



PACIFIC  
SECTION

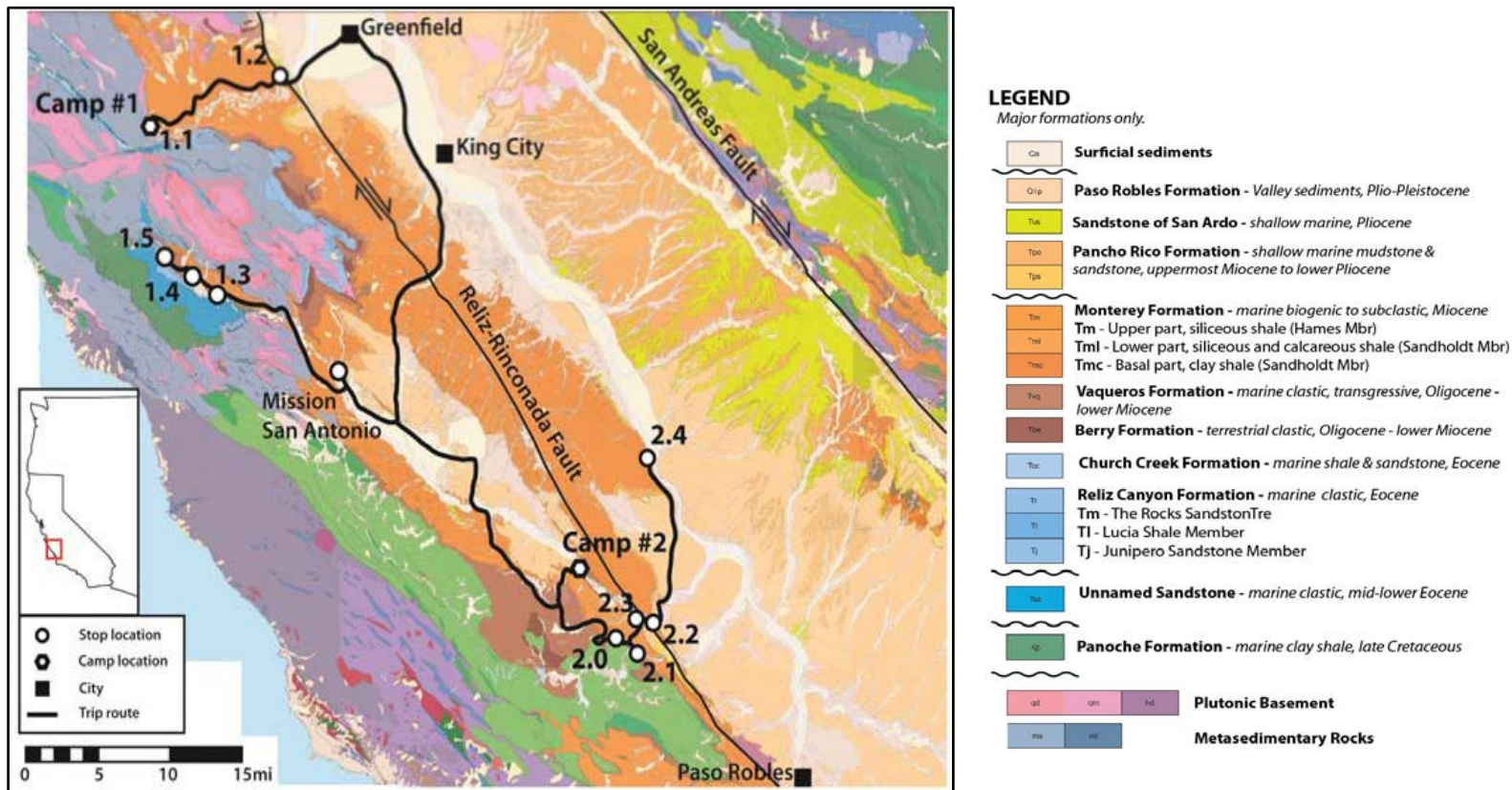
# 2012 FALL FIELD TRIP ISSUE

## *Pacific Sedimentologist*

Newsletter of Pacific Section, SEPM (Society for Sedimentary Geology)

volume 84, issue 2

October, 2012



**GEOLOGIC MAP** of area covered by 2012 Fall Field Trip, "Salinas Basin Petroleum System And Its Outcrop Expression"; Map courtesy of Tess Menotti and Steve Graham, compiled from multiple 7.5-minute geologic quadrangle maps prepared by T.W. Dibblee, reproduced via the permission of the Dibblee Geologic Foundation.



