Partner CREWES at White Rose!

CREWES is looking for interested parties to help plan an ocean-bottom cable (OBC) seismic survey in the White Rose field, Jeanne d’Arc basin, offshore Newfoundland, in a co-operative venture with Memorial University’s MUSIC Project, Husky Oil and other interested industrial partners. The White Rose field has seismic imaging problems which might be better resolved via a four-component (4C) OBC approach. The major goal of this survey is to provide seismic structural and stratigraphic images that are superior to previous images obtained via 3D towed streamer. We anticipate improved P-wave images as well as augmenting converted-wave information.

This unique seismic survey would give the proposed industry-university alliance further experience in leading-edge marine acquisition technology as well as better subsurface images. Involvement with such technology would be instrumental in establishing a foundation for the development of expertise in this rapidly evolving field. Data acquired under this survey could greatly improve our understanding and the applicability of converted-wave exploration seismology in offshore regions. Finally, this survey could be instrumental for a 4C OBC time-lapse (4C-4D) study which may have significant economic impact for all industrial partners.

The proposal is available in Adobe Acrobat format at http://www.crewes.org/4cproposal. We ask those that are interested in this project, please contact crewesinfo@crewes.org.

In This Issue...

• White Rose Proposal
  - Take part in this exciting project!
• New Students
  - Welcome to a new generation of CREWES students
• New Sponsor
  - Seismic Micro-Technology joins CREWES
• New dataset
  - PanCanadian releases new Blackfoot 3C-3D dataset to CREWES
• Reviews
  - 2000 Sponsors Meeting
  - SEG/EAGE Summer Research Workshop at Boise, Idaho
• Staff Farewell
  - Brian Hoffe
• Student Graduation
  - Saul Guevara

Advanced Seismic Imaging

Calgary-based sponsors may be interested in this course to be taught by Drs. Gary Margrave and John Bancroft at the University of Calgary starting 9 Jan., 2001.

The course applies advanced physics and mathematics to real problems. A primary focus is imaging technology for deep-lying hydrocarbon reservoirs. Pre-requisites include: vector calculus, partial differential equations, and elementary properties of waves.

Emails requesting further information can be sent to Gary at gary@geo.ucalgary.ca. To register, contact Marg Graham at margg@geo.ucalgary.ca

This newsletter is available on the internet at: www.crewes.org
CREWES Welcomes New Students

We are delighted to welcome a large number of students who joined CREWES from various parts of the world last summer. In fact, we have so many students, that we are dividing their introductions over two months.


Over several summers, Pavan worked for Oil and Natural Gas Corporation of India as intern with different teams dealing with Seismic data acquisition, processing and interpretation. He has also worked as an intern with Controlled Source Seismic Project, dealing with the processing and interpretation of wide-angle refraction data at National Geophysical Research Institute (NGRI), Hyderabad India.

Pavan enjoys working at seismic data processing, and is especially interested in working on techniques to process seismic data taking anisotropy into account.

Jeff Grossman joins us from closer to home. He is a graduate of the University of Calgary, where he studied Mathematics for his B.Sc. and M.Sc. which concerned “An introduction to the spectral calculus of noncommutative geometry”.

He has begun his Ph.D. under the direction of Dr. Gary Margrave, and plans to undertake research in theoretical seismology.

Carlos Nieto studied at Universidad Central de Venezuela, graduating with Honours as a Geophysical Engineer in December 1999. Carlos received many awards during his undergraduate career, including Best Undergraduate Thesis Award PDVSA-CIED, Universidad Central de Venezuela (March, 2000).

Carlos has worked with Corpoven, PDVSA as part of a 3D seismic land crew during the summer of 1997. In 1999, Suelopetrol sponsored his undergraduate thesis: “3D seismic parameters design”.

Alexandru Vant joins us from Romania, where he obtained his B.Eng. in Geophysics from the University of Bucharest in 1999. His interests include seismic data processing and environmental geophysics. He is a Ph.D. student under the supervision of Jim Brown.

