (NSG 2.8)
- 11:55 AM** .....**3-D seismic imaging of near-surface buried pipe via prestack dynamic focusing and a portable geophone array** — Ran Bachrach\*, Applied Geophysics Laboratory, Michigan State Univ.; Tapan Mukerji, GeoG2: Environmental and Geotechnical Geophysics LLC (NSG 2.9)
- RC 3 *Time-lapse I*  
*Session Chairmen: Robert Benson and Dan Ebrom Room: 214A*
- 8:30 AM** .....**Schiehallion 4-D: From time-lapse repeatability study to reservoir monitoring** — Suat Altan\*, Xianhuai Zhu, Gary Dillon, Jo McArdle, Chris Walker, Ronald S. Parr, and Peter Westwater, BP (RC 3.1)
- 8:55 AM** .....**Systematic application of 4-D in BP's NW Europe operations** — David N. Whitcombe\*, J. Marcus Marsh, Graeme Bagley, Andrew J. Lewis, John P. McGarrity, Tim Nash, Ronald S. Parr, and Ian P. Saxby, BP, U.K. (RC 3.2)
- 9:20 AM** .....**Time-lapse multicomponent seismic characterization of Glorieta-Paddock carbonate reservoir at Vacuum Field, New Mexico** — Catalina Acuna\*, and Thomas L. Davis, CSM (RC 3.3)
- 9:45 AM** .....**Monitoring production processes by 4-D multicomponent seismic surveys at Vacuum Field, New Mexico** — Thomas L. Davis\* and Robert D. Benson, CSM (RC 3.4)
- 10:10 AM** .....**AVOA attribute analysis and cross-plotting for time-lapse monitoring of stress and saturation changes: Application to the Teal South 4-D-4-C data set** — Stephen A. Hall\* and Colin MacBeth, Dept. of Petroleum Engineering, Heriot-Watt Univ. (RC 3.5)
- 10:35 AM** .....**New tools for 4-D seismic analysis in carbonate reservoirs** — Michael Nickel\*, Juergen Schlaf, and Lars Soenneland, Schlumberger, Stavanger Research, Norway (RC 3.6)
- 11 AM**.....**Time-lapse seismic monitoring of CO<sub>2</sub> sequestration in hydrocarbon reservoirs** — Sung H. Yuh\* and Richard L. Gibson Jr., Texas A&M Univ. (RC 3.7)
- 11:25 AM** .....**Dynamic fluid method of reservoir characterization. Last step of interpretation — estimation of the current fluid flow: Kogalym (Western Siberia) and Chagodaev (Tatarstan) fields' examples** — V.B. Pisetski\*, Trans Seismic International, Inc.; and V.A. Milashin, Yu. N. Federov, S.E. Chalov, and V. Yu. Matushevich, AIK-LU.K.OIL (RC 3.8)
- SS 2: TLE Forum II: *Geophysics and the Environment*  
*Session Chairmen: Chris Liner and Shuki Ronen Room 217A*
- TBA** .....**Ocean noise (with emphasis on airguns) and marine mammals** — Jack Caldwell, Ocean Studies Board of the National Research Council
- TBA** .....**The effect of the Endangered Species Act of 1973 on geophysical prospecting** — Shane Coperude, Fairfield Industries
- TBA** .....**Near-surface geophysics: Recent advances, challenges, and future directions** — Steve Danbom, geophysical consultant
- TBA** .....**Applied geophysics and the environment in Texas** — Stephanie Hrabar, GEMS2
- TBA** .....**Marine vibrators: Geophysical quality and environmental impact** — TBA
- TBA** .....**Proposed guidelines to assist the geophysical exploration industry in meeting the requirements of the Canada Fisheries Act for the protection of fish, marine mammals, and their habitats** — Dennis Wright, Canada Dept. of Fisheries and Oceans
- TBA** .....**Mapping an aquifer in 3-D using airborne EM and magnetic data** — Jeff Wynn, USGS Eastern Mineral Resources
- TBA** .....**Question and Answer Period**

## Technical Program Oral Sessions

All Technical Program Oral Sessions will be held on Concourse 2nd Level

### Tuesday Afternoon

#### ►ANI 2 Anisotropy II

Session Chairmen: Batakrishnal Mandal and Dan Ebrom Room: 210

- 1:30 PM .....How important is the effect of azimuthal anisotropy in 3-D seismic data? Enhancing quality and extending the potential of the 3-D interpretation** — Marty Williams\*, AXIS Geophysics; and Edward Jenner, CSM (ANI 2.1)
- 1:55 PM .....A full-aperture anisotropic eikonal solver for quasi-P traveltimes** — Jianliang Qian\*, Univ. of Minnesota; William W. Symes, Rice Univ.; and Joe A. Dellinger, BP Amoco (ANI 2.2)
- 2:20 PM .....Three-dimensional travelt ime and amplitude computation using SWEET algorithm** — Dongwoo Yang\*, Changsoo Shin, Cheolsoo Park, and Kwangjin Yoon, Seoul National Univ., Korea; and Jungho Kim, Korea Institute of Science and Information Technology, Korea (ANI 2.3)
- 2:45 PM .....Travelt ime and amplitude calculations for isotropic and anisotropic elastic media by using suppressed wave equation** — Youngho Cha\*, Changsoo Shin, Junghee Suh, and Harry Lim, Seoul National Univ. (ANI 2.4)
- 3:10 PM .....Coupling ray theory and its quasi-isotropic approximations** — Petr Bulant and Ludek Klimes\*, Dept. of Geophysics, Charles Univ., Prague (ANI 2.5)
- 3:35 PM .....Can joint PP and PS velocity analysis manage to corner delta, the anisotropic depthing parameter?** — François Audebert\*, and Pierre Yves Granger, CGG; Constantin Gerea, IFP; and Ariane Herrenschmidt, CGG (ANI 2.6)
- 4 PM .....Finite element modeling of seismic wave propagation in two-phase anisotropic media** — Yang Liu\* and Xiucheng Wei, Dept. of Geoscience, Univ. of Petroleum, Beijing (ANI 2.7)
- 4:25 PM .....Stability criterion of elastic wave modeling by Fourier method in arbitrary anisotropic media** — Yang Liu\* and Xiucheng Wei, Dept. of Geoscience, Univ. of Petroleum, Beijing (ANI 2.8)

#### ►BH 2 Borehole Geophysics II

Session Chairmen: Jorge Parra and Mike Jarvis Room: 213

- 1:30 PM .....2-D anisotropic inversion of multicomponent induction logging data** — Zhiyi Zhang\* and Alberto Mezzatesta, Baker Atlas (BH 2.1)
- 1:55 PM .....An efficient and accurate pseudo 2-D inversion scheme for multicomponent induction log data** — Berthold Kriegshauser\*, Steve McWilliams, Otto Fanini, and Liming Yu, Baker Atlas (BH 2.2)
- 2:20 PM .....Recovering absolute formation dip and 1-D anisotropic resistivity structure from inversion of multicomponent induction logging data** — Zhiyi Zhang\*, Baker Atlas (BH 2.3)
- 2:45 PM .....One-dimensional inversion of three-component induction logging in anisotropic media** — Xinyou Lu\* and David Alumbaugh, Geological Engineering Program, Univ. of Wisconsin, Madison (BH 2.4)
- 3:10 PM .....A practical 2-D dual laterolog (DLL) inversion method and its impacts on HPV estimation** — Hezhu Yin\* and Hanming Wang, ExxonMobil Upstream Research Company (BH 2.5)
- 3:35 PM .....The use of fluid substitution modeling for correction of mud filtrate invasion in sandstone reservoirs** — Joel Walls\* and Matthew B. Carr, Rock Solid Images (BH 2.6)
- 4 PM .....Determining resistivity anisotropy by joint lateral and induction logs** — Wei Yang\*, Petrophysics Lab, Univ. of Petroleum, Beijing (BH 2.7)
- 4:25 PM .....A finite element code for full 3-D electromagnetic logging response computation** — Wei Yang\*, Petrophysics Lab, Univ. of Petroleum, Beijing (BH 2.8)

#### ►INT 1 Interpretation I

Session Chairmen: John Plappert and Scott MacKay Room: 217C

- 1:30 PM .....A unified 3-D seismic workflow** — Oz Yilmaz\*, Irfan Tanir, and Cyril Gregory, Paradigm Geophysical, England (INT 1.1)
- 1:55 PM .....Seismic thickness estimation: Three approaches, pros and cons** — Gregory A. Partyka\*, BP (INT 1.2)
- 2:20 PM .....Prediction of resistivity from seismic: An integrated study of seismic reprocessing, rock properties modeling, neuralnet, and prospecting** — August Lau and Chuan Yin\*, Apache Corp. (INT 1.3)
- 2:45 PM .....Seismic interpretation of sonic logs** — Jonathan Bork\*, Apache Corp.; and Lawrence C. Wood, Geophysical Consulting Inc. (INT 1.4)
- 3:25 PM .....Voxel visualization: Putting the 3-D into 3-D interpretation** — John Prutzman\*, VoxelVision, LLC (INT 1.5)
- 3:50 PM .....Geoseismic interpretation of an OBC 3-D data set, Ravenspurn Fields, Southern North Sea, U.K.** — Stuart S. Sweetman\*, WesternGeco (INT 1.6)

## Technical Program Oral Sessions

All Technical Program Oral Sessions will be held on Concourse 2nd Level

### Tuesday Afternoon

►INT 1 Interpretation I (continued)

**4:00 PM .....On nonlinear effect of spectral IP** — F.S.Schindwein, N. B. Jones, Leichester Univ.; Daizhan Cheng, Institute of Systems Science, Chinese Academy of Sciences; Jishan He\*, Jianping Xiang, Central South Univ. (INT1.7)

**4:25 PM .....Seismic characterization of vertical fractures described as general linear-slip interfaces** — Vladimir Grechka, Center for Wave Phenomena, CSM; Andrey Bakulin\*, Schlumberger Cambridge Research; Ilya Tsvankin, Center for Wave Phenomena, CSM (INT1.8)

►INT 6 Case Histories II

Session Chairmen: Khaled Fouad and Peter Morton Room: 207

**1:30 PM .....Real-time drilling assistance for fast drilling horizontal wells** — Robert J. Withers\*, Petrolera Ameriven, Venezuela; James Guruening, Mechdyne Corp., Marshalltown; and Ricardo Rosso, Sperry-Halliburton, Venezuela (INT 6.1)

**1:55 PM .....Economic impact of limited three-dimensional (LTD) seismic acquisition in a complex and expensive exploration setting** — Nancy J. House\* and Paul S. Cunningham, Mobil New Exploration and Producing Ventures; and K. Paul Allen, Stefan M. Seyb, and Lynne J. Edleson, Mobil Exploration and Producing Technology (INT 6.2)