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***REMINDER:** In an effort to "Go Green" and remain cost-effective, the PS-SEPM Newsletter is now issued in electronic version ONLY. However, members without Email access may still obtain hard copies for an extra fee....[Please Refer To Membership Form inside.](#)*

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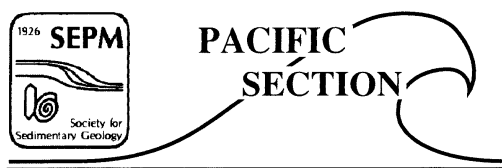
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**[See also: OUR PS-SEPM web site: www.pacificsectionsepm.org](http://www.pacificsectionsepm.org)**



## *PS-SEPM Incoming President's Message*

Dear Members,

I am looking forward to serving as President of Pacific Section-SEPM for the next year. I will acknowledge in advance the help that I have already received from the permanent officers of the organization, Adam Woods, Mario Caputo, Wayne Henderson, Eric Hendrix, and Gene Fritsche that I know will continue in the future. Also, former President, Bonnie Bloeser already has made several helpful suggestions. I can only hope to be as effective in leading the organization as she has been.

Next year promises to be an exciting year for PS-SEPM. We are starting our activities with the Fall Field Trip lead by Tess Menotti and Steve Graham of Stanford University. The trip will give us an outcrop view of the geologic factors that influence the oil production in the Salinas Valley, concluding with a visit to the San Ardo oil field which Aera Energy has kindly made available to us. In 2013, a very exciting field trip to the islands of Hawaii and Kauai will be lead by Chuck Siemers-Blay, and will compare modern volcanic sand and carbonate beaches on the Big Island, with beaches of similar origin that formed approximately five million years ago on the island of Kauai. The final details of this trip are contained in this newsletter. And, more field trips are in the planning for fall of 2013, and future years. Another major event in the coming year will be the joint Pacific Section AAPG and SEPM convention in Monterey Bay from April 19 to 25, 2013. Plans for that meeting are still being drawn, but several exciting field trips and short courses will be offered, in addition to the technical sessions. More information on this meeting will be forthcoming. I ask all of you to encourage your colleagues and students to attend these field trips and meetings. I especially encourage professors to bring students on the field trips and urge your research students to present posters at the Monterey Bay meeting, which will be considered for the PS-SEPM Cooper and Ingersoll awards.

In short, I am honored to serve as your incoming President, and will do everything that I can do to ensure that the exciting activities of the organization for professionals and students alike continue at the high level to which we are accustomed. Please feel free to contact me with suggestions, comments, proposed field trips, or any other input that you choose to make. When I was teaching at Sonoma State University for 38 years, some of my fondest memories were my participation with my students in many PS-SEPM fall field trips, and I hope that this tradition will continue among my colleagues and other members of the society.

**Tom Anderson**  
***Emeritus Professor, Sonoma State University***  
***Adjunct Professor, University of Nevada, Reno***  
***PS-SEPM President-Elect 2013***

## *PS-SEPM 2012 Fall Field Trip #1*

### *Salinas Basin Petroleum System of Central California and Its Outcrop Expression*

*October 19-21, 2012*

*Trip Leaders: Tess Menotti and Stephan Graham, Department of  
Geological and Environmental Sciences, Stanford University*

### **Field Trip Overview**

The Salinas Valley and Santa Lucia Range of central California provide a unique opportunity to observe all elements of the Salinas Basin petroleum system in outcrop. Neogene uplift of the sedimentary fill along the basin margins has exposed the critical components of a petroleum system that are responsible for the formation of the half-billion-barrel San Ardo oil field. That the petroleum system components are identifiable here in outcrop is significant, because this affords the opportunity to understanding the evolution of the Salinas Basin oil fields, to potentially predict undiscovered petroleum accumulations, and to identify distribution limits of known fields.

A petroleum system comprises four elements and two sets of processes, which are requirements for any oil or natural gas accumulation to form. The four petroleum system elements are: (1) hydrocarbon source rock, (2) reservoir rock, (3) seal rock, and (4) overburden. These elements are influenced by two sets of processes: (1) hydrocarbon generation, migration, and accumulation, and (2) trapping mechanisms to ultimately form the accumulation. Critical to the success of a petroleum system is the sequence in which these elements form and in which the processes occur. For example, reservoir rock must form in time for oil to migrate into it, and the trap rock must develop prior to migration of oil to ensure accumulation. This field trip differs from other recent Pacific Section SEPM Fall Field Trips, in that it emphasizes a holistic view of all elements of a petroleum system, rather than focusing on a single element, such as the sedimentary character of a particular reservoir unit.

