

SUMMARY

The Consortium for Research in Elastic Wave Exploration Seismology (CREWES) invites organizations with an interest in exploration geophysics to participate in a one-year (renewable) program of geophysical research. There have been exciting new scientific developments in the past year, notably in the areas of accelerometer analysis, land streamer data acquisition, continuous seismic monitoring, anisotropy analysis, depth imaging, 3C-3D surface seismic cases, geostatistical integration, and VSP analysis. These developments are being assessed in collaboration with the industry. The project personnel are enthusiastically continuing their research efforts in these and other areas.

The overall objective of the Project is to work with industry sponsors to conduct advanced geophysical research and education in areas crucial to resource exploration and development. We are focused on multicomponent and 3-D data acquisition, new and improved processing algorithms, and interpretational techniques aimed at enhanced 3-D petrophysical imaging.

Seven faculty members in the Department of Geology and Geophysics at the University of Calgary are working directly on the Project with their associated graduate students and post-doctoral fellows. Eleven staff members provide additional research expertise, and technical and administrative support. An Industrial Advisory Board provides strategic and technical counsel to the Project.

CREWES communicates research results to its sponsors through an active website, an annual Research Report, and a yearly Sponsors Meeting where the achievements of the preceding twelve months are presented. These and other benefits of sponsorship are included in the following list.

BENEFITS OF SPONSORSHIP

Each sponsor of CREWES:

- i) has immediate access to the CREWES Research Collection (948 research reports and 92 student theses), software, and CREWES News, through the web site (www.crewes.org)
- ii) receives the yearly Research Report (approximately 70 chapters) on CREWES research activities, and the bi-monthly CREWES Newsletter;
- iii) receives releases of software developed by the Project;
- iv) has access to detailed multicomponent field surveys acquired by the Project;
- v) has access to physical modelling data (acoustic and elastic);
- vi) is invited to continuing education seminars and courses on areas of recent technical development;
- vii) is invited to the annual Sponsors Meeting where CREWES-generated research results are presented;
- viii) has access to graduate-student theses, presentation abstracts, and publication reprints;

- ix) receives copies of lecture notes and CREWES-authored SEG publications, as well as Powerpoint presentations;
- x) has the opportunity to develop joint projects of mutual interest; and
- xi) has a chance to become acquainted with graduate students as potential future employees.

FINANCING

We have received a one-year renewal from our existing sponsors and seek participation from new sponsors. Sponsorship will continue on an annual basis, with commitment for one year at a time. New sponsors receive access to previous research reports and software releases on the CREWES website.

Sponsor Fees 2008

- **Main:** \$45,000 CAD - companies with annual gross revenue over \$50 million
- **Intermediate:** \$35,000 CAD - companies with annual gross revenue between \$1 million and \$50 million*
- **Entry:** \$15,000 CAD - companies with annual gross revenue under \$1 million*

*Conditions

- Intermediate: Delay of receiving data of one year from date of the Sponsors Meeting in the year of joining the Project, and one year from release date for subsequent releases of data
- Entry: Delay on receiving data as for Intermediate level above, and delay of receiving software for one year from date of the Sponsors Meeting in the year of joining. A company is limited to three years at the entry level.
- All sponsors, regardless of level, have equal representation and are eligible to have a delegate on the CREWES Industrial Advisory Board.

Current CREWES Industry Sponsors

ARAM Systems Ltd.	Marathon Oil Corporation
BHP Billiton Petroleum	Nexen Inc.
BP p.l.c.	Oil Search (PNG) Limited
CGGVeritas	Penn West Energy Trust
Chevron Corporation	Petrobras
ConocoPhillips	Petro-Canada
Devon Energy Corp.	Saudi Aramco
EnCana Corporation	Seismic Micro-Technology, Inc.
Eni S.p.A.	Sensor Geophysical Ltd.
Exxon Mobil Corporation	Shell Canada Limited
Gaz de France	StatoilHydro ASA
Geophysical Exploration & Development Corporation	Talisman Energy Inc.
Husky Energy Inc.	Transform Software and Services, Inc.
ION Geophysical Corporation	WesternGeco
Landmark Graphics Corporation	

Other Funding

Since 1994, CREWES has been successful in obtaining Natural Sciences and Engineering Research Council (NSERC) funding to match a portion of the industry contributions. The support received from NSERC is equal to approximately thirty percent of the total Project funding. The NSERC funds are also used to conduct advanced applied geophysical research, and support the CREWES goals. In May of 2005, CREWES received an NSERC Collaborative Research and Development grant in the amount of \$497,000 per year for four years.

RESEARCH DIRECTIONS

The table of contents of the 2007 CREWES Research Report, attached, indicates the current scope of research being conducted by project personnel.

PERSONNEL

CREWES is led by the following faculty members of the Department of Geoscience at the University of Calgary:

- Director: Dr. Gary Margrave
- Associate Directors: Drs. Don Lawton, Robert Ferguson, David Eaton, Robert Stewart, and Laurence Lines
- Associated Faculty: Dr. John Bancroft.

These scientists, with input from representatives of sponsor companies, set the scientific direction of the project that, in turn, determines its budget and organization. This direction and management is in accordance with operations of the Department of Geoscience under its head Dr. David Eaton, and the rules and provisions of the University of Calgary.

A number of graduate students are supervised and supported by the Project, either fully or in part. The students' research projects are compatible with the research directions of CREWES and the results of their research are shared with sponsors.

Graduate Students (Degree Program)

Julie Aitken (M.Sc.)	Zaiming Jiang (Ph.D.)
Alejandro Alcudia (M.Sc.)	Yongwang Ma (Ph.D.)
Khaled Al Dulaijan (M.Sc.)	Jason McCrank (M.Sc.)
Matthew Allen (M.Sc.)	John Millar (Ph.D.)
Abdullah Alshuhail (Ph.D.)	Sookyung Miong (M.Sc.)
Salman Bubshait (M.Sc.)	Carlos Montaña (Ph.D.)
Peng Cheng (Ph.D.)	Lauren Ostridge (M.Sc.)
Joanna Cooper (M.Sc.)	Maria Quijada (M.Sc.)
Pavan Elapavuluri (Ph.D.)	Taher Sodagar (Ph.D.)
Hong Feng (M.Sc.)	Gabriela Suarez (M.Sc.)
Saul Guevara (Ph.D.)	Roxana Varga (M.Sc.)
Hussain Hammad (M.Sc.)	Ben Wards (Ph.D.)
Lejia Han (M.Sc.)	Richard Xu (Ph.D.)
Chad Hogan (Ph.D.)	Zimin Zhang (Ph.D.)

Staff members supported by the project conduct research, and provide technical and administrative support.

Staff Members

Laura Baird
Administrator

Kayla Bonham
HPC Programmer

Pat Daley, Ph.D.
Research Geoscientist

Louise Forgues
Administrator

Eric Gallant
Research Technologist

Arnim Haase, Ph.D.
Research Geophysicist

Kevin Hall, M.Sc., P. Geoph.
Systems Manager

Dave Henley, M.Sc.
Research Geophysicist

Han-Xing Lu, M.Sc.
Applications Geoscientist

Rolf Maier, Ph.D.
Systems Geoscientist

Peter Manning, Ph.D.
Post Doctoral Fellow

Joe Wong, Ph.D.
Research Geophysicist

2008 CREWES SPONSORS MEETING

November 19 – 21, 2008

Radisson Hotel – Canmore, Alberta, Canada