**2:20 PM .....A tale of three methods: Volcanics in the Abrolhos Banks, Brazil** — Marianne Parsons\* and Jeff MacQueen, Fugro-LCT Inc.; Tore Hansen Undli, Sverre Berstad, and Idar Horstad, Fugro-Geoteam, AS (INT 6.3)

**2:45 PM .....Combining geostatistics and multiattribute transforms — A channel sand case study** — Brian Russell\*, Dan Hampson, and Todor Todorov, Hampson-Russell Software Services Ltd. (INT 6.4)

**3:10 PM .....Resolution analysis in well log estimation by using neural networks: Eastern Venezuela** — Marisela Sanchez Arandia, Simon Bolívar Univ.; and Omar Uzcategui\* and Mojtaba Taheri, PDVSA Intevap (INT 6.5)

**3:35 PM .....The application of prestack travelttime tomography in an area with complex salt tectonics** — Jacques Jacobs\*, IFP (INT 6.6)

**4 PM.....Structural interpretation of aeromagnetic data in a complex salt-sediment environment** — Christian H. Henke\*, RWE-DEA AG; and Markus H. Krieger and Christina Mueller (INT 6.7)

**4:25 PM .....Geologically constrained migration velocity analysis: field example** — Robert G. Clapp\*, Stanford Univ. (INT6.8)

►MC 1 Multicomponent I

Session Chairmen: Jim Simmons and Milo Backus Room: 214C

**1:30 PM .....Green River basin 3-D–3-C case study for fracture characterization: Analysis of PS-wave birefringence** — James Gaiser\* and Richard Van Dok, WesternGeco (MC 1.1)

**1:55 PM .....Green River basin 3-D–3-C case study for fracture characterization: Common-azimuth processing of PS-wave data** — Richard Van Dok\*, James Gaiser, and John Markert, WesternGeco (MC 1.2)

**2:20 PM .....C-wave resolution enhancement through birefringence compensation at the Valhall Field** — Pierre-Yves Granger\*, Jean-Michel Bonnot, Alain Gresillaud, and Anne Rollet, CGG (MC 1.3)

**3:10 PM .....Imaging through gas clouds: A case history from the Gulf of Mexico** — Steve Knapp\* and Nigel Payne, Seitel Data; and Tony Johns, WesternGeco (MC 1.4)

**3:10 PM .....Using converted waves to detect a Morrow sandstone reservoir** — Travis C. Wilson\* and Thomas L. Davis, CSM; David M. Wheeler, Ensign Oil and Gas; William A. Miller, Miller Consulting Services; and Marc Sterling, Sterling Seismic Services (MC 1.5)

**3:35 PM .....Predrill pore pressure prediction using 4-C seismic data** — Colin M. Sayers\*, Schlumberger; and Marta J. Woodward, WesternGeco (MC 1.6)

**4 PM.....Mud volcanoes and shear-wave imaging — an example 4-C test line in the Caspian Sea** — T. Probert\*, R. Bryan, S. Ronen, F. Engelmarm, E. Akenteiva, and G. Browning, WesternGeco; C. Rowson and F. Bakhshiev, Caspian Geophysical; N. Kawai, Japan Azerbaijan Operating Co.; and A. Nazarov, State Oil Co. of Azerbaijan Republic (MC 1.7)

**4:25 PM .....Pilot study of multi component ocean bottom seismic in the Arabian Gulf** — A. Al-Shamsi, O. Suwaina, G. Ajlani, A. Ebed, and M. Al-Kabbi, ADNOC; M. Gidlow\*, H. K. Helgesen, A. Haddick, and J. Sonnier, PGS, Abu Dhabi (MC 1.8)

**4:50 PM .....Anisotropic migration and model building for 4-C seismic data: A case study from Alba** — Hengchang Dai and Xiang-Yang Li\*, Edinburgh Anisotropy Project, British Geological Survey (MC 1.9)

## Technical Program Oral Sessions

All Technical Program Oral Sessions will be held on Concourse 2nd Level

### Tuesday Afternoon

►MIG 7 *Elastic and Anisotropic Migration*

Session Chairmen: Kurt Marfurt and Rod Stewart Room: 212

1:30 PM .....**Migration of multicomponent seismic data using elastic screen method** — Xiao-Bi Xie\* and Ru-Shan Wu, Institute of Geophysics and Physics, Univ. of California (MIG 7.1)

1:55 PM .....**Multicomponent prestack depth migration by scalar wavefield extrapolation** — Anning Hou\*, GeoCenter, Inc., Houston; Kurt J. Marfurt, AGL, Univ. of Houston (MIG 7.2)

2:20 PM .....**Comparison between different elastic imaging techniques on 2-D OBS data** — Gisele Etienne, Laurence Nicoletis, and Hery Rakotoarisoa\*, IFP (MIG 7.3)

2:45 PM .....**Image-stacking after horizon analysis** — W. Apel, RWE-DEA; and J. Schneider\*, Bureau of Applied Geophysics (MIG 7.4)

3:10 PM .....**3-D depth migration in VTI media with explicit extrapolation operators** — Jianfeng Zhang\*, Dept. of Engineering Mechanics, Dalian Univ. of Technology, China; and Kees Wapenaar and Eric Verschuur, Centre for Technical Geoscience, Delft Univ. of Technology (MIG 7.5)

3:35 PM .....**Velocity scan for 3-D pre-SDM model building: Fast traveltimes reconstruction for isotropic and anisotropic media** — Antonio Pica\*, CGG (MIG 7.6)

4 PM .....**Traveltimes computation, prestack split-step Fourier and Kirchhoff migration in transversely isotropic media** — Anubрати Mukherjee\*, Mrinal K. Sen, and Paul L. Stoffa, Univ. of Texas, Austin (MIG 7.7)

4:25 PM .....**Direct arrival time calculation using an angular constant velocity model in polar coordinate** — Harry Lim\*, Changsoo Shin, and Junghee Suh, Seoul National Univ., Korea; and J. Bee Bednar, Advanced Data Solution (MIG 7.8)

►PF 1 *Electromagnetics and Resistivity*

Session Chairmen: Jeff Paine and Mustafa Saribudak Room: 205

1:30 PM .....**Near-surface electromagnetic responses: Geological noise or fractal signals?** — Mark Everett\*, Texas A&M Univ.; Chester Weiss, Sandia National Laboratories (PF 1.1)

1:55 PM .....**Effects of surface conductors on the TEM late-time apparent resistivity** — L. C. Bartel\*, Sandia National Laboratories (PF 1.2)

2:20 PM .....**Hydrocarbon detection with a multichannel transient electromagnetic survey** — David A. Wright\*, Anton Ziolkowski, and Bruce A. Hobbs, Univ. of Edinburgh (PF 1.3)

2:45 PM .....**Fast 3-D inversion of multisource array electromagnetic data collected for mineral exploration** — Efthimios Tartaras\* and Michael Zhdanov, Dept. of Geology and Geophysics, Univ. of Utah; and Stephen Balch, Inco Technical Services Ltd., Ontario (PF 1.4)

3:10 PM .....**3-D finite difference forward modeling based on the balance method** — Salah Mehane\* and Michael S. Zhdanov, Univ. of Utah (PF 1.5)

3:35 PM .....**Fast imaging of TDEM data by 2.5-D finite difference electromagnetic migration** — Michael Zhdanov and Dmitriy Pavlov\*, Dept. of Geology and Geophysics, Univ. of Utah; and Robert Ellis, BHP World Exploration Inc. (PF 1.6)

4 PM .....**A matrix-free approach to solving the fully 3-D electromagnetic induction problem** — Chester J. Weiss\*, Sandia National Laboratories (PF 1.7)

4:25 PM .....**Mutually constrained inversion (MCI) of electrical and electromagnetic data** — Esben Auken\*, Louise Pellerin, and Kurt I. Sorensen, Dept. of Earth Sciences, Univ. of Aarhus, Denmark (PF 1.8)

4:50 PM .....**Rapid azimuthal resistivity data collection using a capacitively coupled resistivity meter** — Gregory S. Baker\* and Calista McIntyre, Univ. at Buffalo (PF 1.9)

►RC 4 *Time-lapse II*

Session Chairmen: Ali Tura and Roger Entralgo Room: 214A

1:30 PM .....**A method for performing history matching of reservoir flow models using 4-D seismic** — K. Fagervik\*, M. Lygren, T.S. Valen, A. Hettlelid, G. Berge, G. V. Dahl, and L. Soenneland, Schlumberger Stavanger Research; and H. E. Lie and I. Magnus, Norsk Hydro, ASA (RC 4.1)

1:55 PM .....**A new methodology to account for uncertainties in 4-D seismic interpretation** — Philippe Nivlet and Frédérique Fournier\*, IFP; and Jean-Jacques Royer, CNRS-CRPG, France (RC 4.2)

## Technical Program Oral Sessions

All Technical Program Oral Sessions will be held on Concourse 2nd Level

### Tuesday Afternoon

► RC 4 Time-lapse II (continued)

2:20 PM ..... **4-D data interpretation through seismic facies analysis** — Nathalie Lucet and Frederique Fournier\*, IFP (RC 4.3)

2:45 PM ..... **Feasibility study of time-lapse parameters estimate for mean effective stress and saturation changes in gas storage** — Sandrine Vidal\*, Gaz de France; Anne Jardin, IFP; and Frederic Huguet, Gaz de France (RC 4.4)

3:10 PM ..... **Enhancements to Landro's method for separating time-lapse pressure and saturation changes** — Mark A. Meadows\*, 4th Wave Imaging Corp. (RC 4.5)

3:35 PM ..... **Seismic repeatability, normalized RMS and predictability** — Ed Kragh and Phil Christie\*, Schlumberger Cambridge Research (RC 4.6)

4 PM ..... **Focusing time-lapse seismic data using time-reversed acoustics** — Damian M. Leslie\* and B. M. Hartley, Curtin Univ. of Technology (RC 4.7)

4:25 PM ..... **A feasibility study on nonlinear inversion of time-lapse seismic data** — Aria Abubakar\*, Peter M. van den Berg, and Jacob T. Fokkema, Centre for Technical Geoscience, Delft Univ. of Technology (RC 4.8)

► SP 2 Signal Processing II

Session Chairmen: Claire Sullivan and Juan Carcuz Room: 206

1:30 PM ..... **PS-wave polarity reversal in angle domain common-image gathers** — Daniel Rosales\* and James E. Rickett, Geophysics Dept., Stanford Univ. (SP 2.1)

1:55 PM ..... **Multicomponent stacking-velocity tomography for transversely isotropic media** — Vladimir Grechka, Andres Pech\* and Ilya Tsvankin, Center for Wave Phenomena CSM (SP 2.2)

2:20 PM ..... **A fast converted wave dip moveout in f-k domain** — Shiyong Xu\*, Tongjin Univ., Shanghai; Shengwen Jin, Screen Imaging Technology, Inc., Houston; and Zaitian Ma and Jianhua Geng, Tongjin Univ., Shanghai (SP 2.3)