The petroleum system elements of the Salinas Basin are enclosed nearly entirely within the Miocene Monterey Formation. The western side of the basin reveals exposures of the organic-rich source rock of the Sandholdt Member of the Monterey, as well as the thick siliceous Hames Member of the Monterey Formation. It is both the appreciable thickness of the siliceous part of the Monterey Formation and the tectonically-induced structural burial that constitutes the overburden element of the petroleum system. About 3 km (~2 mi) of overburden in some places has led to sufficient maturation of organic matter within the Sandholdt Member as source rock to have generated oil. Reservoir rocks and seal rocks are also contained within the upper Monterey Formation, although these occur in the subsurface on the eastern side of the basin. Cores through these reservoir and seal rocks from the San Ardo oil field provide insight into these petroleum system components. There are few sedimentary units with matrix permeability levels that are conducive to hydrocarbon migration in this basin. However, highly fractured chert facies within the Hames Member of the Monterey and transpressional faults provide alternative



pathways through which petroleum migrates from source rock to reservoir. Although the Salinas Basin system is contained primarily within petroleum-rich Miocene and younger strata, the petroleum-poor Cretaceous through Oligocene strata exposed along the far western margin still serve as outcrop analogs to reservoir facies in other California basins.

This 2-day Pacific Section SEPM Fall Field Trip will sequentially investigate key elements of the Salinas Basin petroleum system. The Saturday segment, on October 20<sup>th</sup>, will highlight source-rock exposures in the northern part of the basin. The trip progresses southward on Saturday afternoon and Sunday, October 21<sup>st</sup>, to explore regional and localized structural features, exposures of sedimentary rock as basin fill, and “dead oil” that had migrated and decayed to tar through biodegradation. The final portion of the trip will tie in petroleum-system characteristics viewed on Saturday as they apply to the San Ardo oil field.

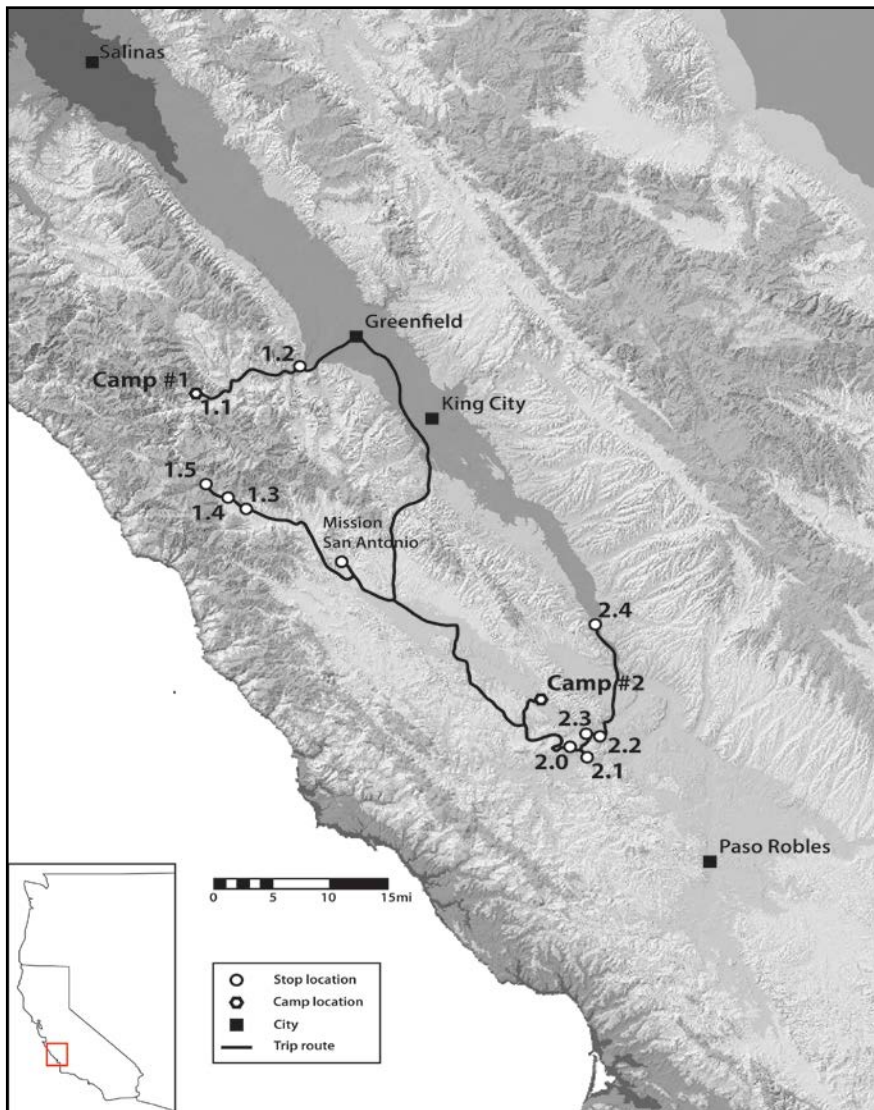


***Eocene deep-marine clastic The Rocks Member of the Reliz Canyon Formation, exposed west of Salinas Valley at Reliz Canyon, Santa Lucia Range; photo courtesy of T. Menotti.***

