



# San Joaquin Geological Society

**Date:** Tuesday, March 10<sup>th</sup>, 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 &  
California Resources Corp.

**\* RSVP \***

**By: Friday, March 6<sup>th</sup>, 2015**

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

or Reply to this email  
or by phone 428-8528

## **SJGS 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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