2:45 PM ..... **Integrated interactive horizontal and vertical velocity analysis with non vertical algorithm option** — Genmeng Chen\*, Luis Canales, Sherman Yang, Marcelo Benabentos, Chung-Chi Shih, and Nader Dutta, WesternGeco (SP 2.4)

3:10 PM ..... **Appropriate acquisition and processing for shallow 3-D seismic surveys** — Carlos E. Moreno\*, Roger A. Young, and John P. Castagna, Univ. of Oklahoma (SP 2.5)

3:35 PM ..... **CFP approach to the complex near surface** — C.O.H. Hindriks\* and D.J. Verschuur, Delft Univ. of Technology (SP 2.6)

4:00 PM ..... **Recursive method to calculate the migration aperture function** — Jianyong Li\*, Hong Liu, Youming Li, Institute of Geology and Geophysics, Chinese Academy of Sciences (SP2.7)

4:25 PM ..... **An efficient hybrid LU decomposition method for implicit 3-D depth migration** — Mingqiu Luo\*, Hong Liu, Youming Li, Institute of Geology and Geophysics, Chinese Academy of Sciences, Beijing (SP2.8)

► SS 3: Optimizing Integration of Geophysical, Geological and Engineering Technologies for E & P Success

Session Chairmen: Jeff Johnson and Simon Spitz Room 217A

1:30 p.m. .... **Introduction** — Jeff Johnson, NEXT

1:40 p.m. .... **Shell Perspective** — Yoram Shoham

2 p.m. .... **ExxonMobil Perspective** — Randy Ewasko

2:20 p.m. .... **BP Perspective** — Ian Jack

2:40 p.m. .... **Chevron Perspective** — Robert Heming

3 p.m. .... **TotalFinaElf Perspective** — Jean Tachet des Combes

3:20 p.m. .... **National Oil Company Perspective** — TBA

4 p.m. .... **Panel Discussion**

## Technical Program Oral Sessions

All Technical Program Oral Sessions will be held on Concourse 2nd Level

### Wednesday Morning

#### ►ACQ 3 Data Acquisition—General

Session Chairmen: Ewan Neill and TBA Room: 213

- 8:30 AM** ..... **Acquisition design for optimum amplitude accuracy** — A.W.F. Volker\*, G. Blacquiere, and A.J. Berkhout, Delft Univ. of Technology (ACQ 3.1)
- 8:55 AM** ..... **Stereo seis—A promethean 3-D seismic imaging method** — Albin Kerekes\*, Liberty Seismic Consultants, Inc. (ACQ 3.2)
- 9:20 AM** ..... **Frequency modulated seismic: A new system** — Stan Sansone\*, New Exploration Technologies Company (ACQ 3.3)
- 9:45 AM** ..... **Optimization of acquisition design based on common reflection stack** — Toshi Chang\*, Luis Canales, Chih-Wen Kue and Chung-Chih Shih, WesternGeco (ACQ 3.4)
- 10:10 AM** ..... **The use of low frequencies for sub-basalt imaging** — Anton Ziolkowski\* and Peter Hanssen, Univ. of Edinburgh; Robert Gatliff and Xiang-Yang Li, British Geological Survey; and Helmut Jacobowicz, Veritas DGC. (ACQ 3.5)
- 10:35 AM** ..... **Seismic data transmission via satellite—operational** — William K. Aylor\*, SpaceData International LLP (ACQ 3.6)
- 11 AM** ..... **Theoretical analysis of time-lapse explosion method** — Bingshou He\*, Xiucheng Wei, Yang Liu, and Jianjun Zhang, Dept. of Geoscience, Univ. of Petroleum, Beijing (ACQ 3.7)
- 11:25 AM** ..... **Analysis of 3-D seismic acquisition technology in mountain area, a case history of Kela 2 Gas Field** — Yudong Ni\*, Zhiwen Deng, Xueqiang Cheng, Yonggui Hu, and Zhenhua Li, BGP, CNPC, China (ACQ 3.8)

#### ►AVO 1 AVO I

Session Chairmen: Jim Simmons and Bill Wepfer Room: 214C

- 8:30 AM** ..... **Modeling offset-dependent reflectivity for time-lapse monitoring of water flood production in thin-layered reservoirs** — Shelley J. Ellison\*, Matthias Imhof, and Cahit Çoruh, Virginia Polytechnic Institute and State Univ., and D. Alan Fuqua and Stephen Henry, Texaco Inc. (AVO 1.1)
- 8:55 AM** ..... **Case study: AVO analysis in a high impedance Atoka sandstone north Arkoma Basin, McIntosh County, Oklahoma** — Mohamed A. Eissa\* and John P. Castagna, Institute for Exploration and Development Geosciences, Univ. of Oklahoma (AVO 1.2)
- 9:20 AM** ..... **Quantifying AVO attributes and their effectiveness** — Christopher P. Ross\*, Hampson-Russell Software, Houston (AVO 1.3)
- 9:45 AM** ..... **AVO processing: Myths and reality** — Guillaume Cambois\*, CGG (AVO 1.4)
- 10:10 AM** ..... **King Field AVO sensitivity to reservoir thickness and amplitude scaling** — Gregory A. Partyka\* and Philip J. Whitaker, BP (AVO 1.5)
- 10:35 AM** ..... **3-D AVO and seismic inversion in María Inés Oeste Field, Santa Cruz, Argentina, a case study** — Juan Soldo\*, Diego Lenge, Mario Sigismondi, and Augusto Silva Telles, Pecom Energi, S.A, Neuquén, Argentina; and Arcangelo G. Sena and Tad Smith, Veritas Exploration Services, Houston (AVO 1.6)
- 11:00 AM** ..... **Using LMR for dual attribute lithology identification** — Paul F. Anderson\* and F. David Gray, Veritas DGC Inc. (AVO 1.7)
- 11:35 AM** ..... **The use of polarization attributes to identify anomalies: AVO hodograms** — Patrice Nsoga Mahob\* and John P. Castagna, Institute for Exploration and Development Geosciences Univ. of Oklahoma (AVO 1.8)

#### ►INT 2 Interpretation II

Session Chairmen: John Plappert and Mark Singleton Room: 214A

- 8:30 AM** ..... **Enhanced reservoir imaging with 3-D mapping techniques and facies analysis of shoreface reservoirs in the middle Frio J-K interval, Corpus Christi Northwest field, Texas** — Khaled Fouad\* and William A. Ambrose, Bureau of Economic Geology, Univ. of Texas, Austin (INT 2.1)
- 8:55 AM** ..... **Net/gross estimation in fluvially deposited reservoirs** — Leon Barends\*, Colin MacBeth, and Patrick Corbett, Dept. of Petroleum Engineering, Heriot-Watt Univ. (INT 2.2)
- 9:20 AM** ..... **Lithology prediction and subsurface analysis using anisotropic inversion** — D. Rampton\*, Shell, Gabon; and T. Alkhalifah, KACST Research Institute (INT 2.3)
- 9:45 AM** ..... **'Fizz Water' and low gas saturated reservoirs** — De-hua Han, Houston Advanced Research Center; and Michael Batzle, CSM (INT 2.4)

## Technical Program Oral Sessions

All Technical Program Oral Sessions will be held on Concourse 2nd Level

### Wednesday Morning

►INT 2 Interpretation II (continued)

- 10:10 AM .....Using seismic attributes and forward modeling to characterize producibility in a fractured carbonate reservoir —** Gianni Matteucci\*, ExxonMobil Upstream Research Co., Houston; Daniel H. Cassiani, ExxonMobil Exploration Co.; Abdullatif Y. Mohammed, Kuwait Oil Co. (INT 2.5)
- 10:35 AM .....Estimating the reservoir potential through integration of multiple attributes —** M. M. Saggaf\* and Ed L. Nebrija, Saudi Aramco (INT 2.6)
- 11:00 PM .....The multipoint-symplectic approximation of one-way wave-equation operator —** Hui Yang\*, Hong Liu, Ming Li, Institute of Geology and Geophysics, Chinese Academy of Sciences, Beijing (INT2.7)
- 11:25 AM .....Seismic reservoir bed predication using the sequence stratigraphy method and depend on the seismic inversion data —** Liangwu Zhao\*, Wenjie Han, Liuxian Liu, Jifang Yin, and Ronggen Li, Research Institute Petroleum Exploration and Development, China (INT 2.8)

►MIG 5 Prestack Migration Methods I

Session Chairmen: Nick Bernitsas and Paul Docherty Room: 217A

- 8:30 AM .....An improved plane wave prestack depth migration method —** Peiyong Sun\*, Shulun Zhang and Jingxia Zhao, Dalian Univ. of Technology (MIG 5.1)
- 8:55 AM .....Stable wide-angle Fourier-finite difference downward extrapolation of 3-D wavefields —** Biondo Biondi\*, Stanford Univ. (MIG 5.2)
- 9:20 AM .....Phase shift migration of common offset sections —** Shu-lun Zhang\* and Pei-yong Sun, Dalian Univ. of Technology; and Guang-ming Zhu, and Qing-chun Li, Chang An Univ. (MIG 5.3)
- 9:45 AM .....3-D Prestack common shot depth migration: A structural adaptive implementation —** James Sun\*, Carl Notfors, Sam Gray, and Yu Zhang, Veritas DGC Inc. (MIG 5.4)
- 10:10 AM .....Dual extrapolation algorithms for Fourier shot record migration —** Yanpeng Mi\* and Gary F. Margrave, CREWES Project, Univ. of Calgary (MIG 5.5)
- 10:35 AM .....Generalized least-squares DSR migration using a common angle imaging condition —** Henning Kuehl\* and Mauricio D. Sacchi, Univ. of Alberta (MIG 5.6)
- 11:00 AM .....Offset plane wave pseudoscreen migration —** Shengwen Jin\*, Screen Imaging Technology, Inc., Houston and Charles C. Mosher, Chevron Petroleum Technology Co. (MIG 5.7)
- 11:25 AM .....3-D plane wave migration of streamer data —** Bertrand Duquet, Patrick Lailly, and Andreas Ehinger\*, IFP (MIG 5.8)