## *Petroleum System Elements in Outcrop*

### **Main Themes:**

- Identification of petroleum system elements of the Salinas Basin in outcrop.
- The role of the Monterey Formation as a petroleum source rock, migration conduit, reservoir, and seal.
- Importance of relative timing of key petroleum system components, including Neogene tectonism.
- Coarse clastic deposits in Paleogene basin fill, which has implications for paleogeographic reconstructions.
- Using outcrops as reservoir analogs for other California basins.
- Linking outcrops to subsurface models of a petroleum system by examining cores from reservoirs in the San Ardo Oil Field, and discussing numerical modeling of a basin and petroleum system.



Location map of routes, field stops, essential geographic localities, and campgrounds for the Salinas Basin field trip.

## *Field Trip Summary Itinerary*

### **Friday October 19**

#### **PRE-FIELD TRIP**

Arroyo Seco Campground – Los Padres National Forest.  
*Attendees arrive Friday evening; camp overnight.*

### **Day 1: Saturday October 20 (begin 8 a.m.)**

- CAMP #1 Arroyo Seco Campground – Los Padres National Forest.  
*Please break down camp and load equipment into vehicles. We will camp at a second campground in the south end of the basin for Saturday night.*
- STOP 1.1 Introductory discussions, logistics, and overview.  
Sandholdt Member, Monterey Formation at Arroyo Seco Campground.
- STOP 1.2 Reliz-Rinconada Fault on Elm Avenue, near bridge over the Arroyo Seco.
- LUNCH Picnic lunch at Mission San Antonio.
- STOP 1.3 Wagon Caves Rock, Paleocene basin fill.
- STOP 1.4 Overlook of Paleocene through Miocene stratigraphic succession.
- STOP 1.5 Stratigraphy of Oligocene Vaqueros Formation.
- CAMP #2 Lake San Antonio Resort Campground.  
*Set up camp, BBQ dinner at 6:00 p.m., and PS-SEPM awards.*

### **Day 2: Sunday October 21**

- CAMP #2 Lake San Antonio Resort Campground.  
*Please break down camp and load equipment into vehicles.*
- STOP 2.0 View of Monterey Formation and Santa Lucia Mountains on Interlake Road  
(optional)
- STOP 2.1 Folded Monterey Formation near Lake Nacimiento dam.
- STOP 2.2 Tar sand outcrop in Paso Robles Formation on County Road G19.
- STOP 2.3 Lake San Antonio dam overlook of Hames Member, Monterey Formation.
- LUNCH Picnic lunch at Lake San Antonio dam overlook.
- STOP 2.4 Tour of San Ardo Oil Field, courtesy of Aera Energy, Inc., and wrap-up discussion on petroleum system elements.

END OF FIELD TRIP (~3:00 p.m.)





### *2013 Field Trip*

#### *Hawaii (Big Island and Kauai)*

*Leaders: Charles Siemers-Blay, TEOK Investigations, Poipu, Hawaii,  
and Mario Caputo, San Diego State University*

### *Sedimentary Geology Of A Mid-Plate Volcanic Mountain-Island Chain*

This five-day trip is planned to accommodate roughly **30 participants**. The trip will begin on the Big Island, with accommodations in Hilo over three days, followed by inter-island air transport to Lihue, Kauai for two more days.

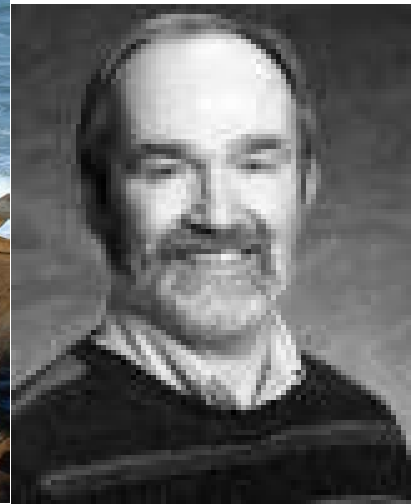
**Estimated Cost: \$900 per person including all lodging, lunches, dinner (2 nights), ground transportation and guidebook** (Note: these costs do not include airfare to and from the Mainland, or inter-island travel costs, which all participants must arrange individually)

Scheduled activities include visits to volcanoclastic sand beaches (black and green sands), to Hawaii Volcanoes National Park to observe Kilauea crater & vent eruptions and flows, to the Kona Coast (Kekaha State Park) to observe mixed volcanic-carbonate sand beaches, glacial deposits at Mauna Kea saddle, Quaternary eolianites and karst features on Kauai, and Waimea Canyon on Kauai.

