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.

S P R I N G  2 0 1 0  C O N V E N T I O N  I S S U E

See also: PS-SEPM web site: www.sci.sdsu.edu/pacsepm
For more information, including current list of publications available for sale
Lower Sauces Canyon, West Santa Cruz Island. Spectacular deep marine conglomerate & sandstone of Middle Eocene Jolla Viejo Formation, displaying imbricated clasts of granitics and meta-porphyry, correlated with Poway and/or Las Palmas conglomerates of the San Diego – Northern Baja area. From PS-SEPM fall field trip, Santa Cruz Island, 2009; Photo courtesy of W. Henderson (who also graciously provided scale).
My fellow sedimentary enthusiasts, I feel privileged to serve as your president for the 2009-2010 term, and I look forward to seeing you at the upcoming spring meeting in Anaheim—a veritable “super meeting”, as we combine forces with the GSA Cordilleran Section and the Pacific Section AAPG, among others. Pacific Section SEPM is proud to sponsor 7 sessions and 2 fieldtrips at the meeting. In addition, we will be publishing the combined field trip guidebook for the meeting, adding another important field-oriented volume to the impressive existing list published by our society.

I want to thank past president Ray Ingersoll (UCLA) for his service and guidance, and introduce Bonnie Bloeser (Aera Energy) as your president-elect. Matthew Clapham (UCSC) is our new vice president, and he will be organizing the fall field trip to Arrow Canyon, Nevada (discussed in more detail below), to view the impressive late Paleozoic succession that includes a spectacular diversity of sedimentary and paleontological features as well as the Global Stratotype Section and Point for the Mississippian-Pennsylvanian boundary. I owe a debt of gratitude to the stalwarts of the PS-SEPM ExCom, including Mario Caputo (secretary-publications manager), Tony Carrasco (website manager), Wayne Henderson, (membership manager), Eric Hendrix (newsletter manager) and Adam Woods (treasurer) for selflessly giving time out of their busy days to the society.

Now for the fun part! I am pleased to announce the creation of three new awards to be offered annually by the Pacific Section SEPM. The society already distributes awards to honor older members (er, I mean “experienced and knowledgeable sages”), including the Honorary Lifetime Membership Award and the A. Eugene Fritsche Lifetime Achievement Award, with a cast of luminaries as recipients. With the new awards, we would like to recognize the up and coming members of our society. It is my pleasure to announce the following three new awards, named for outstanding individuals in the area of sedimentary geology:

1. The John D. Cooper Memorial award for outstanding undergraduate presentation at our annual spring meetings.
2. The John C. Crowell award for outstanding graduate presentation at our annual spring meetings.
3. The Raymond V. Ingersoll award for outstanding senior (undergraduate) thesis in sedimentary geology.

Each of these new awards will come with a significant cash prize of $500, a plaque, a free society t-shirt, and bragging rights / résumé-boost. Of course, the recipients will need to be MEMBERS of the society, so tell your students to sign up right away! Student membership is a bargain at $5.00! Keep checking the PS-SEPM website—more details will be posted soon. We plan to institute the Cooper award next month at the joint meeting in Anaheim, with the others to follow in 2011. If a member (or company) would like to support excellence in student research by adding to, or matching, these awards, that can be arranged….we appreciate your involvement!

Come by the PS-SEPM booth at the meeting in Anaheim where you can peruse (and purchase) items from our publication collection, renew your membership, and even don one of our new T-shirts (design courtesy of Brandon Browne, CSUF..see more details below).

See you in Anaheim,

Frank A. Corsetti, Ph.D.
University of Southern California, PS-SEPM President 2010
Welcome

Please join us for the 2010 annual meetings of the Cordilleran Section of GSA, Pacific Section SEPM, and the Pacific Section, AAPG, with the Western North American Regional meeting of SPE, at the Marriott Hotel in Anaheim, California, USA.

The theme for our meeting is "From Mountains to Main Street," and the local host is the Department of Geological Sciences at California State University Fullerton.

We look forward to seeing you in Anaheim!

