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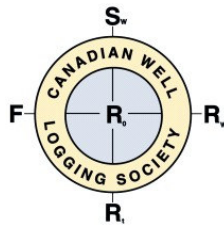
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Please see the CWLS Website at
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License for the recently published
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Notes: Please forward this notice
to any potentially interested co-
workers. Thank you.



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Wednesday, June 11th, 2008 CWLS TECHNICAL LUNCHEON PRESENTATION FAIRMONT PALLISER HOTEL 133, 9TH AVE. S.W. CALGARY

TIME: 12:00 PM (COCKTAILS AT 11:30 AM)

RESERVATIONS BY: Friday, June 6th, 2008 (NOON) - CALL 269-9366 TO CONFIRM A SEAT

COST: MEMBERS RESERVED MEAL: \$35.00; NON-MEMBERS RESERVED MEAL: \$40.00
(SPECIAL NEEDS MEALS AVAILABLE WITH ADVANCED BOOKING ONLY)

TOPIC: The Future of Rock Physics: Imaging and Computing

SPEAKER: Dr. Jack Dvorkin, Rock Physics Science Advisor, Ingrain Inc.

ABSTRACT:

Physical measurements of rock properties on cores, plugs, and cuttings are cumbersome, and often impossible to do or do well. They are also very sparse. However what will be needed in the future - for higher resolution seismic interpretation, reservoir characterization, reservoir simulations and production management - are properties not for 10's of samples but thousands or tens of thousands samples. To achieve such massive data sets we are developing a computational - as opposed to laboratory - rock physics methodology. This methodology consists of obtaining 2D & 3D very high resolution (< micron) and very fast (minutes) images of the pore spaces of cores, plugs, or cuttings. The images are used 'as is' to accurately delineate the pore space and then obtain bulk properties very fast (minutes) using codes placed on parallel computers that are accessed via the Internet. Properties obtained include porosity, permeability, capillary pressure, relative perm, electrical conductivity, strength, elastic constants, seismic velocities, grain and pore size distributions, and NMR response. Rock types are sands, carbonates, heavy oil/tar sands, tight gas sands, and shales. Samples can be cores, plugs, and cuttings. From the images we can also computationally rapidly simulate complex pore scale processes such as fine migration, formation damage, compaction associated with production, CO₂, steam, and water injection, diagenetic processes, and chemical reactions in the pore space. Future applications of this technology are: obtaining permeability logs from cuttings at the well head in quasi real time, rigorously link logs and rock properties, link log and rock properties to seismic to look away from the borehole (drill virtual wells). Ultimately this technology should be able to massively supplement most routine and special core analysis as practiced today.

BIOGRAPHY

Dr. Jack Dvorkin was instrumental in developing Ingrain's technology through his pioneering research on the interrelations among rock properties, conducted with Dr. Amos Nur at the Stanford University Rock Physics and Borehole Geophysics Project. He continues to advise Ingrain from his position at Stanford as a senior research scientist in rock physics where his current research examines the quantitative virtuality of rocks. Dr. Dvorkin, with Stanford since 1989, has published more than 100 journal articles, two books and holds two U.S. patents. He is a member of the Society of Exploration Geophysicists, the American Geophysical Union, the Society of Petroleum Engineers and the American Association of Petroleum Geologists, among others.

Dr. Dvorkin holds an M.S. and Ph.D. in continuum mechanics from Moscow University.