►MOD 2 Modeling II

Session Chairmen: Nan Xun Dai and Tage Rosten Room: 210

- 8:30 AM .....Elastic wave modeling with free surfaces: Stability of long simulations —** Stig Hestholm\*, Earth Resources Laboratory, MIT (MOD 2.1)
- 8:55 AM .....Fast wavefield simulation in 3-D heterogeneous elastic media with Kirchhoff approximation —** Po Zhang\*, Mathias Alerini, and Gilles Lambare, Ecole des Mines de Paris (MOD 2.2)
- 9:20 AM .....The generalized exploding reflector method —** C.D. Manuel and N.F. Uren\*, Dept. of Exploration Geophysics, Curtin Univ. of Technology; and G.P. Lambert, Gulf Geophysical Inc. (MOD 2.3)
- 9:45 AM .....A new acoustic wave equation for modeling in anisotropic media —** Hector Klie\* and William Toro, PDVSA-Intevep (MOD 2.4)
- 10:10 AM .....On accuracy of finite difference amplitudes and interpolated traveltimes —** Seongjai Kim\*, Univ. of Kentucky (MOD 2.5)
- 10:35 AM .....Multigrid domain decomposition techniques for the high-frequency numerical solution of scalar waves in heterogeneous media —** Seongjai Kim\*, Univ. of Kentucky (MOD 2.6)
- 11 AM.....Generation of radial waves recorded at seafloors in the presence of a thin high velocity layer —** Chen Yao\*, Geological Institute of China Seismological Bureau; Xiangguo Chen, Institute of Geophysics; Xun Wang, Institute of Geology; and Enru Liu, British Geological Survey (MOD 2.7)
- 11:25 AM .....Optimization of the shape of gaussian beams —** Karel Zacek\*, Dept. of Geophysics, Charles Univ., Prague (MOD2.8)

## Technical Program Oral Sessions

All Technical Program Oral Sessions will be held on Concourse 2nd Level

### Wednesday Morning

#### ►PF 2 Gravity and Magnetics

Session Chairmen: Clark Wilson and Alf Hawkins Room: 205

**8:30 AM** ..... **Vertical density structure of oceanic crust and upper mantle—Free-air gravity inversion** — Vsevolod I. Egorov\*, Univ. of Houston; and Yuri P. Goryachev, Institute of Exploration Geophysics VIRG (PF 2.1)

**8:55 AM** ..... **Processing gravity gradiometer data using an equivalent source technique** — Yaoguo Li\*, Gravity and Magnetics Research Consortium, CSM (PF 2.2)

**9:20 AM** ..... **3-D inversion of gravity gradiometer data** — Yaoguo Li\*, Gravity and Magnetics Research Consortium, CSM (PF 2.3)

**9:45 AM** ..... **Wavelet denoising of gravity gradiometry data** — Julio Cesar S.O. Lyrio\*, CSM (PF 2.4)

**10:10 AM** ..... **Salt canopy modeling with gravity in deepwater Gulf of Mexico** — Harold Yarger\* and Lloyd Dekay, Chevron U.S.A. Production Co.; and E. Gerald Hensel, Chevron Petroleum Technology Co. (PF 2.5)

**10:35 AM** ..... **Base of the salt imaging using gravity and tensor gravity data** — Partha S. Routh\*, Jerry L. Kisabeth, and Greg J. Jorgensen, Seismic Imaging Technology Center, Conoco Inc. (PF 2.6)

**11 AM** ..... **Aeromagnetic data and hydrocarbon exploration in the Appalachian and Michigan Basins** — Allan Spector\*, Allan Spector and Associates Ltd., Toronto (PF 2.7)

**11:25 AM** ..... **Joint interpretation of gravity and gravity gradient profiles** — Clive A. Foss\*, Encom Technology (PF 2.8)

#### ►RC 1 Reservoir Characterization I

Session Chairmen: Tracy Stark and Fred Boadu Room: 217C

**8:30 AM** ..... **Geopressure detection using neural classification of seismic attributes in Base Jilh Dolomite in Central Uthmaniyah, Saudi Arabia** — Husam Al Mustafa\* and Saeed Al Zahrani, Saudi Aramco (RC 1.1)

**8:55 AM** ..... **Seismic facies mapping by competitive neural networks** — M. M. Saggaf\* and M. I. Marhoon, Saudi Aramco; and M. N. Toksoz, MIT (RC 1.2)

**9:20 AM** ..... **The heterogeneity cube: A family of seismic attributes** — Matthias G. Imhof\*, Virginia Tech (RC 1.3)

**9:45 AM** ..... **Reservoir characterization by calibration of self organized map clusters** — M.T. Tane\*, J.D. Walls, M. Smith, G. Taylor, M.B. Carr, and D. Dumas, Rock Solid Images (RC 1.4)

**10:10 AM** ..... **Simulating stochastic reservoir model by secondary seismic spatial information** — Paulo Sergio Lucio\*, ICEX-UFMG Brazil; and Manuela Mendes, IST-DF, Portugal (RC 1.5)

**10:35 AM** ..... **Estimation of petrophysical properties using multiple attributes: Perturbing linear regressions** — Reinaldo J. Michelena and Juan R. Jimenez\*, PDVSA Intevep (RC 1.6)

**11 AM** ..... **Seismic cube decomposition before reservoir characterisation** — Nicolas Le Bihan\*, Sofiane Lariani, and Jerome Mars, LIS (RC 1.7)

**11:25 AM** ..... **Seismic history matching guided by attribute zonation** — Xuri Huang\*, WesternGeco; and Laurence R. Bentley and Claude Laflamme, Univ. of Calgary (RC 1.8)

#### ►RP 1 Rock Physics I

Session Chairmen: Gary Mavko and TBA Room: 212

**8:30 AM** ..... **Optimal hydrocarbon indicators** — Michael Batzle\*, CSM; De-hua Han, Houston Advanced Research Center; and Ronny Hofmann, CSM (RP 1.1)

**8:55 AM** ..... **Stochastic fluid modulus inversion** — Luther White\* and John P. Castagna, Institute for Exploration and Development Geosciences, Univ. of Oklahoma (RP 1.2)

**9:20 AM** ..... **Simulation of elastic moduli of porous media** — Charles P. Ursenbach\*, CREWES Project, Univ. of Calgary (RP 1.3)

**9:45 AM** ..... **The dynamic fluid substitution problem** — Mark Chapman\*, Edinburgh Anisotropy Project, BGS (RP 1.4)

**10:10 AM** ..... **Shear wave velocity dependence on fluid saturation** — Reynaldo Cardona\*, Michael Batzle, and Thomas L. Davis, CSM (RP 1.5)

**10:35 AM** ..... **Experimental evidence for frequency-dependent velocity-porosity equations** — Alexander Druzhinin\*, Dept. of Petroleum Engineering, Heriot-Watt Univ., Edinburgh (RP 1.6)

**11:00 AM** ..... **A critical clay content model of sand-shale mixtures from log data in the Gulf of Thailand** — Fuping Zhu\*, Shell International Exploration and Production Inc.; Richard L. Gibson Jr., Texas A&M Univ.; and Robert Estill, Unocal Deepwater, US (RP 1.7)

## Technical Program Oral Sessions

All Technical Program Oral Sessions will be held on Concourse 2nd Level

### Wednesday Morning

►RP 1 *Rock Physics I (continued)*

**11:25 AM .....Two-phase flow in complex porous media using Lattice-Boltzmann method** — Youngseuk Keehm\*, Tapan Mukerji and Amos Nur, Rock Physics Laboratory, Stanford Univ. (RP 1.8)

**11:50 AM .....Compliance-based interpretation of dry frame pressure sensitivity in shallow marine sandstone** — Olivier Kirstetter, Colin MacBeth\*, Heriot-Watt Univ. (RP1.9)

►SP 5 *Imaging and Attributes*

Session Chairmen: Ganyuan Xia and Wenkai Lu Room: 206

**8:30 AM .....Maximum-energy traveltimes enhance imaging in complex structures—A Gulf of Mexico salt example** — David Y. Wang\* and Jonathan Z. Liu, ExxonMobil Upstream Research Co. (SP 5.1)

**8:55 AM .....Seeing through salt: Techniques for maintaining seismic amplitude fidelity subsalt** — Glenn W. Bear\*, Chih-Ping J. Lu, Richard S. Lu, Lev Nayvelt, Allan G. Snyder, and Dennis E. Willen, ExxonMobil Upstream Research Co. (SP 5.2)

**9:20 AM .....Analysis of long offset sub-basalt data using model-based processing** — Jan Ove Hansen\*, Bent A. Tjøstheim and Lars Sønneland, Schlumberger Stavanger Research, Norway; Bengt Larssen and Sverre Jåsund, WesternGeco, Norway (SP 5.3)

**9:45 AM .....Semi-automatic detection of faults in 3-D seismic signals** — Kristofer M. Tingdahl\*, Göteborg Univ.; Øyvind Steen, and Paul Meldahl, Statoil; and J. Herald Ligtenberg, de Groot-Bril Earth Sciences (SP 5.4)

**10:10 AM .....Wavelet-based volume attributes** — Rutger L. C. van Spaendonck\*, Applied Earth Science, Delft Univ. of Technology; FCA Fernandes, Rice Univ.; and J.T. Fokkema, Applied Earth Sciences, Delft Univ. of Technology (SP 5.5)

**10:35 AM .....New 2-D attributes based on complex and hypercomplex analytic signals** — Nicolas Le Bihan and Jerome Mars, LIS-INPG (SP 5.6)

**11 AM.....Fractional spline matching pursuit: A quantitative tool for seismic stratigraphy** — Felix Herrmann\*, ERL, MIT (SP 5.7)

**11:25 AM .....Smoothing SEG/EAGE salt model for ray tracing using Sobolev scalar products** — Petr Bulant\* Dept. of Geophysics, Charles Univ., Prague (SP5.9)

**11:50 AM .....Correlation functions of random media** — Ludek Klimes\*, Dept. of Geophysics, Charles Univ., Prague (SP5.8)

►ST 1 *Seismic Theory*

Session Chairmen: Paul Nyffenegger and Boerge Arntsen Room: 207

**8:30 AM .....On the power-law behavior of subsurface heterogeneity** — Joe Stefani\* and Gopa S. De, Chevron Petroleum Technology Co., San Ramon (ST 1.1)

**8:55 AM .....Subgrid elastic modeling in cracked media** — Vincent V. van Antwerpen, Delft Univ. of Technology; Wim A. Mulder, Shell International E&P; and Gerard C. Herman\*, Delft Univ. of Technology (ST 1.2)

**9:20 AM .....Three-dimensional traveltime calculation using monochromatic three-dimensional one-way wave equation** — Changsoo Shin, Wonsik Kim\*, Kwangjin Yoon, and Soonduk Hong, Seoul National Univ.; Sungryul Shin, Korea Maritime Univ.; Seungwon Ko, Hanyang Univ.; and R. P. Bording, Computer Science Corp. (ST 1.3)

**9:45 AM .....Seismic reflection data interpolation with differential offset and shot continuation** — Sergey Fomel\*, Lawrence Berkeley National Laboratory (ST 1.4)

**10:10 AM .....Seismic reciprocity rules** — David F. Aldridge\* and Neill P. Symons, Geophysical Technology Dept., Sandia National Laboratories (ST 1.5)

**10:35 AM .....Elastodynamic reciprocity theorems for time-lapse seismic methods** — Kees Wapenaar\*, Menno Dillen and J.T. Fokkema, Delft Univ. of Technology (ST 1.6)

**11 AM.....Paraxial approximation of the polarization vectors in the isotropic ray theory** — Ludek Klimes\*, Dept. of Geophysics, Charles Univ., Prague (ST 1.7)

