

CREWES NEWS

The Consortium for Research in Elastic Wave Exploration Seismology

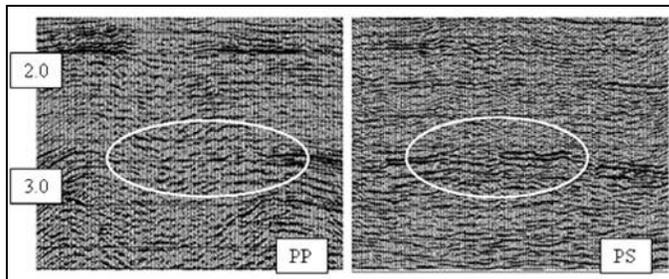
CREWES Invites Participants in MARISEIS

CREWES' longstanding interest in applying a new marine seismic surveying method to improve imaging and evaluation of hydrocarbon discoveries, such as the Valhall 4-C seismic data processed by recent Ph.D. graduate Carlos Rodriguez Saurez, is a step nearer realization with the MariSeis Project. This 4C-acquisition project is open to companies, partnerships, and other groups with interest in Canadian East Coast exploration and development. The survey is scheduled take place on the Nova Scotia shelf & Jeanne d'Arc Basin, Newfoundland during June-August, 2001.

The project entails a non-exclusive participation survey using 4C OBC systems, coordinated by the CREWES Project at the University of Calgary. The survey will consist of about twelve 2D 4C lines of approximately 15 km length each, distributed over areas of major interest in the two basins (each paying participant/operator will be able to select the location of two lines, within logistic constraints). A commercial marine seismic contractor will be shooting and processing the 4C seismic data, and presenting the final migrations and reports. CREWES and groups at other universities will conduct ongoing research with the data.

This is an exciting initiative to advance the seismic definition of offshore hydrocarbon fields. We invite those interested to attend further discussions on structuring/funding this 4C seismic program.

Our first organizational meeting was held at Husky Energy in Calgary, where considerable interest was expressed in the project. For further information, please contact Rob Stewart on (403) 220 3265 or via email: stewart@crewes.org.



Comparison of PP and PS data over the Valhall field, North Sea.
The top of the chalk reservoir is more visible on the PS section
(Rodriguez Saurez, 2000)

CREWES Welcomes New Sponsor

TALISMAN
ENERGY

CREWES is delighted to welcome Talisman Energy to its growing list of Sponsors. Talisman Energy Inc. is the largest Canadian based independent oil and gas producer, with business interests including exploration, development, production and marketing of crude oil, natural gas and natural gas liquids.

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NEWS Notes

Congratulations



We offer our congratulations to **Yanpeng Mi**, who has been awarded a CSEG scholarship for 2000/2001.

Yanpeng is studying for his Ph.D. under the supervision of Gary Margrave.

New Staff

CREWES extends a warm welcome to **Kevin Hall** who joined the staff in January.

As a Systems Geophysicist with the CREWES project, Kevin will develop and maintain a dataset library/database for data held by the CREWES project. He will also provide computer and seismic (loading, processing, interpretation and presentation) support to other researchers, and participate in various research projects.

Kevin received a B.Sc. in geophysics with a geology minor in 1992, followed by an MSc. in geophysics in 1996, both from the University of Calgary. He worked with the Lithoprobe Seismic Processing Facility (<http://www.litho.ucalgary.ca>) for over four years, primarily working with crustal seismic reflection data from the northern Canada and Ontario.

New Students

With this newsletter, we continue introducing the students who have joined us since September.

Jeff Beckett obtained his undergraduate degree in Physics at Memorial University of Newfoundland in 1997. He worked offshore for 2½ years as a 3-D marine seismic Acquisition Engineer for WesternGeco, before beginning his M.Sc. under the direction of Dr. John Bancroft, with plans to undertake research in converted wave migration.

Shauna Oppert attained a B.S. degree with honours in Geology & Geophysics from the University of Missouri-Rolla in May 2000. Her undergraduate work involved ground-penetrating radar and shallow high resolution seismic in areas including metamorphic terrain in South Africa, the New Madrid Fault Zone, and reservoir sands in Utah. Shauna has worked as a Geophysicist for Unocal and Western Geophysical in acquisition, interpretation, and reservoir analysis. She is interested in studying effects of converted waves on seismic data with Jim Brown and Don Lawton.

