



San Joaquin Geological Society

Date: **Tuesday, March 10th, 2015**

Time: 6:00 PM Social Hour
7:00 PM Dinner
8:00 PM Lecture

Place: American Legion
2020 H St. Bakersfield, CA 93301

PSAAPG Members & Mesozoics
\$25 w/ reservation
\$30 without reservation
Non PSAAPG Members
\$30 w/ reservation

Full-time Students with ID:
Free - Courtesy of Chevron &
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*** RSVP ***

By: Friday, March 6th, 2015

PayPal on the Website:
<http://www.SanJoaquinGeologicalSociety.org/>

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A Dynamic Geomagnetic Field Revealed From Coring a Constellation of Paleomagnetic Stations in the Ocean Basins

Dr. Gary Acton

*Sam Houston State University, Huntsville, TX
2014-2015 Distinguished Lecturer*

ABSTRACT

Similar to an array of geomagnetic stations that record variations in the direction and strength of the geomagnetic field over modern times, marine sediments record the ancient geomagnetic field. The resolution of that record is largely controlled by the sedimentation rate, in which thick sedimentary sections deposited at high sedimentation rates give long continuous records that can reveal both long and very short-term changes in the field. Ocean drilling has selectively targeted these sedimentary sections at many sites around the globe, providing essentially a constellation of paleomagnetic stations. Rather than a fairly stable field punctuated only by the randomly occurring geomagnetic reversals, the paleomagnetic data from these sites show continual dynamic variations in both the direction and magnitude of the geomagnetic field. These are accentuated by even more complex changes during reversals and numerous geomagnetic excursions, which may not occur randomly in time and which reveal clues about deep Earth processes.

BIOGRAPHY

Dr. Acton has sailed as a paleomagnetist, stratigraphic correlator, and staff scientist on 10 ocean drilling expeditions that have cored in diverse settings from Antarctica to the Arctic and from the margins of Spain and Portugal to the Japan Trench. He is a professor at Sam Houston State University. His Ph.D. is from Northwestern University.



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