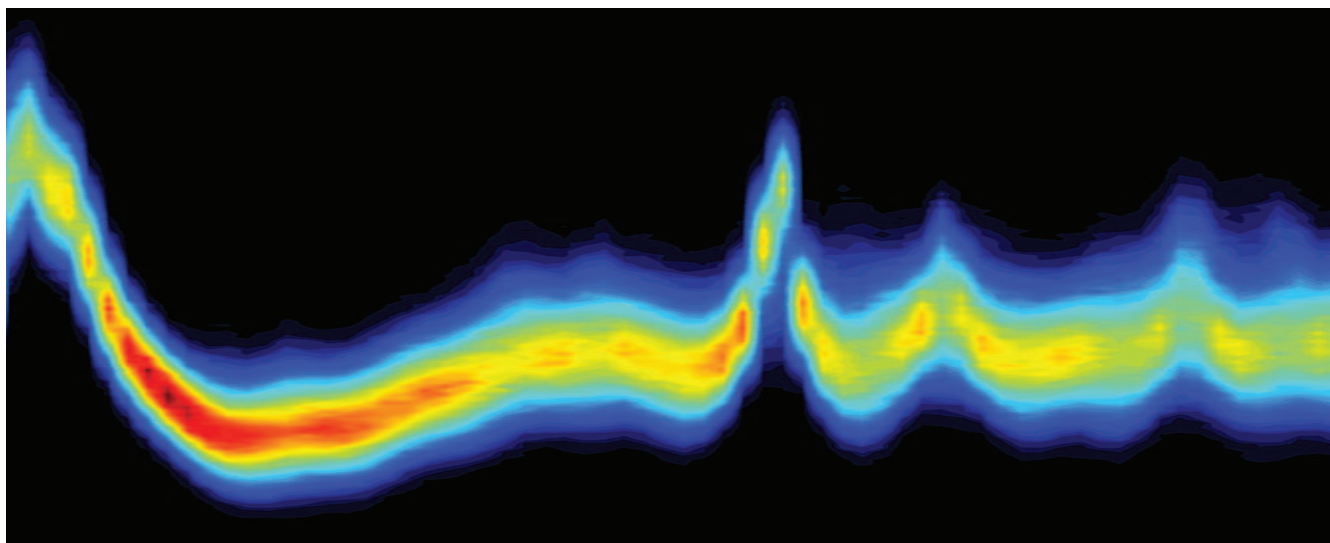


Spectraseis presents at SEG Houston 2009

# Low Frequency (LF) seismic: The future of geophysics delivered today



Spectraseis' LF seismic technology lowers your exploration and development costs, reduces the risk of dry wells, speeds up the decision-making process and reduces your HSE exposure.

From frontier exploration to field extensions, prospect de-risking and reservoir property mapping, Spectraseis is

working with major E&P operators from around the world, integrating new LF seismic technology to detect and better characterize hydrocarbon reservoirs.

[www.spectraseis.com](http://www.spectraseis.com)

**Welcome to the Spectraseis booth #718 at SEG in Houston.  
Come and learn how LF technology can help you.**

Please check our technical program on the next page and contact us for appointments at SEG.

Seeking New Depths  
**SEG HOUSTON  
2009**

SOCIETY OF EXPLORATION GEOPHYSICISTS  
INTERNATIONAL EXPOSITION AND 79TH ANNUAL MEETING  
GEORGE R. BROWN CONVENTION CENTER  
25-30 OCTOBER 2009 ★ HOUSTON, TEXAS USA

[www.seg.org](http://www.seg.org)



# 8 opportunities to learn about Low Frequency Seismic

Visit Spectraseis at SEG booth #718 and attend the following presentations in the SEG technical program.