**A separate e-mail will be distributed soon to all PS-SEPM Members, with a more trip details regarding dates, Registration Form, a detailed trip itinerary and air travel suggestions.**

NOTE: PS-SEPM has agreed to provide a \$200 subsidy per person for the first 10 students who register for this trip!!





***Don Lowe leading field trip at the outcrop, deep-marine clastic Pigeon Point Formation (Upper Cretaceous), Central California coast***

### *Don Lowe Receives 2012 PS-SEPM Honorary Membership Award*

Dr. Donald R. Lowe is known for his seminal contributions to sedimentology and to understanding the early Earth, its surface system, life and sediments. Don Lowe spent his childhood in Sacramento, and then moved west to Stanford University for his undergraduate education. After earning a Ph.D. from the University of Illinois, he returned to California for a Post-Doctoral position at the U.S. Geological Survey in Menlo Park, studying California phosphate. He spent the first half of his academic career as a faculty member at Louisiana State University. Drawn back to his beloved California, he has been Professor of Geology in the Department of Geological and Environmental Sciences at Stanford University since 1988, where he holds the Steineke Chair.

Don Lowe has played an especially important role in the evolving understanding of coarse clastic deep-water sediments. His insights into deep-water sedimentary processes and products have shed light on the voluminous turbidite systems recorded in Mesozoic and Cenozoic strata of California, and have significantly aided in the exploration and production of petroleum sequestered in deep-water deposits in California and beyond. For these contributions, Professor Donald R. Lowe is recognized as an Honorary Member of Pacific Section, SEPM.

***Stephan A. Graham, Professor, Department of Geological and Environmental Sciences, Stanford University***



***Bob Garrison provides scale for spectacular Monterey Formation siliceous shale outcrops, central California***

### *Bob Garrison Receives 2012 PS-SEPM Honorary Membership Award*

I am delighted that Robert E. Garrison is being honored by the Pacific Section SEPM with the 2012 Honorary Membership Award. This is a well-deserved award for someone who has contributed so greatly to sedimentary geology in general and the Pacific Section, in particular. Bob is an outstanding sedimentologist who made tremendous contributions to our science through his research, publications, his influence on his colleagues, and his shaping of his many students. He has fundamentally changed sedimentologists' understanding of the origin, distribution and diagenesis of fine-grained marine sediments, most notably the siliceous, calcareous and phosphatic rocks. He has generated enormous international goodwill, cooperation, integration and scientific progress with his tireless efforts to involve scientists from all institutions, regions, and countries in the understanding of the sedimentary deposits of the deep sea.

Bob is particularly important to our society for his leadership in unraveling the sedimentology, diagenesis and paleoceanography of the complicated and immensely important Miocene Monterey Formation through his own research and that of his students. He organized and edited a collection of superb Pacific Section SEPM and AAPG symposium volumes in the 1980's (some while PS-SEPM President or past-President) that are still fantastic sources of insight for modern workers.

Throughout his career Bob Garrison has consistently addressed fundamental sedimentologic problems in fields that had previously been inadequately addressed because of the lack of appropriate methodology or due to being outside of popular trends in research. Bob's work has focused on the origin, diagenesis

and distribution of fine-grained, deep-sea and biologically generated or mediated sediments. These are the kinds of sediments that are not easily understood by either physical or paleontological studies alone, but required an integration of traditional methods with modern marine biology, oceanography and paleoclimatology; these sediments include: radiolarites, diatomites, porcelanites and cherts; deep-sea and shelfal chalks and limestones; organic-rich mudstones (black shales); and phosphorites.

Bob's scientific curiosity has been guided by his concern for the human condition, and in the last 25 years his research has focused primarily upon the sedimentologic resources of energy and fertilizer necessary for our communal wellbeing. It is hard, but I can try to distill out what (in my opinion) are a few of Bob Garrison's major contributions to our science.