**11:25 AM .....On the theory of unification of seismic imaging techniques** — Herman Jaramillo\* and Uwe Albertin, WesternGeco (ST 1.8)

**11:50 AM .....Instantaneous velocity field characterization through stacking velocity variography** — D. Geraets\*, A. Galli, P. Ruffo, and E. Della Rossa, Ecole des Mines de Paris, ENI, Agip Division (ST 1.9)

## Technical Program Oral Sessions

All Technical Program Oral Sessions will be held on Concourse 2nd Level

### Wednesday Afternoon

#### ► AVO 2 AVO II

Session Chairmen: Scott MacKay and Bruce Cornish Room: 214C

1:30 PM ..... **Estimation of net-to-gross from P and S impedance: Part I – petrophysics** — L. Vernik\* and D. Fisher, BP, GOM Deepwater Production (AVO 2.1)

1:55 PM ..... **Estimation of net-to-gross from P and S impedance: Part II – 3-D seismic inversion** — L. Vernik and D. Fisher\*, BP, GOM Deepwater Production; and S. Bahret, Jason Geosystems (AVO 2.2)

2:20 PM ..... **AVO signatures of Eastern Venezuela gas sands: Feasibility and uncertainty estimation** — Ezequiel Gonzalez\*, PDVSA-Intevip; and Tapan Mukerji and Gary Mavko, Stanford Rock Physics Laboratory (AVO 2.3)

2:45 PM ..... **The AIGI crossplot as an aid to AVO analysis and calibration** — David N. Whitcombe\*, BP, Aberdeen ; John G. Fletcher, BP, Sunbury-on-Thames (AVO 2.4)

3:10 PM ..... **AVO amplitude calibration without well control** — Lindsay Poth\*, John Castagna, and Satish Sinha, Institute for Exploration and Development Geosciences, Univ. of Oklahoma (AVO 2.5)

3:35 PM ..... **Joint stratigraphic inversion of angle-limited stacks** — T. Tonello\*, D. Macé, and V. Richard, IFP (AVO 2.6)

4 PM ..... **Statistical properties of seismically derived AVO attributes** — Philippe Herrmann\* and Guillaume Cambois, CGG (AVO 2.7)

4:25 PM ..... **Offset-to-angle transformations for PP and PS AVO analysis** — Richard Bale\*, WesternGeco; and Scott Leaney and Gabriela Dumitru, Schlumberger (AVO 2.8)

#### ► AVO 3 AVO III

Session Chairmen: Dave Carlson and Paul Murray Room: 213

1:30 PM ..... **Estimation of pore pressure by AVO inversion** — U. Tinivella\*, and J.M. Carcione, OGS; and H.B. Helle, Norsk Hydro, E&P Research Centre, Norway (AVO 3.1)

1:55 PM ..... **AVO Rollover: A saturation sensitive direct hydrocarbon indicator** — Chuck Skidmore\*, Ray Cotton, and Mike Kelly, Diamond Geoscience Research Corp. (AVO 3.2)

2:20 PM ..... **Deep wells in deep water: Gulf of Mexico rock property observations/AVO implications** — Roderick W. Van Koughnet\* and David A. Ford, Diamond Geoscience Research Corp. (AVO 3.3)

2:45 PM ..... **Constrained three parameter AVO inversion and uncertainty analysis** — Jonathan E. Downton\*, Scott Pickford Group, Ltd. and Univ. of Calgary; and Laurence R. Lines, Univ. of Calgary (AVO 3.4)

3:10 PM ..... **Nonlinear AVO equations and their use in 3-parameter inversions** — Michael Kelly\* and Charles Skidmore, Diamond Geoscience Research Corp. (AVO 3.5)

3:35 PM ..... **Interactive AVO time-alignment and neural network classification** — John Eastwood and Brian West\*, ExxonMobil Upstream Research Co., Houston (AVO 3.6)

4 PM ..... **AVO inversion on depth migrated traces** — John Fairborn\*, WellSeismic Computing Services (AVO 3.7)

4:25 PM ..... **Sobolev scalar products in the construction of velocity models** — Petr Bulant\* and Ludek Klimes, Dept. of Geophysics, Charles Univ., Prague (AVO3.8)

#### ► INT 3 Interpretation III

Session Chairmen: John Plappert and Craig Pierson Room: 207

1:30 PM ..... **Sand thickness prediction of the Basal Tena/M1 Sands from seismic attributes using neural networks: Oriente Basin, Ecuador** — Richard O. Lindsay\*, Diamond Geoscience Research Corp.; and David Bocanegra, Vintage Petroleum, Inc. (INT 3.1)

1:55 PM ..... **Automatic extraction of fault surfaces from three-dimensional seismic data** — Trygve Randen, Stein Inge Pedersen\* and Lars Scenneland, Schlumberger Stavanger Research (INT 3.2)

2:20 PM ..... **Kinematics of the Northern Monagas mountain front, Eastern Venezuela basin** — José; Antonio Martinez\*, PDVSA Exploration (INT 3.3)

2:45 PM ..... **Deepwater exploration potential of the Santos Basin from recently acquired seismic data** — Roberto Fainstein, George Jamieson\*, Andrew Hannan, Norman Biles, and Ana Krueger, WesternGeco; and Dianna Shelander, Consultant (INT 3.4)

3:10 PM ..... **Analysis of 3-D offshore Louisiana flex trend pore pressure estimates** — William P. May, Jr.\* and Richard O. Lindsay, Diamond Geoscience Research Corp. (INT 3.5)

## Technical Program Oral Sessions

All Technical Program Oral Sessions will be held on Concourse 2nd Level

### Wednesday Afternoon

►INT 3 Interpretation III (continued)

- 3:35 PM** ..... **Examination of a turbidite system using 3-D visualization and multiple seismic attributes, Albacora Field, deepwater Brazil** — Terra E. Bulloch\*, Jennifer C. Voncannon, Douglas E. Meyer, Elizabeth A. Lorenzetti Harvey, T. Mike Sheffield, and Michael J. Zeitlin, Magic Earth Inc.; and Rick Roberson, PGS Multi-Client Services Inc. (INT 3.6)
- 4 PM** ..... **Fault styles across Santa Rosalia and Santa Anita Fields, Burgos Basin, Mexico** — David Garcia Morales, Pemex Exploration Production, Region Norte, Mexico; Lynne Goodoff\*, The Scotia Group; Adrian Salas Zapata and Maurilio Guzman Garcia, Pemex Exploration Production, Region Norte, Mexico (INT 3.7)
- 4:25 PM** ..... **Northern Gulf of Mexico; basins, massifs, and the upper crust** — Michael Alexander and David Oxley, Integrated Geophysics Corp.; J.C. Pratsch, Consultant; and Corine Prieto\*, Integrated Geophysics Corp. (INT 3.8)

►MC 2 Multicomponent II

Session Chairmen: Elias Ata and Paul Nyffenegger Room: 214A

- 1:30 PM** ..... **3-C geophone orientation and wave modes polarization** — Saul E. Guevara\*, Ecopetrol, Colombia/Univ. of Calgary; Robert R. Stewart, Univ. of Calgary (MC 2.1)
- 1:55 PM** ..... **Dispersive noise attenuation for converted-wave data** — Robert Soubaras\*, CGG (MC 2.2)
- 2:20 PM** ..... **Near-surface issues in 4-C-3-D data from the Middle East—A case study** — Neil Jones\* and Allen Haddick, PGS, London; Simon Barnes, PGS, Houston; and Phil Roach, Atlantis (MC 2.3)
- 2:45 PM** ..... **Some requirements of PS mode acquisition** — Robert J. Garotta\*, formerly CGG; Pierre-Yves Granger, CGG (MC 2.4)
- 3:10 PM** ..... **A decomposition and multiple removal strategy for multicomponent OBC data** — Karin M. Schalkwijk\*, D. J. Verschuur, and Kees Wapenaar, Delft Univ. of Technology (MC 2.5)
- 3:40 PM** ..... **Multidimensional multiple attenuation of OBS data** — Are Osen\* and Lasse Amundsen, Statoil Research Centre (MC 2.6)
- 4 PM** ..... **Noninteractive estimation of elastic seafloor properties for wavefield decomposition** — Remco Muijs\* and Klaus Holliger, Swiss Federal Institute of Technology; and Johan Robertsson, WesternGeco (MC 2.7)
- 4:25 PM** ..... **Modeling amplification effects of marine sedimentary layers via horizontal/vertical spectral ratios** — C. I. Huerta Lopez\*, Institute for Geophysics & Civil Engineering Dept., Univ. of Texas, Austin; and Jay Pulliam, Yosio Nakamura, and Ben Yates, Institute for Geophysics, Univ. of Texas, Austin (MC 2.8)

►MIG 1 Migration Velocity Analysis

Session Chairmen: Paul Stoffa and Junru Jiao Room: 217A

- 1:30 PM** ..... **Migration velocity analysis by curvature measurement and stacking power** — Lanlan Yan\*, Larry R. Lines, and Don C. Lawton, Fold and Fault Research Project, Univ. of Calgary (MIG 1.1)
- 1:55 PM** ..... **An alternative residual-curvature velocity updating method for prestack depth migration** — Hongbo Zhou\*, Jiuying Guo, and Jerry Young, Veritas DGC, Inc. (MIG 1.2)
- 2:20 PM** ..... **Fast velocity analysis by wavepath migration: A 2-D field data example** — Hongchuan Sun\*, Univ. of Utah (MIG 1.3)
- 2:45 PM** ..... **3-D migration velocity analysis for common image gathers in the reflection angle domain** — Wei Liu\*, Alexander M. Popovici, and Dimitri Bevc, 3DGeo Development Inc.; and Biondo Biondi, Stanford Univ. (MIG 1.4)
- 3:10 PM** ..... **Migration velocity analysis using common angle image gathers** — Charles C. Mosher\*, Chevron; Shengwen Jin, Screen Imaging Technology, Inc.; and Douglas J. Foster, Phillips Petroleum (MIG 1.5)
- 3:35 PM** ..... **Automatic velocity analysis by differential semblance optimization** — W.A. Mulder\* and A.P.E. ten Kroode, Shell E&P Technology Applications and Research (MIG 1.6)
- 4 PM** ..... **Velocity independent seismic imaging** — A.J. Berkhout\* and D.J. Verschuur, Delft Univ. of Technology, (MIG 1.7)
- 4:25 PM** ..... **Velocity independent CFP redatuming for subsalt imaging** — John F.B. Bolte\* and D.J. Verschuur, Delft Univ. of Technology (MIG 1.8)