Hongbo Zhang graduated from the University of Petroleum, China in 1996 and obtained her bachelor's degree in Applied Geophysics. She has been engaged in seismic data processing, seismic data interpretation and reservoir characterization in CNOOC (China National Offshore Oil Company) for 4 years since 1996.

Hongbo begins her Masters degree studying seismic data processing and interpretation under the supervision of Gary Margrave and Jim Brown.

Ying Zou finished her B.Sc. in geophysics from The University of Science and Technology of China in 1982 and obtained her M.Sc. degree in applied geophysics from The University of Luton, UK. She has worked with both Veritas Geoservices and Kelman Seismic as a processing geophysicist in the last 7 years. Her research interests include time-lapse seismic and reservoir characterization.

We are delighted they have all chosen to work with CREWES and look forward to doing great science together.

In Brief

CREWES Receives New Blackfoot Data

CREWES has received a new dataset acquired in the Blackfoot area, southern Alberta, Canada. The new Blackfoot data is a 3C-3D seismic survey conducted in 1999 over the “Glauconite patch” of our 1995 survey. It was recorded using the I/O VectorSeis 3-C geophone, by I/O in conjunction with PanCanadian Petroleum Ltd.

We thank Bill Goodway and Dave Cooper at PanCanadian for releasing the data to us. We plan to do geostatistical integration of the 1995 and 1999 data sets to analyse qualities, repeatability, and time-lapse differences.

Watch this space for future developments!

Sponsors Meeting

CREWES hosted another comprehensive and well-attended Sponsors Meeting in November. We would like to thank all those Sponsors who managed to make it to Calgary, and especially those who took the time to respond to our questionnaire.

CREWES has always relied on its Sponsors for feedback and fine-tuning of its research. We are always open to suggestions and new ideas, and we encourage you to contact us at crewesinfo@crewes.org.

This newsletter is available on the internet at: www.crewes.org
CREWES at Boise

CREWES was well-represented at the SEG/EAGE Summer Research Workshop held at Boise, Idaho in October.

CREWES attendees of the workshop entitled, “Recent advances in shear wave technology for reservoir characterization: A new beginning?”, included Rob Stewart, Don Lawton, Larry Lines, John Bancroft, and Brian Hoffe.

Papers presented by CREWES personnel include the following:

**Title**
- Processing converted wave data using equivalent offset migration (EOM)
- Bandlimited survey design and CCP stacking of P-S data
- Some acquisition design issues for 3D P-S seismic surveys
- Simultaneous P-P and P-S inversion by weighted stacking
- Oil volume estimation using 3C-3D seismic data and well logs
- Correlating P-P and P-S seismic data via a depth imaging approach

**Authors**
- John Bancroft, Shaowu Wang (Veritas)
- Peter Cary (Sensor), Don Lawton
- Don Lawton, Brian Hoffe, Peter Cary (Sensor)
- Jeff Larsen, Gary Margrave, Rob Stewart, Xinxiang Li
- Rob Stewart, Todor Todorov (Hampson Russell)
- Brian Hoffe, Larry Lines

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**Staff Farewell - Brian Hoffe**

CREWES bade a fond farewell to Brian Hoffe last month. He is now working for Husky Oil in their heavy oils group.

Brian joined us in 1997 as Research Geophysicist from Memorial University of Newfoundland, where he gained a joint honours degree in Geology and Geophysics in 1985, and a M.Sc. in Geophysics (1996). For 10 years Brian worked at M.U.N. in many areas of reflection seismology, from high resolution 2-D to deep-crustal.

Brian quickly became a core member of the CREWES team, helping to put together many CREWES projects, while assisting students in their research efforts. His areas of interest include imaging, high resolution seismic in mining environments, and acquisition and processing of marine data from western Newfoundland. He also presented research at the CSEG and SEG.

We wish Brian all the best for the future.

**Student Graduation - Saul Guevara**

Congratulations to Saul Guevara who successfully defended his M.Sc. concerning polarisation studies of multicomponent data and concentrating on near surface-related problems in December.

Saul works for Ecopetrol in Columbia, and we wish him all the best in his future career development.