- Demonstrated the biogenic origin of fine-grained pelagic limestones through pioneering use of transmission electron microscopy and detailed field stratigraphy. Previously, most geologists thought these to be inorganic sediments.
- Detailed the sedimentologic and paleoenvironmental origin of Alpine radiolarites and extended this understanding to other mountain belts throughout the world.
- Clarified the space and time relationships between seafloor volcanic rocks and pelagic sediments. Many researchers had previously considered volcanism to be genetically responsible for the spatially related pelagic sediments.
- Documented in detail the early diagenesis of pelagic chalks and the significance of hardgrounds, omission surfaces, nodular limestones, and the associated glauconitic or phosphatic condensed intervals.
- Described the sedimentary petrology and sedimentology of the Mediterranean evaporite facies.
- Unraveled the sedimentology of phosphorites and phosphatic sediments of Egypt, Israel, Oman, Saudi Arabia, England, Columbia, the Peru margin, California, and Mexico.
- Garrison was a motivating force in bringing together American, Japanese, Korean and Russian geologists to synthesize their studies of Miocene Monterey-type facies on opposite sides of the Pacific Rim.
- Bob has been at the center of a group of colleagues investigating the origin and significance of phosphatic rocks.

Bob Garrison is also a superb teacher at all levels. I can say that he was pivotal in helping me and his other students develop a cosmopolitan understanding of the world's geologic evolution by bringing his broad international experience (and never-ending stream of visiting colleagues) into every class and seminar. Bob's reputation as a scientist and as a teacher has also served as the seal of approval for dozens of his students and, I know that I can speak for all of us, we all are very grateful for doors that he opened for us.

In closing, the PS-SEPM could have done no better than in selecting Bob Garrison for its Honorary Membership Award.

Enthusiastically submitted,

***Richard J. Behl***  
***Professor of Geological Sciences***  
***California State University, Long Beach***



## *SEPM – AAPG National Convention*

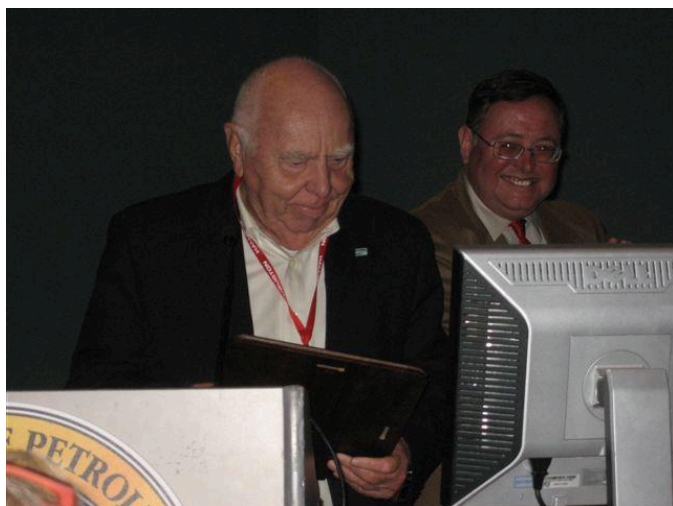
*April 22 – 25, 2012 Long Beach, CA*

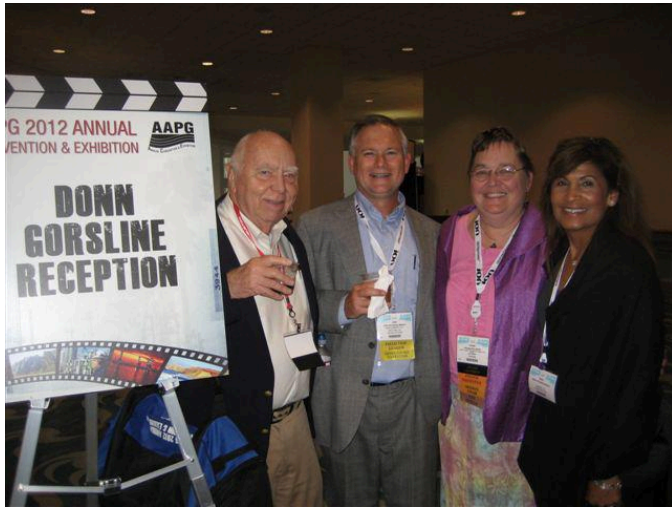
Our annual PS-SEPM Spring meeting this year occurred in **Long Beach, California**, as part of the **National AAPG-SEPM annual convention**, co-sponsored by the Pacific Action AAPG and our own PS-SEPM. The venue was **the Long Beach Convention Center**.