Meeting Co-Chairs:
Cordilleran GSA
Phil Armstrong
California State University Fullerton
Pacific Section AAPG
Curtis Henderson
City of Long Beach

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Abstracts with Programs
2nd Circular

PLEASE BE SURE TO STOP AND VISIT THE PS-SEPM BOOTH AT THE CONVENTION FOR OUR GREAT PUBLICATIONS & NEW T-SHIRT !!!
PS-SEPM Sponsored Sessions & Field Trips, May 27-29 Anaheim Convention

Our society’s annual Spring convention occurs jointly this year with The Cordilleran Section of the Geological Society of America and Pacific Section AAPG, as well as the SEG, SPE and LA Basin Geological Society. The geosciences department faculty at CSU-Fullerton, in particular, has done a tremendous job of organizing this event.

An excellent program has been assembled, of which PS-SEPM is sponsor or co-sponsor of five technical sessions and four field trips.

Technical Sessions sponsored include the following:

- **Using Basin Analysis and Geochemistry To Reconstruct The San Andreas Fault System:** A Symposium In Honor Of John Crowell, Tor Nilsen, Tom Dibblee and Perry Ehlig (Chaired by Ray Ingersoll and Eric Hendrix (UCLA) and Ron Cole (Allegheny College); (Thurs May 27, 8:40 AM)

- **Biotic Response To Phanerozoic Environmental Change:** Adam Woods, Nicole Bonuso (CSUF), David Bottjer (USC), Matthew Clapham (UCSC); (Thurs May 27, 8:30 AM)

- **Tectonic Evolution of the Southern Big-Bend Region, San Andreas Fault:** Doug Yule (CSUN), Jon Matti (USGS), Jim Spotila (Virginia Tech)(Fri May 28, 8 AM)

- **New Insights Into Tectonics of the Central California Coast Ranges:** (Russ Graymer & Victoria Langenheim, USGS);(Fri May 28 8:30 AM and 1:30 PM; all day session)

- **Late Neogene Tectonics & Deformation along Active Faults East Of and Including the San Andreas-San Jacinto Fault Zones:** (Chris Menges & Dave Miller, USGS)(Fri May 28, 1:30 PM)

Field Trips sponsored include the following:

**Soledad and Plush Ranch Basins: Mid-Tertiary Extensional Terrane Dismembered By The San Andreas Fault System:** Ray Ingersoll and Eric Hendrix (UCLA) and Ron Cole (Allegheny College) (May 29-31).

This trip will re-visit two “classic localities” originally identified by John Crowell, Perry Ehlig & their students during the 1950’s through 1970’s as evidence for large-magnitude displacements along faults of the San Andreas system. Subsequent detailed work on the sedimentary, volcanic & structural history and geochronology of these two basins confirm synsedimentary crustal extension during the Mid-Tertiary (26 – 20 Ma) transition from convergent to transform tectonics. This trip will observe various alluvial, rockslide, lacustrine and volcanogenic deposits which confirm similar half-graben evolution of both basins, with similar crustal extension kinematics. Synsedimentary detachment faulting has been identified in at least one of the two basins; potential impacts of detachment evolution on sedimentation and subsequent basin deformation will be observed & discussed.

This field trip will examine several classic localities that have been the focus of research that has attempted to reconstruct environmental conditions in the wake of the Permian-Triassic mass extinction and determine the relationship between the recovery interval and Mesozoic biotic trends. This field trip will provide attendees with a complete picture of carbonate environments following the Permian-Triassic mass extinction, ranging from deep, outer shelf environments to shallow subtidal environments. Sites that will be visited include the deep water facies of the Union Wash Formation at Darwin CA in order to examine seafloor calcium carbonate precipitates, shallow water stromatolites from the Union Wash Formation at Cerro Gordo, CA, and middle shelf facies and corresponding reefal stromatolites from the Virgin Limestone at Lost Cabin Springs, NV.

Monterey Formation of the Los Angeles Basin; Rick Behl (CSULB), Stefano Mazzoni (Oxy) (May 25)

The Monterey Formation is California’s primary petroleum source rock, and in some areas also an important reservoir. It records key middle to late Miocene climatic, oceanographic and tectonic transitions. Although it has been well-studied in the coast ranges of central California, the Salinas Basin and the San Joaquin Basin, oddly it has been little studied in the highly petroliferous Los Angeles Basin. The Monterey and its stratigraphic equivalents – the Modelo and Puente Formations - underlie and source most of LA’s oil fields, but outcrop only in uplifted terrains which surround the basin. This field trip will examine key localities of the Monterey Formation in Newport Beach, Crystal Cove State Park and the Palos Verdes Peninsula, to examine some of the key lithofacies and see how they differ from better-studied areas in California. Trip co-sponsored by the LA Basin Geological Society.