## Technical Program Oral Sessions

All Technical Program Oral Sessions will be held on Concourse 2nd Level

### Wednesday Afternoon

#### ►PF 3 Mining, MT, and IP

Session Chairmen: Scott Baldrige and Alf Hawkins Room: 205

- 1:30 PM .....Rapid 3-D magnetotelluric and CSAMT inversion** — Gabor Hursan\* and Michael S. Zhdanov, Dept. of Geology and Geophysics, Univ. of Utah (PF 3.1)
- 1:55 PM .....Three-dimensional inversion of magnetotelluric data at the Bajawa Geothermal Field, eastern Indonesia** — Toshihiro Uchida\* and Tae Jong Lee, Geological Survey of Japan; Yutaka Sasaki, Kyushu Univ.; Mitsuru Honda, West Japan Engineering Consultants; and Andan and Achmad Andan, Volcanological Survey of Indonesia (PF 3.2)
- 2:20 PM .....3-D magnetotelluric inversion for resource exploration** — Randall L. Mackie\*, GSY-USA, Inc.; William Rodi, MIT; and M. D. Watts, Geosystem srl (PF 3.3)
- 2:45 PM .....Three-dimensional interpretation of magnetotelluric data** — Nikolay Golubev\*, Gabor Hursan, and Michael S. Zhdanov, Dept. of Geology and Geophysics, Univ. of Utah; and Brent Chernobay, INCO Technical Services Ltd. (PF 3.4)
- 3:10 PM .....Transient magnetotellurics with adaptive polarization stacking** — David K. Goldak\*, Goldack Geophysics; and Michael S. Goldak, Eagle Trading Systems (PF 3.5)
- 3:35 PM .....3-D forward modeling and inversion of IP data based on quasi-linear approximation** — Ken Yoshioka\* and Michael Zhdanov, Univ. of Utah (PF 3.6)
- 4 PM.....Continuity and current mapping – new laboratory techniques for the study of the electrical properties of sulphide rocks** — Michael Roach and Andrew Fitzpatrick\*, School of Earth Sciences, Univ. of Tasmania (PF 3.7)
- 4:25 PM .....Microseismic monitoring of rock fracturing under aquifers in longwall coal mining** — Xun Luo\* and Peter Hatherly, CSIRO Exploration and Mining, Australia; and Kejun Yu, and Xinming Zhang, Shandong Bureau of Coal Geology, P. R. China (PF 3.8)
- 4:50 PM .....Forward modeling and inversion of IP effects in TEM response using measured rock samples data** — Hesham M. El-Kaliouby\*, and Safwat Hussain, National Research Center, Egypt; Esam A. El Diwany, Electronics Research Institute, Egypt; Esam Hashish, and Abdel Rahim Bayoumi, Cairo Univ., Egypt; and Mary M. Poulton, Univ. of Arizona (PF 3.9)

#### ►RC 2 Reservoir Characterization II

Session Chairmen: Jack Ward and Bruce Moriarty Room: 217C

- 1:30 PM .....Delineation of steam flood using seismic attenuation** — Ken Hedlin\* and Larry Mewhort, Husky Energy; and Gary Margrave, Univ. of Calgary (RC 2.1)
- 1:55 PM .....Pressure detection from rms velocities – a sensitivity study based on a 4-D data set** — Øyvind Kvam\* and Martin Landrø, Norwegian Univ. of Science and Technology (RC 2.2)
- 2:20 PM .....CFP-approach to time-lapse angle-dependent reflectivity analysis** — P.L.A. Winthagen\*, TNO-NITG, Utrecht, The Netherlands; and D.J. Verschuur, Delft Univ. of Technology (RC 2.3)
- 2:45 PM .....Microseismic reservoir characterization: Numerical experiments and case studies** — Elmar Rotherth\* and Serge A. Shapiro, Freie Univ. Berlin (RC 2.4)
- 3:10 PM .....Geostatistical simulation of porosity and risk in a Swan Hills reef** — John van der Laan, Gulf Canada Resources Ltd.; and John Pendrel\*, Jason Geosystems, Canada (RC 2.5)
- 3:35 PM .....Turbidite outcrop 3-D ground penetrating radar imaging: Lewis Shale, WY** — Roger A. Young\*, Julie G. Staggs, and Roger M. Slatt, Univ. of Oklahoma; and Neil F. Hurley, CSM (RC 2.6)
- 4 PM.....The 'ear-shape' puzzle: The effect of permeability anisotropy and boundary conditions on production-induced pressure depletion and surface subsidence and its implications** — Haibin Xu\* and Amos Nur Rock Physics Laboratory, Stanford Univ. (RC 2.7)
- 4:25 PM .....Improvements in 3-D structural modeling of growth-faulted reservoirs** — Karen S. Hoffman\* and John W. Neave, Dynamic Graphics, Inc. (RC 2.8)

## Technical Program Oral Sessions

All Technical Program Oral Sessions will be held on Concourse 2nd Level

### Wednesday Afternoon

#### ► RP 2 Rock Physics II

Session Chairmen: Mrinal Sen and Joel Walls Room: 212

- 1:30 PM** ..... **A numerical study of effective velocities in fractured media: Intersecting and parallel cracks** — Erik H. Saenger\* and Serge A. Shapiro, Fachbereich Geophysik, Freie Univ. Berlin (RP 2.1)
- 1:55 PM** ..... **A three-parameter model for predicting acoustic velocities in transversely isotropic rocks under arbitrary stress** — Romain Prioul\* and Andrey Bakulin, Schlumberger Cambridge Research; and Victor Bakulin, Consultant (RP 2.2)
- 2:20 PM** ..... **Effects of fluid saturation and pore pressure on seismic anisotropy** — Enru Liu\* and Xiang Yang Li, Edinburgh Anisotropy Project, British Geological Survey (RP 2.3)
- 2:45 PM** ..... **Seismic anisotropy in sedimentary rocks** — Zhijing (Zee) Wang\*, Chevron Petroleum Technology Co. (RP 2.4)
- 3:10 PM** ..... **The anisotropic response of shale elastic stiffness coefficients to overpressure** — Patricia Domnesteau\*, PRIS Reading Univ. U.K.; Robert Domnesteau, Accurate Software Ltd.; and Clive McCann, PRIS Reading Univ. (RP 2.5)
- 3:35 PM** ..... **Rock physics analysis and fracture modeling of the San Andres reservoir** — Diana C. Sava, Tapan Mukerji\*, Juan M. Florez, and Gary Mavko, Rock Physics Laboratory, Stanford Univ. (RP 2.6)
- 4 PM** ..... **Biot theory, BISQ model, and porosity perturbation during deformation** — Pratap N. Sahay\*, Dept. of Seismology, Centro de Investigacion Cientifica y Educacion Superior de Ensenada (RP 2.7)
- 4:25 PM** ..... **Pressure-dependent scaling behavior of the transmission response of reservoir rocks** — Enrique Diego Mercerat\*, Kees Wapenaar, J.T. Fokkema, and Menno Dillen, Delft Univ. of Technology (RP 2.8)

#### ► SP 3 Signal Processing III

Session Chairmen: Seung Yoo and Douglas Hart Room: 210

- 1:30 PM** ..... **3-D traveltine reflection tomography with multivalued arrivals** — Richard A. Clarke\*, BP; Bertrand Alazard, Laure Pelle, Delphine Sinoquet, Patrick Lailly, Florence Delprat-Jannaud, and Lionel Jannaud, IFP (SP 3.1)
- 1:55 PM** ..... **Time to move to anelliptic time processing** — R. Siliqi\*, CGG; N. Bousquie, EOST France; D. Hardouin, CGG (SP 3.2)
- 2:20 PM** ..... **Stacking — what about offset (x)?** — Ingebret Gausland\*, Statoil, Norway (SP 3.3)
- 2:45 PM** ..... **Common-reflection-surface stack and conflicting dips** — Juergen Mann\*, Geophysical Institute, Univ. of Karlsruhe (SP 3.4)
- 3:10 PM** ..... **The effects of receiver motion on seismic data and velocity analysis** — Jan Douma\*, WesternGeco (SP 3.5)
- 3:35 PM** ..... **Quality control of dense non-hyperbolic NMO parameter fields** — D. Le Meur\* and R. Siliqi, CGG (SP 3.6)
- 4 PM** ..... **Processing-induced anisotropy** — Vladimir Grechka\* and Ilya Tsvankin, Center for Wave Phenomena, CSM (SP 3.7)
- 4:25 PM** ..... **Estimation of formation shear slowness using phase velocity and semblance method—comparative studies** — Marek Z. Kozak\*, and Mirka E. Kozak, Magnetic Pulse Inc. (SP 3.8)

#### ► SP 6 Noise Issues

Session Chairmen: Frank Brown and Steve Jumper Room: 206

- 1:30 PM** ..... **Combined NMO response and stack array analysis of model-based data in an environment of strong ground roll** — Steve Campbell\*, Hongwei Wang, and Jurgen Hoffmann, PGS Seres (SP 6.1)
- 1:55 PM** ..... **Playing with fire: Noise alignment in trim and residual statics** — Charles P. Ursenbach\* and John C. Bancroft, CREWES Project, Univ. of Calgary (SP 6.2)
- 2:20 PM** ..... **An efficient 3-D depth model-based, coherent noise suppression technique** — W. Daniel Heinze\*, John W. C. Sherwood, and Hans Tieman, Applied Geophysical Services, Inc. (SP 6.3)
- 2:45 PM** ..... **Eigenimage noise suppression of 3-D seismic in the FX domain** — Stewart Trickett\*, Kelman Technologies Inc. (SP 6.4)
- 3:10 PM** ..... **Seismic data interpolation and noise attenuation with plane-wave destructor filters** — Sergey Fomel\*, Lawrence Berkeley National Laboratory (SP 6.5)
- 3:35 PM** ..... **Seismic interference noise removal** — N. Gulunay\* and D. Pattberg, WesternGeco, Houston (SP 6.6)
- 4 PM** ..... **Linear adaptive noise attenuation** — Saleh Al Dossary\*, Bryan Maddison, Abudulaziz A. Buali, Yi Luo, and Mohammed Al Faraj, Saudi Aramco; and Qing Li, GeoLinkCom (SP 6.7)
- 4:25 PM** ..... **Enhanced stack noise removal using cascaded Wiener filter in the wavelet transform domain** — A. Zegadi\* and K. K-E. Zegadi, SH/IAP Ecole D'Ingenieurs (SP 6.8)