The convention was a huge success for us this year, due to a combination of: a) our proceeds as a key co-sponsor of the event; b) our co-sponsorship and participation in conducting field trips (Ridge Basin; Monterey Formation) and core workshops; and 3) proceeds from sales of our ever-popular and copious publications series, orchestrated admirably, as usual, by our Secretary, Managing Editor and Publications Manager, **Mario Caputo**. **A sincere THANK YOU to all those who donated their time and service to the organization at this event!**

PS-SEPM conducted judging for our annual **John Cooper Awards**, for best student presentation at the convention. Many fine presentations were made and evaluated by our team. Award recipients shall be summarized in the next Newsletter.

The PS-SEPM A. Eugene Fritsche Lifetime Award recipient for 2012, Emeritus Professor **Donn Gorsline** of the University of Southern California, was presented his award at a successful ceremony following technical sessions held in his honor. Many of Donn's colleagues and former students were there to congratulate him on this special recognition. Selected photographs are included below.





## *RANDOM NOTES*

### *Spring 2013 Joint PS-AAPG and PS-SEPM Annual Convention April 19 - 25, 2013, Monterey, CA*

Our annual joint convention with PS-AAPG will be held in Monterey next Spring. Organization for this event is presently underway. PS-SEPM member Dan Sturmer has been named Convention Vice Chairman of Poster Sessions. **We are actively seeking involvement from other PS-SEPM members** who may wish to organize theme sessions, short courses or field trips. At least one field trip, to Point Lobos, will be co-sponsored by PS-SEPM and led by **Ed Clifton** of the USGS. A symposium honoring 2012 PS-SEPM Honorary Member **Bob Garrison** will be co-sponsored by PS-SEPM and PS-AAPG.

Please contact PS-SEPM President-Elect **Tom Anderson**, Emeritus Advisor and PS-SEPM General Chair for the convention **Gene Fritsche**, or Secretary/Managing Editor **Mario Caputo** should you have interest and/or suggestions.

**The continued success of these events depends upon your participation! Thank You!!**

### *PS-SEPM Web Site*

This fall finds **Tony Carrasco** of San Diego State University returning to the role as PS-SEPM Web Master. We sincerely thank **Eric Smith** of Aera Energy for assuming this important role during the past two years, and for helping to re-construct and update our web site.. New web page contents may be viewed at **[www.pacificsectionsepm.org](http://www.pacificsectionsepm.org)**.

The web site includes details of the PS-SEPM organization, convention/meeting information, field trip information, list of PS-SEPM publications, past field trip and convention photos, Society awards, newsletter archive, status of new endeavors such as the AAPG Data Pages project (discussed below), and historical archives of the Society (past awards, past Executive Committee members, etc.).

The web page is continuously a work-in-progress, and will be evolving constantly to best serve the needs of our membership. **Your comments and suggestions are welcomed and encouraged!**

### *Congratulations To PS-SEPM Members Elected As GSA Fellows*

Two former officers and sustaining members of the Pacific Section, **Rick Behl** and **Frank Corsetti**, have been elected recently as Fellows of the Geological Society of America. The Pacific Section SEPM is proud to acknowledge their honor from GSA.



**Rick Behl** (Professor of Geology at CSU Long Beach), who served PS-SEPM as past president, field trip leader, and treasurer, was nominated by Bob Garrison to be recognized as a GSA Fellow. Garrison cited Rick for his extraordinary contributions to an understanding and knowledge of sediment diagenesis, and the sediment record of climate change; for his superb teaching and path-breaking applied research; and for his outstanding service to professional organizations.

**Frank Corsetti** (Professor of Geology at USC), who served PS-SEPM as past president and field trip leader, was nominated by Dave Bottjer (also of USC) to be recognized as a GSA Fellow. Bottjer cited Frank for his exceptional geologic research in sedimentology, paleobiology, and geochemistry; for his outstanding record of training young earth scientists; and for his laudable service to professional organizations.

### *PS-SEPM Awards Honor John Crowell and Ray Ingersoll*

The Executive Committee of PS-SEPM has voted to create two additional new annual awards, the **John C. Crowell Award** for outstanding graduate presentation, and the **Raymond V. Ingersoll Award** for outstanding undergraduate senior thesis in sedimentary geology. **Each will first be awarded during our Annual Spring Meeting in May, 2013. PROFESSORS ARE ENCOURAGED TO ALERT THEIR STUDENTS AS TO THESE AWARDS, and ENCOURAGE SUBMITTAL OF CANDIDATES!**

