

2001 SEG/EAGE DISC Schedule

DATE	HOST CITY	SPONSOR
March 22	Houston	SEG/Geophysical Society of Houston
April 3	Midland	SEG/Permian Basin Geophysical Society
April 9	Denver	SEG/Denver Geophysical Society
April 11	Calgary	Canadian SEG
May 15	Lafayette	SEG/Southwest Louisiana Geophysical Society
May 17	Villahermosa	SEG/Asociación Mexicana de Geofísicos de Exploración
June 1	Tokyo	SEG Japan
June 4-5	Beijing	SEG Beijing
June 11	Amsterdam	EAGE Annual Conference and Exhibition
September 7	San Antonio	SEG International Exposition and Annual Meeting
September 19	London	EAGE/Imperial College
September 21	Stavanger	EAGE/Statoil
September 25	Baku	EAGE/Azerbaijan Society of Petroleum Geologists
October 4	Dallas	SEG/Dallas Geophysical Society
October 10	Drakensburg	EAGE/SAGA
October 15	Dhahran	EAGE/Dhahran Geoscience Society
October 17	Paris	EAGE/IFP School
October 19	Milan	EAGE/Agip
October 25	Caracas	SEG/Sociedad Venezolana de Ingenieros Geofísicos
October 28	Salvador	SEG/Sociedade Brasileira de Geofísica
October 31	Buenos Aires	SEG/Asociación Argentina de Geólogos y Geofísicos Petroleros

With special thanks to our sponsors:



EAGE

EUROPEAN
ASSOCIATION OF
GEOSCIENTISTS &
ENGINEERS

2001 SEG/EAGE Distinguished Instructor Short Course

Seismic Amplitude Interpretation

Fred J. Hilterman

Presented by
Society of Exploration Geophysicists
Continuing Education Committee
Society of Exploration Geophysicists Foundation
European Association of Geoscientists and Engineers



Fred J. Hilterman received a geophysical engineering degree and Ph.D. in geophysics from the Colorado School of Mines. During his tenure with Mobil (1963-1973), his assignments ranged from field work and prospect evaluation to Activity Leader at the Field Research Laboratory. In 1973, he joined the University of Houston (UH) as a Professor of Geophysics. While at UH, Fred co-founded the Seismic Acoustics Laboratory (SAL) and was Principal Investigator until 1981. At that time, he co-founded Geophysical Development Corporation where he is currently Vice-President of Development. Fred also lectures at UH as a Distinguished Research Professor.

Fred is a long-standing member of SEG, EAGE, and AAPG, with honorary memberships in SEG and GSH. His services to the societies have included Associate Editor of *GEOPHYSICS*, Chairman of *TLE* Editorial Board, SEG and AAPG Distinguished Lecturer, and both Technical and General Chairman of SEG Annual Meetings. Fred received the SEG Best Paper Award, Best Presentation Award, and Virgil Kauffman Gold Medal. He has been an instructor for SEG and AAPG Continuing Education courses since the 1970s. Fred was the 1996-97 SEG President.

Fred has two children and six grandchildren and enjoys time spent with his wife, Kathi, at their cattle ranch (Belly Acres Ranch) near Houston.

Course Description

During the last 30 years, seismic interpreters have routinely applied bright spot and AVO technology for recognizing prospects and predicting lithology. New amplitude attributes were added to this technology as new exploration problems were defined. R&D continues in the field of amplitude interpretation, especially as E&P costs escalate as more severe environments are explored, such as the ultra-deepwater plays. With the high interest in reducing exploration risk, this course addresses the methodology of an amplitude interpretation and the subsequent benefits and limitations that one can expect in various rock-property settings.

The first part of the course reviews relationships between rock properties and geophysical observations. Practical problems illustrate the assumptions and limitations of commonly used empirical transforms. In addition, step-by-step procedures for conducting and verifying fluid-substitution techniques are presented.

The second part identifies the components of the seismic response that are best suited for differentiating pore-fluid from lithologic effects. Field examples emphasize what combination of seismic signatures should be expected for different rock-property environments.

The third part provides rules of thumb for predicting AVO responses and interpreting lithology from observed responses. These rules of thumb help select the best seismic attribute for calibrating amplitude to rock properties in different areas. A case history illustrates the rock-property calibrations that are needed.

The last part examines the numerous amplitude attributes that can be extracted from seismic to quantify an interpretation. The benefits and limitations of these attributes in soft to hard rock environments are discussed first with model data and then with case histories.

WHO SHOULD ATTEND?

This is a good opportunity for those interested in solving practical problems involving seismic amplitude interpretation. An excellent reference book is provided to the participants.