## Technical Program Oral Sessions

All Technical Program Oral Sessions will be held on Concourse 2nd Level

### Thursday Morning

#### ► AVO 4 AVO IV

Session Chairmen: Are Osen and TBA Room: 213

- 8:30 AM** ..... **Azimuthal AVO inversion (AVOZI) in full elastic property determination (FEPD) of fractured reservoirs** — Yongyi Li\*, Yong Xu, and Henry Leong, Scott Pickford Group, Ltd. (AVO 4.1)
- 8:55 AM** ..... **Simultaneous multicomponent AVO inversion** — Huseyin Ozdemir\*, Shuki Ronen, and Bjorn Olofsson, WesternGeco; Bill Goodway, and Paul Young, PanCanadian Petroleum Ltd. (AVO 4.2)
- 9:20 AM** ..... **Improving AVO and reflection tomography through use of local dip and azimuth** — Francis Sherrill\*, Sylvestre Charles, Marta Woodward, and M.K. Sengupta, WesternGeco (AVO 4.3)
- 9:45 AM** ..... **Fracture density estimations from amplitude data** — Mu Luo\* and Brian J. Evans, Curtin Univ. of Technology (AVO 4.4)
- 10:10 AM** ..... **Mapping fractures using conventional 3-D marine seismic: A physical modeling study for multiboat multistreamer survey** — Mu Luo\* and Brian J. Evans, Curtin Univ. of Technology (AVO 4.5)
- 10:35 AM** ..... **Development of a fracture mapping technique using conventional one-boat multistreamer seismic data: A physical modeling study** — Mu Luo\* and Brian J. Evans, Curtin Univ. of Technology (AVO 4.6)
- 11:00 AM** ..... **Extending the  $T^2$ - $X^2$  method to 3-D heterogeneous media** — Dirk Gajewski\*, Claudia Vanelle, Univ. of Hamburg (AVO4.7)
- 11:25 AM** ..... **Prestack considerations for the migration of oblique reflectors** — John C. Bancroft\* and Charles P. Ursenbach, CREWES Project - Univ. of Calgary (AVO4.8)

#### ► AVO 5 Prestack Amplitudes

Session Chairmen: Paul Fowler and Dave Carlson Room: 214C

- 8:30 AM** ..... **Traveltime-based true-amplitude migration of PS converted waves** — Claudia Vanelle\* and Dirk Gajewski, Univ. of Hamburg (AVO 5.1)
- 8:55 AM** ..... **Attaching true amplitude to kinematically migrated images** — Dominique Rousset\*, Univ. of Pau; Martin Tygel, Univ. of Campinas; and Hervé; Perroud, Univ. of Pau (AVO 5.2)
- 9:20 AM** ..... **Amplitude-preserved common image gathers by wave-equation migration** — Paul Sava\* and Biondo Biondi, Stanford Univ.; and Sergey Fomel, Lawrence Berkeley National Laboratory (AVO 5.3)
- 9:45 AM** ..... **3-D preserved amplitude PsDM & AVA relevance** — R.M. Baina\*, IPEDEX detached to Ecole des Mines de Paris; Philippe Thierry, Ecole des Mines de Paris; and Henri Calandra and Vincent Devaux, TotalFinaElf (AVO 5.4)
- 10:10 AM** ..... **Merits of amplitude preserving Kirchhoff beam migration method for 3-D AVO analysis** — Shaosong Huang\*, Francis Sherrill, and M.K. Sengupta, WesternGeco (AVO 5.5)
- 10:35 AM** ..... **Fracture orientation estimation from azimuthal AVO, offshore Abu Dhabi** — Graham Roberts\*, Richard Wombell, and David Gray, Veritas DGC Ltd.; Ali Al-Shamsi, Omar Suwaina, Ghiath Ajlani, Atef Ebed, and M. Al Kaabi, ADNOC, Abu Dhabi (AVO 5.6)
- 11 AM** ..... **Withdrawn as of 07-27-01**
- 11:25 AM** ..... **Artificial neural network solutions to AVO inversion problems** — Shane Mogensen\*, Phillips Petroleum Co. and Curtis Link, Montana Tech of Univ. of Montana (AVO 5.8)

#### ► BH 3 Borehole Seismic

Session Chairmen: Bruce Moriarty and John Preist Room: 217C

- 8:30 AM** ..... **Downhole orbital vibrator source and single well imaging** — Gang Yu\* and Larry A. Walter, Geospace Engineering Resources International; Bill Chmela, and Leif Jahren, READ Well Services; and John O'Brien, and Justin C. Lime, Anadarko Petroleum Corp. (BH 3.1)
- 8:55 AM** ..... **An offshore multioffset seismic profile (MOSP) for a land well — A solution to image below a transition zone: The Luna 36 case** — M. Verliac\* and R. Mann, Schlumberger; and J. Rosillo Aragon and J.L. Fong Aguilar, Pemex (BH 3.2)
- 9:20 AM** ..... **High-resolution microseismic imaging of a Cotton Valley hydraulic fracture** — J.T. Rutledge\*, Nambe Geophysical, Inc.; and W.S. Phillips, Los Alamos National Laboratory (BH 3.3)
- 9:45 AM** ..... **A new processing package for microseismic monitoring of hydrocarbon reservoirs** — Volker Oye\* and Michael Roth, NORSAR (BH 3.4)

## Technical Program Oral Sessions

All Technical Program Oral Sessions will be held on Concourse 2nd Level

### Thursday Morning

►BH 3 *Borehole Seismic III (continued)*

**10:10 AM .....Subsurface seismic imaging for reservoir characterization** — Gang Yu\*, Larry A. Walter, and Rod Humphreys, Geospace Engineering Resources Int'l. (BH 3.5)

**10:35 AM .....3-D azimuthal seismic endoscopy: Application to acoustic borehole experiment** — Henri-Pierre Valero\*, Institut de Physique du Globe de Paris; and Ginette Saracco and Dominique Gibert, Geosciences Rennes (BH 3.6)

**11 AM.....Single-well imaging using the full waveform of an acoustic sonic** — L. Chabot\*, D.C. Henley, R.J. Brown, and J.C. Bancroft, CREWES Project, Univ. of Calgary (BH 3.7)

**11:25 AM .....Discrimination of coherent waves by a time-frequency representation of 3-D hodogram and application to microseismic reflection method** — Hiroshi Asanuma\*, Jun-ichi Takayama, and Hiroaki Niitsuma, Graduate School of Tohoku Univ., Japan (BH 3.8)

►BH 5 *Crosswell Seismic*

Session Chairmen: John Washbourne and Ran Zhou Room: 205

**8:30 AM .....Weyburn field horizontal-to-horizontal crosswell seismic profiling: Part 1 – Planning and data acquisition** — Ernest Majer\*, Valeri Korneev, and Tom Daley, Lawrence Berkeley National Laboratory; Guoping Li, PanCanadian Petroleum; Thomas L. Davis, CSM; John K. Washbourne, Tomoseis; and Harold Merry, OYO Geospace (BH 5.1)

**8:55 AM .....Weyburn field horizontal-to-horizontal crosswell seismic profiling: Part 2 – Data processing** — John K. Washbourne\*, Tomoseis; Guoping Li, PanCanadian Petroleum; and Ernest Majer, Lawrence Berkeley National Laboratory (BH 5.2)

**9:20 AM .....Weyburn field horizontal-to-horizontal crosswell seismic profiling: Part 3 – Interpretation** — Guoping Li\* and Geoff Burrowes, PanCanadian Petroleum; Ernest Majer, Lawrence Berkeley National Laboratory; and Thomas L. Davis, CSM (BH 5.3)

**9:45 AM .....Time-lapse crosswell tomography in the Athabasca Tar Sands** — Anna Droujinina, Heriot-Watt Univ./British Geological Survey; and Colin MacBeth\* and Patrick Corbett, Heriot-Watt Univ. (BH 5.4)

**10:10 AM .....Time-lapse borehole case study in Vacuum Field, New Mexico** — Gwenola Michaud\*, CSM and CGG; and Thomas L. Davis, CSM (BH 5.5)

**10:35 AM .....Crosswell seismic imaging for horizontal drilling of the high porosity sand: Crystal Viking Pool, Alberta, Canada** — Rena Michelle Hatch\*, Tomoseis Inc.; and Ronald A. Borsato, Martin R. Bradford, and George W. Kwan, Numac Energy Inc. (BH 5.6)

**11 AM.....Imaging complex structures with crosswell seismology** — Arthur C.H. Cheng\* and Jie Zhang, GeoTomo LLC (BH 5.7)

**11:25 AM .....Design of asymmetric operators using a weighted least-squares approximation** — Gerd Swinnen\*, Kees Wapenaar, Centre of Technical Geoscience, Delft Univ. of Technology; Jan W. Thorbecke, SGI, De Meern; Guy G. Drijkoningen, Centre of Technical Geoscience, Delft Univ. of Technology (BH5.8)

►INT 4 *Interpretation IV*

Session Chairmen: Jay May and Dana Jurick Room: 207

**8:30 AM .....Interactive seismic facies classification of stack and AVO data using textural attributes and neural networks** — Brian West\*, Steve May, John Eastwood, and Christine Rossen, ExxonMobil Upstream Research Co., Houston (INT 4.1)

**8:55 AM .....Facies recognition using multifractal analysis** — David Marquez\* and Juan R. Jimenez, PDVSA Intevep; and Abelardo Monsalve, IVIC (INT 4.2)

**9:20 AM .....An iterative method for identifying seismic objects by their texture, orientation and size** — Paul Meldahl\* and Roar Heggland, Statoil; and Bert Bril and Paul de Groot, De Groot-Bril Earth Sciences (INT 4.3)

**9:45 AM .....Singularity analysis: A tool for extracting lithologic and stratigraphic content from seismic data** — William J. Lyons\*, MIT/WHOI Joint Program in Oceanography; and Felix J. Herrmann, ERL-MIT (INT 4.4)

**10:10 AM .....Classification of salt-contaminated velocities with self-organizing map neural networks** — Lin Zhang\* and Al Fortier, Chevron Petroleum Technology Co., and David Bartel, Chevron USA Production Co. (INT 4.5)

**10:35 AM .....Spectral localization of seismic data with a phase corrected wavelet transform** — F. Javier Sabadell\*, WesternGeco (INT 4.6)

**11 AM.....Nonlinear estimation of missing logs from existing well-log data** — Rafael Banchs\* and Juan R. Jimenez, PDVSA Intevep; and Edgar Del Pino, Univ. Simon Bolivar (INT 4.7)

## Technical Program Oral Sessions

All Technical Program Oral Sessions will be held on Concourse 2nd Level

### Thursday Morning

►INT 4 Interpretation IV (continued)

**11:25 AM .....An inverse-scattering sub-series for predicting the spatial location of reflectors without the precise reference medium and wave velocity** — Arthur B. Weglein\*, Univ. of Houston; Douglas J. Foster, Phillips Petroleum; Kenneth H. Matson, Simon A. Shaw, BP; Paulo M. Carvalho, Petrobras SA; Dennis Corrigan, Arco (retired) (INT4.8)

►MC 3 Multicomponent III

Session Chairmen: Jason Gumble and James Gaiser Room: 214A

**8:30 AM .....New methodology for anisotropic migration velocity analysis: 2D–4C Mahogany field, Gulf of Mexico** — Constantin Gerea\*, Statoil Research Centre, Norway; and Laurence Nicoletis and Hery Rakotoarisoa, IFP (MC 3.1)

**1:55 PM .....Preserved amplitude depth migration imaging: Application to an OBC line (Mahogany)** — Mathias Alerini\*, Soazig Le Begat, and Gilles Lambare, Ecole des Mines de Paris; and Jean-Luc Boelle, TotalFinaElf (MC 3.2)