Brian Russell holds a B.Sc. in Geophysics from the University of Saskatchewan, Canada, and an M.Sc. in Geophysics from the University of Durham, England.

Brian began his career in 1976 at Chevron Standard in Calgary as an exploration geophysicist and also worked for Chevron Geosciences in Houston. He then worked for Teknica Resource Development as a senior explorationist, Veritas Seismic as a research and training geophysicist, and Veritas Software as a vice president of marketing and training. In 1987, Brian co-founded Hampson-Russell Software Services Ltd. along with Dan Hampson. Brian also presents courses on new geophysical technology throughout the world for various training organizations.

Brian was the 1993/94 Second Vice President of the SEG and is a past Chairman of The Leading Edge editorial board. Brian is registered as a professional geophysicist in the province of Alberta. He was the Technical Co-Chairman for the 1996 SEG Convention, and was the SEG President for 1998.

Ian Watson graduated from Queen's University in 1995 in Geological Engineering with a Geophysics option. He has worked at Imperial Oil Resources for over five years, and is now taking educational leave from the fall of 2000 to pursue a full-time Master's thesis on Co-operative inversion of heavy oil reservoirs with CREWES. Dr. Larry Lines is Ian's supervisor. Ian was awarded an NSERC Industrial Postgraduate Scholarship in October 2000 and is being co-sponsored by Imperial Oil Resources. He is a member of the CSEG, SEG and APEGGA.

Sponsors Meeting 2001

CREWES is pleased to announce the dates for the Sponsors Meeting this year. It will be held 18-20 November.

This year, we are returning to the Delta Lodge at Kananaskis, in the Rocky Mountain foothills. However, as in 2000, we will be holding several complimentary workshops in Calgary.

Watch this space for further details!



Jeff Beckett



Shauna Oppert



Brian Russell



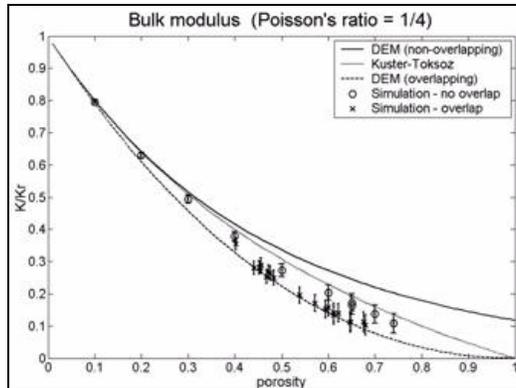
Ian Watson

Simulation of the Bulk Modulus of Porous Media

A fundamental problem in processing data on reservoirs is understanding how elastic properties vary with porosity, as such information provides input to the Biot-Gassmann theories.

A variety of theories have been developed to address this problem, such as the Kuster-Toksöz (KT) model, and the differential effective medium (DEM) theory for non-overlapping pores (Zimmerman, 1984) or overlapping pores (Norris, 1985). The simplest form of these theories is obtained for the case of spherical pores in isotropic media. Comparison of various theories against experiment can be found, for instance, in Berge et al. (1993) and Zimmerman (1991). Such results are useful, but suffer from the drawback that one is dealing with both errors from theoretical approximations as well as errors from the deviation of real substances from ideal pore models.

Simulation is very helpful in this regard, as it allows one to assess theoretical results directly against pseudo-experimental data for the idealized pore models, with only well-controlled errors resulting from the simulation.



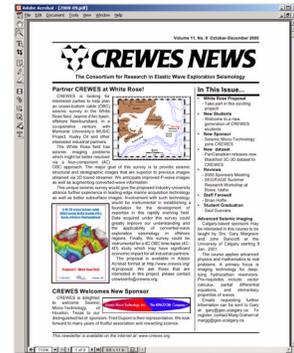
The accompanying figure (right) is an example of an assessment of theory analogous to the above references (Berge, 1993; Zimmerman, 1991), using simulation data instead of experimental data.

For further information, please contact Chuck Ursenbach at ursenbac@crewes.ca.

CREWES NEWS by email

A reminder that CREWES NEWS is available by email. We provide the newsletter as a simple email attachment in Adobe Acrobat format, with full-colour, high-resolution images, all fully printable if required.

Requests for CREWES NEWS by email can be made to crewesinfo@crewes.org



Revised Contact Details

Readers will note that with this issue, we are giving staff and student's email addresses instead of telephone numbers. All CREWES usernames are attached to the @crewes.org domain.

We hope this mode of contact will prove more useful.

Making Contact...

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