Sedimentology and Facies Architecture of Channelized Slope System: Capistrano Formation, San Clemente, Southern California; Kirt Campion, Stefano Mazzoni (Oxy) (May 26)

Outcrops of the upper Miocene to Pliocene Capistrano Formation in the vicinity of San Clemente State Beach provide excellent exposures of deep-water channels formed in a slope setting and filled with a variety of tubidite lithofacies. This trip will focus on the architecture of the Capistrano Formation, which consists of a number of channels and channel complexes. The sandstone-dominated system is about 20m thick and 1.3 km wide and serves as a model for confined channels which are typically imaged in seismic exploration by a single cycle. This trip will examine exposures along the base of sea cliffs at the State beach.
SUMMARY OF PS-SEPM FALL FIELD TRIP #1, SEPTEMBER 17 – 20, 2009
GEOLOGY OF SANTA CRUZ ISLAND
Leader: Dr. James Boles, UCSB

Twenty-two PS-SEPM members, including several students, participated in the outstanding fall field trip to Santa Cruz Island on September 2009, led by Emeritus Professor Dr. Jim Boles of UC Santa Barbara. The trip examined spectacular sedimentary geology, thick middle Miocene volcanic sequences and active faulting features in the remote western half of the island, which is not accessible to the general public. Participants enjoyed perfect fall weather and up-close views of marine wildlife (blue whales!) on the charter boat trip over to the island, and comfortable accommodations & terrific meals at the UC Natural Reserve System facility.

Field Day 1: Friday, Sept 18, participants travelled the spectacular ridge route over the Jurassic Santa Cruz Island Schist, for an overview of the middle Miocene Santa Cruz Island volcanics and Monterey-equivalent Blanca Formation, and the active sinistral Santa Cruz Island fault. A strenuous hike down into Laguna Canyon followed, to view fresh exposures of the Santa Cruz Island Schist as well as the contact of the Willows Diorite and the Blanca Formation. A trip to Christi Beach and Sauces Canyon at the west end of the island followed, to observe the middle Eocene Jolla Vieja Fm., a spectacular deep-marine conglomerate and sandstone deposit containing excellent flame and dish structures, as well as the distinctive “Poway” metavolcanic clast suite, whose source is interpreted to have been in the San Diego-North Baja area, prior to clockwise western Transverse ranges rotation and northwest translation. These clasts are the basis of the estimated total Neogene offset along the postulated East Santa Cruz Basin fault (see page one of Newsletter).
Field Day 2: Saturday, Sept 19, participants visited Posa Canyon to view the Paleocene through Miocene stratigraphy in the southwest part of the island. Spectacular Paleocene turritella beds (above) were observed, and a wildcard well drilled by ARCO in the 1950s which penetrated into and verified the presence of Upper Cretaceous forearc basin strata. Coarse-grained facies of the Vaqueros and San Onofre Breccia in upper Posa Canyon were observed. A visit to the beautiful (and empty!) Near Point beach followed, for lunch, body surfing and examination of the lower through Middle Miocene Vaqueros, Rincon, San Onofre Breccia, and Beechers Bay (Blanca) Formations. Engaging discussions were held regarding the various clast suites and potential sediment paleodispersal systems within the context of the rotated Transverse ranges, and thankfully Dr. Tanya Atwater was present along with her famous “Tanya-gram” depicting the rotation event, to keep us all focused n the big picture!

The trip was capped by an unforgettable PS-SEPM Executive Committee meeting, to which all trip participants were invited, which de-volved into something resembling “Pirates of the Caribbean”.
Ray in front of his “favorite debris flow deposit”, Vasquez Formation, Soledad Basin

Raymond V. Ingersoll Presented with 2009 Laurence L. Sloss Award, Sedimentary Geology Division, Geological Society of America

Citation by Kathie Marsaglia, Professor of Geology, CSUN:

The Laurence L. Sloss Award for Sedimentary Geology acknowledges those who emulate its namesake through achievement in the field of sedimentary geology and service to the Geological Society of America. The 2009 deserving recipient is Raymond V. Ingersoll.