For appointments at SEG please contact:

Brice Bouffard, brice.bouffard@spectraseis.com, Phone +41 43 500 5849

Andrew Poon, andrew.poon@spectraseis.com, Phone +1 713-821-1544

<b>Monday, October 26, 2009</b>		
	Session	Presentation
2:45 PM Room: 351 CF	MC 1 Multicomponent Seismic-Analysis and Interpretation	<i>Elastic time-reverse modeling imaging conditions.</i> An examination of how Spectraseis, through its Time Reverse Modelling (TRM) algorithm, is using the elastic propagation, wave field decomposition, and correlation imaging (or migration) to image source locations and create a depth image of a hydrocarbon reservoir. <b>Brad Artman</b> , Igor Podladtchikov and Alex Goertz, Spectraseis (MC 1.4)
<b>Wednesday, October 28, 2009</b>		
	Session	Presentation
9:20 AM Room: 342 CF	RP 4 Field Scale Fracture and Anisotropy Modeling	<i>Frequency-dependent reflections from a layer with attenuation caused by interlayer flow.</i> Attenuation, combined with tuning in layers, can generate reflection coefficients with significant amplitude and frequency dependence. The results can be applied to hydrocarbon reservoirs with high attenuation but low acoustic impedance contrast to the surrounding rock. <b>Beatriz Quintal</b> and Stefan Schmalholz, ETH Zurich (RP 4.3)
10:10 AM Room: 360 BCEF	PSC 1 Location of Microseismic Events	<i>Conceptual model of hydrocarbon reservoir related microtremors.</i> The development of a rock physical model that proposes an explanation for the origin of hydrocarbon reservoir related tremors, found in LF seismic. Results indicate that the observed micro tremor attributes above reservoirs are consistent with this model. <b>Erik Saenger</b> , ETH Zurich/Spectraseis; Marc-André Lambert and Stefan Schmalholz, ETH Zurich (PSC 1.5)
<b>Thursday, October 29, 2009</b>		
	Session	Presentation
8:30 AM Room: 342 AD	SM 2 Synthetic Applications	<i>Using spectral attributes to detect seismic tremor sources – A synthetic study.</i> A new method to detect subsurface seismic sources, where spectral attributes of the recorded seismic wave-field at low frequencies, are used to map the surface projection of the sources. Marc-André Lambert and Stefan Schmalholz, ETH Zurich; <b>Erik Saenger</b> , ETH Zurich/Spectraseis (SM 2.1)
9:45 AM Room: 360 AD	PSC 3 Borehole and Surface Microseismic Event Observations	<i>Bayesian DHI using passive seismic low frequency data.</i> A statistical procedure for producing a Direct Hydrocarbon Indicator with LF data, derived from classical Bayesian methods. The approach utilizes LF attributes to map the probability of hydrocarbons in the subsurface. <b>Nima Riahi</b> , Mike Kelly, Martine Ruiz, and Weiwei Yang, Spectraseis (PSC 3.4)
10:35 AM Room: 360 AD	PSC 3 Borehole and Surface Microseismic Event Observations	<i>Extracting subsurface information from ambient seismic noise – ex. Germany.</i> A case study demonstrating how noise can be reduced or eliminated from LF data. Despite contamination by human noise, a statistically significant variation of V/H (ratio of vertical to horizontal spectral amplitude) was observed and used for subsurface characterization. Barbara Schechinger, <b>Alex Goertz</b> , and Brad Artman, Spectraseis; Marc-Andre Lambert, ETH Zurich; Matthias Koerbe and Paul Krajewski, GDF Suez (PSC 3.6)
10:35 AM Room: 342 CF	RP 6 Reservoir Characterization from Rock Physics Perspective	<i>Computational determination of effective properties of rocks using 3D tomographic images.</i> The generation of numerical estimations of the effective rock properties in the reservoir, using a 3D tomographic image. <b>Erik Saenger</b> , ETH Zurich/Spectraseis; Frieder Enzmann, U Mainz; Youngseuk Keehm, Kongju Nat'l U (RP 6.6)