**9:20 AM .....Joint PP PS tomographic inversion of the Mahogany 2-D–4-C OBC seismic data** — Alexandre Stopin\* and Andreas Ehinger, IFP (MC 3.3)

**9:45 AM .....Depth-consistent P-P and P-S seismic image via joint velocity inversion** — Yaohui Zhang\*, Long Don Pham, and Fernando Neves, PGS Seres Division (MC 3.4)

**10:10 AM .....Imaging steep subsalt structures using converted wave paths** — Ru-Shan Wu\*, Huimin Guan, and Xian-Yun Wu, Modeling and Imaging Laboratory, Univ. of California, Santa Cruz (MC 3.5)

**10:35 AM .....Prestack depth migration-based Poisson's ratio determination using converted waves** — E. M. Menyoli\* and E. Gajewski, Univ. of Hamburg (MC 3.6)

**11 AM .....PP + PS = SS** — Vladimir Grechka\* and Ilya Tsvankin, CSM (MC 3.7)

**11:25 AM .....Parameter estimation for VTI media using PP and PS reflection data** — Ilya Tsvankin\* and Vladimir Grechka, CSM (MC 3.8)

**11:50 AM .....Joint inversion of PP- and PS-seismic data** — Helene Hafslund Veire\* and Martin Landrø, Norwegian Univ. of Science and Technology (MC 3.9)

►MIG 6 Prestack Migration Methods II

Session Chairmen: Akbar Faruq and William Schneider Jr. Room: 217A

**8:30 AM .....The advantage and significance of prestack migration** — Wen-Jing Wu\*, Geo-X Systems Ltd. (MIG 6.1)

**8:55 AM .....Split-step Pade migration** — Lianjie Huang\* and Michael C. Fehler, Los Alamos National Laboratory (MIG 6.2)

**9:20 AM .....Prestack depth imaging from topography with a Fourier method** — Yanpeng Mi\* and Gary F. Margrave, CREWES Project, Univ. of Calgary (MIG 6.3)

**9:45 AM .....Improving 3-D Kirchhoff prestack depth migration: Why not use regularization and multipathing?** — H. Calandra\*, TotalFinaElf; R. Baina, IPEDEX, Paris; C. Hanitzsch, TotalFinaElf; and J.H. Le Rousseau, CSM (MIG 6.4)

**10:10 AM .....Prestack time migration applied to model computations** — J. Schneider\*, Bureau of Applied Geophysics, Germany (MIG 6.5)

**10:35 AM .....Helical scheme for 2-D prestack migration based on double-square-root equation** — Guanquan Zhang\* and Guojian Shan, Academy of Mathematics and System Sciences, Chinese Academy of Sciences, Beijing (MIG 6.6)

**11 AM .....3-D prestack depth migration for SEG/EAEG subsalt with the SSF method** — Wensheng Zhang\* and Guanquan Zhang, Academy of Mathematics and System Sciences, Chinese Academy of Sciences, Beijing (MIG 6.7)

**11:25 AM .....Method of creating wavefields extrapolating short operator** — Li Bing\*, Liu Hong, and Li You-Ming, Institute of Geology and Geophysics, Chinese Academy of Sciences, Beijing (MIG 6.8)

►MOD 3 Modeling III

Session Chairmen: Christof Stork and TBA Room: 210

**8:30 AM .....Computer simulation for sandbox experiments** — Toshifumi Matsuoka\* and Takahiro Hasegawa, Kyoto Univ.; Yasuhiro Yamada and Tetsuya Tamagawa, JAPEx; and Yuzuru Ashida, Kyoto Univ. (MOD 3.1)

**8:55 AM .....Contribution of geostatistical velocity modelling to 3-D prestack depth migration in the Northern Pri-caspian Basin (Kazakhstan)** — Fabio Luoni\*, Ernesto Della Rossa, and Marco Peggi, ENI-Agip Division; and Tony Birse, KIO Development (MOD 3.2)

## Technical Program Oral Sessions

All Technical Program Oral Sessions will be held on Concourse 2nd Level

### Thursday Morning

►MOD 3 *Modeling III (continued)*

- 9:20 AM** ..... **Visco-elastic modeling, 3-D DMO bin simulation, and multidisciplinary 2-D/3-D OB design analyses for reservoir carbonate field in Abu Dhabi, U.A.E.** — G. Ajlani, A. Ebed, O. Suwaina, M. Al-Kaabi, and A. A. Shamsi, ADNOC, and M. Hall\*, Seismic Image Software (MOD 3.3)
- 9:45 AM** ..... **2-D finite element acoustic wave modeling including rugged topography** — Benxi Ke\*, Bo Zhao, Jiaming Cai, and Zhenping Tian, Geophysical Research Institute, BGP, CNPC (MOD 3.4)
- 10:10 AM** ..... **Seismic wave modeling in heterogeneous poroelastic media using a high-order finite-difference method** — Xiuming Wang\*, CSIRO Petroleum (MOD 3.5)
- 10:35 AM** ..... **Numerical modeling of seismic waves scattered by fractures: Application of the pseudospectrum method** — Xinwu Zeng\* and Guangying Zhang, National Univ. of Defense Technology; and Enru Liu, British Geological Survey (MOD 3.6)
- 11 AM** ..... **The technique of logic dynamic correction with model restriction** — Yongyi Zhao\*, Deng Yang, Gejun Cao, and Changsheng Fu, PetroChina E&P Research Institute (MOD 3.7)
- 11:25 AM** ..... **True amplitude migration in the presence of a statistically heterogeneous overburden** — Stefan Buske\*, Tobias Mueller, Christof Sick, Serge Shapiro, and Mi-Kyung Yoon, Freie Univ. of Berlin (MOD 3.8)

►RP 3 *Rock Physics III*

Session Chairmen: Ken Gray and Jack Dvorkin Room: 212

- 8:30 AM** ..... **Textural sorting effect on elastic velocities, Part I: Laboratory observations, rock physics models, and applications to field data** — Mario A. Gutierrez\*, Jack Dvorkin, and Amos Nur, Rock Physics Laboratory, Stanford Univ. (RP 3.1)
- 8:55 AM** ..... **Textural sorting effect on elastic velocities, Part II: Elasticity of a bimodal grain mixture** — Jack Dvorkin\* and Mario A. Gutierrez, Rock Physics Laboratory, Stanford Univ. (RP 3.2)
- 9:20 AM** ..... **Velocity measurements of sand-pack and artificially cemented sand-pack** — F. Gallice\* and John P. Castagna, School of Geology and Geophysics, Univ. of Oklahoma; and C.H. Sondergeld and C.S. Rai, School of Petroleum Engineering, Univ. of Oklahoma (RP 3.3)
- 9:45 AM** ..... **Elastic properties of glauconite and glauconitic sandstone reservoirs** — Elizabeth Diaz\*, Manika Prasad, Mario A. Gutierrez, Jack Dvorkin, and Gary Mavko, Rock Physics Laboratory, Stanford Univ. (RP 3.4)
- 10:10 AM** ..... **Laboratory acoustic reflection measurements in porous media with THF-hydrate** — Clark L. Scott\*, Univ. of California, Berkeley; James W. Rector, Idaho National Engineering and Environmental Laboratory; and Dennis C. Kunertha, David M. Weinberga, and James T. Johnson, Univ. of California, Berkeley (RP 3.5)
- 10:35 AM** ..... **Rock physics and seismic properties of sands and shales as a function of burial depth** — Per Avseth\*, Gary Mavko, Jack Dvorkin, and Tapan Mukerji, Rock Physics Laboratory, Stanford Univ. (RP 3.6)
- 11 AM** ..... **Rock physics of marls** — Jack Dvorkin\*, Stanford Univ.; Joel D. Walls, Rock Solid Images; and Gary Mavko, Stanford Univ. (RP 3.7)
- 11:25 AM** ..... **Acoustic properties of an overpressured sandstone saturated by immiscible fluids** — Claudia L. Ravazzoli\*, Univ. Nacional de La Plata; Jose M. Carcione, INOGS, Italy; Juan E. Santos, Purdue Univ. and CONICET, Argentina; and Hans B. Helle, Norsk Hydro, E&P Research Centre (RP 3.8)

►SP 4 *Signal Processing IV*

Session Chairmen: Steve Jumper and Konstantin Ofypov Room: 206

- 8:30 AM** ..... **Regularizing 3-D data using Fourier reconstruction and sparse inversion** — P.M. Zwartjes\* and C.O.H. Hindriks, Delft Univ. of Technology (SP 4.1)
- 8:55 AM** ..... **Turning-ray tomography for statics solution** — Duryodhan Epili, C. Jason Criss\*, and Dave Cunningham, I/O - Green Mountain (SP 4.2)
- 9:20 AM** ..... **Seismic data compression and its effect on the amplitudes** — Tage Røsten\* and Lasse Amundsen, Statoil Research Centre, Trondheim, Norway (SP 4.3)
- 9:45 AM** ..... **A fast sorting method for large-volume seismic data** — Yi Luo and Mohammad Huwaidi\*, Saudi Aramco; Krish Gunaratnam, WesternGeco; and Mohammed Al Faraj, Saudi Aramco (SP 4.4)
- 10:10 AM** ..... **Minimum weighted norm interpolation of seismic data with adaptive weights** — Bin Liu\* and Mauricio D. Sacchi, Dept. of Physics, Univ. of Alberta (SP 4.5)

## Technical Program Oral Sessions

All Technical Program Oral Sessions will be held on Concourse 2nd Level

### Thursday Morning

► SP 4      *Signal Processing IV (continued)*

**10:35 AM .....Spatially fixed patterns illuminate unresolved static anomalies** — Peter I. Pecholcs\*, Luke LaFreniere, and Shelton Hubbell, Saudi Aramco; and Vitaly Kozyrev, Ilya Korotkov, and Artem Zhukov, GDS-OmniQuest Int. (SP 4.6)

**11 AM.....Histogram equalization and its application in seismic exploration** — Yi Luo\*, Saudi Aramco; Krish P. Gunaratnam, WesternGeco; and Andrew H. Wu and Mohammed Alfaraj, Saudi Aramco (SP 4.7)

**11:25 AM .....Prediction of frequency dependent velocity in porous reservoirs** — Baishali Roy\*, John Hooper, John Queen, Conoco Inc.; Irina Bayuk, Yuri Kukhareenko, United Institute of the Physics of the Earth, Russian Academy of Sciences; Evgeni Chesnokov, Univ. of Oklahoma (SP4.8)

**11:50 AM .....A new type of analyzing wavelet and its applications for extraction of instantaneous spectrum bandwidth** — Jing-huai Gao\*, School of Electronic and Information Engineering; Xi'an Jiaotong Univ. of China; Ru-shan Wu, Univ. of California; Bao-jiang Wang, Institute of Exploration & Production, Changqing Co. of CNPC, China (SP4.9)