Born in Mountain View, CA, Larry Sloss started his geological career as an undergraduate student at nearby Stanford, and then planned to attend Harvard but, according to Sloss, he fortuitously ended up at the University of Chicago for his doctoral work. Ray Ingersoll, a New York native, had an almost mirror-image educational career, starting as an undergraduate at Harvard, then moving west to attend Stanford for his MS and PhD. Both scientists focused on sedimentation and tectonics, Sloss from a cratonic perspective, Ingersoll with a focus on the active western margin of the North American plate. Their research interests overlapped in the Rocky Mountains. Here, the Paleozoic rocks which Sloss loved and upon which he honed his stratigraphic concepts, provided the backdrop for the Indiana University field camp in southwestern Montana, where Ray was both student and instructor for several seasons, including the summer when Ray co-organized with Steve Graham, Lee Suttner and last-year’s Sloss awardee Pete DeCelles, a study of the Laramide thrust-generated Sphinx Conglomerate.

At Stanford, Ray was profoundly influenced by his advisor and mentor, Bill Dickinson. Ray’s graduate research on the Cretaceous Great Valley Group combined stratigraphic, sedimentologic, and petrofacies analyses to provide a now classic picture of the Mesozoic margin of western North America. According to Ray, the thick, upturned forearc-basin strata of the Great Valley were most easily measured by driving through them in his favorite field vehicle, a tangerine Porsche. His later work in the region focused on the Paleozoic to Mesozoic tectonic evolution of the forearc basement terranes. Ray also was part of a successful collaborative team with his fellow graduate students at Stanford, particularly Steve Graham
and Chris Suczek. Together, they helped define the sedimentary signatures, particularly lithic proportions, of collisional orogens, creating several co-authored publications.

Ray started his academic career at the University of New Mexico, where the magnificently exposed geology of the Rio Grande rift focused his interest. With students and colleagues from New Mexico, he examined the Holocene to Paleozoic history of the region. This experience expanded his expertise to include rift sedimentation, which ultimately led him to the Baikal rift in Russia. When family interests dictated that he migrate back west, he joined the faculty at UCLA and plunged into the complex history of extensional basins associated with the Basin and Range and Transverse Ranges, conscripting, I mean inspiring, numerous willing MS and PhD students to tackle significant stratigraphic and tectonic problems from Nevada and Utah to the Los Angeles basin.

Ray is a prolific scientist, with over 120 publications, many with student co-authors. Through these publications he has established himself as an authority in the study of the tectonics and sedimentation, writing a key review paper for the centennial GSA Bulletin series in 1988, and later co-editing with Cathy Busby and co-authoring chapters in a leading textbook on the subject in 1995, Tectonics of Sedimentary Basins. His research at Stanford established one of his research themes: the sedimentologic, petrologic, and geochemical fingerprints of active continental margin evolution, in California and across the circum-Pacific. His 1982 paper in Geology, regarding the instability of triple junctions and ramifications for the Cenozoic extensional evolution of the western North American margin, is but one notable example. Another is the seminal Rubey Colloquium Volume VI in 1987, Cenozoic Basin Development of Coastal California, which he co-edited with Gary Ernst. Many of Ray’s recent publications have more closely examined the statistical evaluation and significance of large petrologic data sets and the influence of scale in provenance studies, as well as the application of U-Pb systematics and detrital zircon geochronology in the interpretation of provenance.

As with all outstanding educators, Ray gives his students the lessons that they need for success, then the freedom to develop into independent scientists. He has proudly watched them go on to influential careers in industry, academia and government.

A Fellow of the Geological Society of America (GSA), Ray has been an ardent supporter of the GSA Sedimentary Geology Division from its inception; he first served on the division’s nominating committee (1986), and later on the executive committee (1998-2002), starting as Second Vice Chair and finishing as Past Chair. He was the citationist for 1999 Sloss Award winner, Bill Dickinson. As an Associate Editor of the GSA Bulletin (1984-1992), he promoted the quality of sedimentary science published in the journal. He has been a member of the committees for research grants (1992-1994; member and chair) and the Donath Medal (2005-2008) of the GSA and served as a member of the Technical Program Committee (1998, 2000, 2001) and Nominating Committee (1993) of the Cordilleran Section. Examples of his significant contributions to other affiliated societies include service as Associate Editor for the Journal of Sedimentary Petrology (1984-1988) and International Geology Review (1997-present) and two terms as President of the Pacific Section of SEPM.