### *Electronic Catalog Of PS-SEPM Publications: In Progress!*

The Executive Committee has entered into contract for scanning and electronic (PDF) availability of ALL PS-SEPM publications, via the **AAPG “Data Pages” Project**. The E-copies include rare, old and out-of-print publications as well as those still in print (see Publication List at rear of this newsletter). Thank you to those members who have graciously provided copies of their out-of-print and rare publications! The digitizing process has is scheduled for completion in early 2013. **Portions of our catalog are now available for sale via the AAPG Data Pages web site.**

PS-SEPM Secretary and Managing Editor **Mario Caputo** has worked diligently to research, collect and coordinate the scanning of these publications, interfacing with the AAPG Data Pages project representatives to ensure successful completion of this important project. **Thank you Mario for all of your efforts!**

Our goal is to eventually make E-copies available as PDF documents for sale via the **NEW PS-SEPM web site**, in part to encourage sales of our entire outstanding publications catalog to universities, corporations, libraries, etc. as an added revenue stream. Marketing of the PS-SEPM catalog via the Data Pages consultants is part of our contract agreement.

More details and status updates will be provided as the project progresses.

## *Historical Archive Of PS-SEPM*

We are actively seeking anyone with information regarding the history of PS-SEPM to please contact **Ray Ingersoll** ([ringer@ucla.ess.edu](mailto:ringer@ucla.ess.edu)) with this information, so that we may develop a comprehensive historical archive for our web site. Thus far, efforts have produced an impressive first draft of this archive...many thanks to Ray for spearheading this project!

Information of interest includes a) listing of past officers; b) listing of past field trips and their leaders, and c) listing of those who have received PS-SEPM awards.



*PACIFIC SECTION - SEPM*  
*MEMBERSHIP INFORMATION, 2012 - 2013*

The Pacific Section SEPM has grown to become an international society with more than 400 members, attracting students and working professionals from the United States, mainly from California and other Pacific states including Hawaii and Alaska, and from Canada, Europe, Asia, and South America. Help maintain the vitality of the Pacific Section, SEPM by renewing your membership and recruiting new members, especially undergraduate and graduate students majoring in the geosciences. Please distribute copies of the membership form (**provided on the next page**) to colleagues and students who have an interest in sedimentary geology. The form is available also on the PS-SEPM website.

A **Lifetime Membership** is also available for a one-time dues payment. See schedule below for age and payment categories. Honorary and Lifetime Members are permanent members of the Society; they are exempt, of course, from further dues payments. Please send your membership application or renewal to:

**Wayne Henderson, PS-SEPM Membership Manager**  
**Department of Geological Sciences**  
**California State University, Fullerton**  
**Fullerton CA 92834-6850**

**PLEASE PROVIDE/UPDATE YOUR EMAIL ADDRESS WHEN YOU RENEW!!**  
**(Otherwise You Will NOT Receive Future Newsletters And Announcements!)**  
**(Except As Described Below)**

## **Membership Dues**

### **Regular membership dues:**

**\$ 7.50 for a 1-year professional membership**

**\$20.00 for a 3-year professional membership**

**\$ 5.00 for a 3-year student membership**

**(Please add \$25.00 to each category if you wish to receive Hardcopy versions of the Newsletter)**

### **Lifetime membership dues:**

**\$150.00 for age group 20-40 years**

**\$100.00 for age group 40-60 years**

**\$ 50.00 for age group 60 years and older**

**(Please add \$50.00 for each category if you wish to receive Hardcopy Newsletters)**

## **Good Reasons for Joining the Pacific Section SEPM**

- The Pacific Section SEPM is one of the premier geological societies of western North America.
- Members benefit from discounts on superbly done field-trip guidebooks and special publications that address sedimentologic, stratigraphic and paleogeographic aspects of the Pacific region of the United States.
- Your membership dues sustain the Society by helping defray costs of publications. They further help support the operation of the California Well Data Repository (for borehole logs, cores, cuttings, microfossils, and other data) in Bakersfield, California.
- A **Society Website** provides up-to-date information on officers and other members, field trips and conferences, short courses, publications, and job openings:

**NEW WEB ADDRESS!    <http://www.pacificsectionsepm.org>**  
**BOOKMARK THE ABOVE WEB ADDRESS FOR QUICK REFERENCE!**



**Pacific Section – SEPM (Society for Sedimentary Geology)  
Membership Form, 2012**

Renew ☐

New Member ☐

Last Name	First Name	Middle Name or Initial
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Preferred Mailing Address: <i>Business or Home – COMPLETE ONLY ONE</i>			
<b>Business</b>	Company or Teaching Institution		
	Street or P. O. Box #		
	City	State	Postal Code
<b>Home</b>	Street or P. O. Box #		
	City	State	Postal Code

Telephone	
<b>Business</b>	
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<b>UPDATE</b> Email Address
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