Ray’s family (mother, father, sister, wife and daughter) has been the inspiration and center of his life. Ray’s proudest creation and his deepest joy is his daughter, Jenny, who is the image of his dear, departed wife, Mary, who, along with his also-departed father and sister, would have been very proud of his receiving this award.
It is a wonderful honor and pleasure to receive the Sloss Award. I thank GSA, the Sedimentary Geology Division, its officers and the Sloss Award Committee. I especially thank Kathie for her flattering words, and Tim Lawton for nominating me. I met Larry Sloss briefly on two occasions; never did I imagine that I would receive an award in his honor. My being here results from a combination of hard work, inspirational mentors and colleagues, talented students and good fortune; I have been in the right place at the right time.

I am privileged to have attended outstanding institutions. At the Putney School, first as student, then as faculty, I learned fundamental physics, how to think as a scientist and how to teach, all under the mentorship of Ed Shore, probably the best science teacher I have known. At Harvard, I learned now-outmoded concepts of geosynclines and how revolution of the downtrodden stratigraphic masses led to a paroxysm of orogeny! I also absorbed abundant mineralogy, petrology and geochemistry. Interestingly, I never had a course in stratigraphy, sedimentology or paleontology! I spent 3 summers as a student and Associate Instructor at the Indiana University Geologic Field Station; this kept my geologic juices flowing while I taught physics and math at Putney. I then headed west to Stanford, where the Revolution in the Earth Sciences had occurred. No more geosynclines! Subduction leads to orogeny! An actualistic Earth model was being developed; at the forefront was Bill Dickinson.

I would not be here today if Steve Graham had not been a fellow first-year graduate student in an adjoining office at Stanford. He had come specifically to work with Cowboy Bill, whereas I had environmental leanings, and knew nothing about sedimentary geology or plate tectonics. Within a couple of months, I was a Dickinson advisee. I was planning to take Bill’s undergraduate sedimentary-geology course when the TAship for the course opened up, and Bill said “You be the TA!” I know there is no better way to learn a subject than to teach it; I learned a lot fast!

My years at Stanford (1972-1976) were seminal years for sedimentary tectonics. The definitive publications on interpreting graywacke and arkose (Dickinson, 1970) and sandstone petrofacies (Dickinson and Rich, 1972) had just appeared, as had the definitive paper on submarine-fan facies (Mutti and Ricci-Lucchi, 1972). Dickinson’s papers on plate tectonics and sedimentation, and sedimentation related to arc-trench systems both appeared in 1974. Bill suggested I investigate the Great Valley forearc basin, and away I went. Petrofacies, submarine-fan facies, petrostratigraphy, paleobathymetry, arc-trench dynamics: it all came together in a magical way. I couldn’t have been dealt a better hand, and I played it for all it was worth.

My next great fortune was being hired at the University of New Mexico, where I found myself in the Rio Grande rift, the Laramide orogenic belt and the Ancestral Rocky Mountains, entirely new environments for me. It also was my great fortune to arrive in Albuquerque the same summer as Steve Wells (another IU product, a recurring theme in my life). Steve and I grew up together as Assistant Professors, with all the uncertainties and excitement that entails. Even though I left UNM after 6 years, Steve and I remain very close friends.

Because my wife Mary had moved to Los Angeles, I resigned my UNM position and accepted an adjunct position at UCLA. I thank Gary Ernst for championing my cause at UCLA and helping convince the faculty and administration to regularize my position, which happened in 1985. As Kathie describes, this led to a wonderful time of joint investigations with many great students, too numerous to name. UCLA has been a wonderful home for me, especially as I now pursue my final major project: a detailed
palinspastic reconstruction of southern California back to the Cretaceous.

Finally, in addition to the wonderful folks I have mentioned, I thank Peter Bird, Cathy Busby, William Cavazza, Salvatore Critelli, Pete DeCelles, Clarence Hall, Rich Schweickert, Chris Suczek, Lee Suttner, An Yin and all my former students for years of fruitful interactions. Science progresses through social interactions, and I am grateful for wonderful collegial relations over the years. I am one of the lucky ones. And of course, my grandparents, parents, sister, late wife Mary and wonderful daughter Jenny have been central to my success and life itself.

Thank you for this great honor of the Sloss Award.

Raymond V. Ingersoll
Earth and Space Sciences
University of California
Los Angeles, CA 90095-1567
Few workers in California have successfully integrated their love and abilities in geology with the demands of the oil & gas industry. One such worker who has accomplished that in a spectacular fashion is Reinhard “Rhino” Suchsland. Rhino has worked for the Pacific Section SEPM in a variety of capacities, from writer to editor and publisher, and has contributed his geologic and personal knowledge through hydrocarbon discoveries, publications and the mentoring of the next generation of geologists.

Rhino was born in Germany, but immigrated to Los Angeles in the late ‘50s with his rather large family when he was 8. He received his BS in Geology from CSUN in 1969. From 1970 to 1980 he was with Texaco in Los Angeles in the micropaleontology area, conducting studies on the San Joaquin, Ventura, Santa Maria and Gulf of Alaska basins. Rhino found time during those years to get an MS in Geology from USC in 1979. In 1980 he joined DeKalb Energy in Bakersfield and started his career as a prospect generator, continuing there until 1993, while becoming the District Exploration Manager in 1986. In 1993 he joined Cenex as the District Geological Manager, in 1996 he became the Geological Manager for McFarland Energy in Santa Fe Springs, and in 1998 became the Geological Manager for BreitBurn Energy in Los Angeles. In 2002 he became an independent geological consultant and in 2005 joined Venoco in Denver where he is currently employed. During that time his list of oil and gas discoveries included those at Southeast Tisdale in 1981, East Brentwood in 1983, Pierce Road in 1984, East Grimes in 1985, West Grimes in 1986, Helm in 1987, Van Ness Slough in 1988, Rancho Capay in 1989, Sycamore

Rhino is a California Registered Geologist, a member of National AAPG, the regional SJGS, the PSSEPM, a past President of the SJGS, a highly regarded convention speaker and author of several geologic articles. Most importantly to the PSSEPM Rhino served yeoman service to the Society as Managing Editor from 1978 to 1994, during which he oversaw publication of more than 70 volumes.

Rhino is happily married to Mary and they have five wonderful children spreading their wings!

I am honored to write these words for what I consider to be one of the most positive and geologically–inspiring individuals I have had the pleasure of working with.

Jon Kuespert
New PS-SEPM T-Shirt Now Available!
(as of the Anaheim GSA-SEPM-AAPG Convention, anyway)

You know it’s been years. You know you’ve been waiting.
Well, the wait is finally over....

Price: $13.00 each
Please stop by the PS-SEPM Booth at the Convention in Anaheim May 27-29 to purchase.
Many different sizes available!
Initial Notice: 2010 Fall Field Trip - Late Paleozoic of Arrow Canyon, Nevada
Leader: Dr. Matthew Clapham, UC Santa Cruz
October 16 – 17, 2010 (Tentative)

(More details to follow in August 2010 Newsletter)

The PS-SEPM fall field trip will visit the spectacular late Paleozoic section at Arrow Canyon, Nevada to observe more than 1 km of mid-Mississippian to Lower Permian strata cropping out along the canyon walls with nearly 100% exposure. Participants will be able to examine shifts in lithology and facies stacking from tropical Mississippian limestones dominated by small eustatic fluctuations (Visean Yellowpine and Battleship Wash Formations) to mixed photozoan (warm-water) and heterozoan (cool-water) limestones of the Pennsylvanian-Permian Bird Spring Formation recording high-amplitude eustatic fluctuations during the late Paleozoic ice age. The upper surface of the Battleship Wash Formation is a macro-karst surface containing potholes and fissures up to 30 cm deep and the remnants of a lycopsid forest mire. Lycopsid tree root systems are common on this surface, with individual roots up to 50 cm in diameter and radiating several meters from the central point. The overlying Indian Springs Formation records marginal marine to non-marine deposition, including abundant paleosols and marginal marine fossils such as the inarticulate brachiopod /Orbiculoidea/. The lower Bird Spring Formation also contains the Global Stratotype Section and Point (GSSP) for the mid-Carboniferous (Mississippian-Permian boundary). Abundant diagenetic chert nodules are present in the Bird Spring Formation and appear to be non-randomly distributed throughout parasequences with a myriad of nodule sizes and morphologies, including the "Cannonball chert bed" of late Pennsylvanian (Kasimovian-Gzhelian) age. The succession contains a rich fauna, including a rugose coral biostrome in the Battleship Wash Formation and abundant brachiopods, bryozoans, crinoids, and other fossils in the Bird Spring Formation. On Sunday, we will visit Battleship Wash, just south of Arrow Canyon, to hunt for crinoids from one of the richest Permian crinoid localities in the world (62 described species).

Electronic Catalog Of PS-SEPM Publications

The Executive Committee has entered into contract for scanning and electronic (PDF) availability of ALL PSSEPM publications, via the Data Pages Project. The E-copies are slated to include rare, old and out-of-print publications as well as those still in print. (Thank you to those members who have graciously volunteered to provide copies of their out-of-print and rare pubs for scanning!!). The process has commenced and should be completed in 2010. If you have copies of old, out-of-print publications which can be make available to us temporarily for (careful) copying as part of this process, please contact Publications Manager Mario Caputo (909) 594-5611 (x4439). Thank you.

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

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

AAPG/SEPM or GSA conventions are scheduled within the Cordilleran Section. We anticipate this will encourage stimulating and multi-disciplinary interaction between the various organizations, and increase revenues and membership.
Historical Archive Of PS-SEPM

We are actively seeking anyone with information regarding the history of PS-SEPM to please contact Ray Ingersoll (contact info on first page) with this information, so that we may develop a comprehensive historical archive for our web site.

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.

Summary of PS-SEPM Fall Field Trip #2 “Virtual Field Trip”
Surficial Geology & Geomorphology of Mars

Leader: Dr. John Grotzinger, NASA/Jet Propulsion Laboratory, Pasadena

Given that Mars has been un-officially annexed into the geographic dominion of PS-SEPM, on November 20, 2009 we successfully sponsored a “Virtual Field Trip” of new and exciting geological, geochemical and geomorphologic data collected on the Martian surface from the Spirit and Opportunity Rovers project. A total of 31 attendees were present for this unique and fascinating “virtual trip” presented at the NASA Jet Propulsion Laboratory in Pasadena. Current state of knowledge and geomorphologic evidence as to the past presence of extensive liquid water and fluvial processes, present-day eolian sedimentation, past volcanism and “tectonic” evolution, and the geochemical constraints regarding the possibility of life on Mars will be presented, integrating findings from the recent Rovers mission as well as earlier NASA exploration (Viking, Pathfinder, Surveyor, Orbiter, etc.). (Refer to related article by N. Barlow in April 2010 edition of GSA Bulletin).

Thank you again to John Grotzinger and all attendees for making this presentation a success!
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:

  http://www.sci.sdsu.edu/pacsepm

**BOOKMARK THE ABOVE WEB ADDRESS FOR QUICK AND READY REFERENCE**
Renew ☐ New Member ☐

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- State
- Postal Code

**Telephone**
- Business
- Home
- FAX

**UPDATE Email Address**

**Employment**
- Employer Name
- Job Title

**Education**
- Highest Degree Earned
- Year Earned
- Institution
- Specialization

**State Certifications/Registrations**

<table>
<thead>
<tr>
<th>Regular Memberships (check ☑ one)</th>
<th>1-year professional</th>
<th>$ 7.50</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-year professional</td>
<td>$20.00</td>
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</tr>
<tr>
<td>3-year student</td>
<td>$ 5.00</td>
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</table>

<table>
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<tr>
<th>Lifetime Memberships (check ☑ age group)</th>
<th>20-40 years old</th>
<th>$150.00</th>
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<tr>
<td></td>
<td>40-60 years old</td>
<td>$100.00</td>
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<tr>
<td></td>
<td>60 years old and older</td>
<td>$ 50.00</td>
</tr>
</tbody>
</table>

Make check payable to “Pacific Section, SEPM” and send to:

Wayne Henderson  
PS-SEPM Membership Manager  
Department of Geological Sciences  
CSU Fullerton  
Fullerton, CA 92834-6850

**PLEASE HELP INCREASE MEMBERSHIP IN THE PACIFIC SECTION – SEPM.**  
COPY THIS FORM AND GIVE IT TO STUDENTS AND COLLEAGUES WHO SHARE AN INTEREST IN SEDIMENTOLOGY.