

GCSSEPM NEWS



Volume 57

Number 3

Fall 2010

The President's Column

Murky waters. The explosion and subsequent spill of the BP Deepwater Horizon dominated the news this summer. Most of us in GCSSEPM have direct ties to exploration and production in the Gulf and for us this is not an event from which we are detached. Certainly, this spill is not the press we wanted for the Gulf Coast petroleum industry, and regardless of the distance and culpability of each of us from this breach individually we are all now a little tarred in the public eye. The cost in clean-up, lost revenue, life disruptions, etc. has proven quite profound and will no doubt have a long coda in memory and reality well after the recent crescendo. The hole is finally plugged, however, and I feel a great relief knowing what is hailed as the "worst spill in history" is no longer getting yet worse, and its harm to the people of the Gulf shores now begins to abate. My heart goes out to everyone who lost in this entire affair, beginning with the loved ones of the 11 workers who died with the initial explosion, and continuing through those who still struggle against this added life pressure during already hard times.

In the months and years to come, this will necessarily move

into the analysis phase. Residents, industry, science, law makers, and society at large will evaluate and debate the societal benefits vs. the environmental risks of offshore drilling in the Gulf States. We can expect to hear some strong opinions. We have seen this debate mature in differing ways. Public opinion swayed in favor of reducing environmental risk in the 80's as events like the Santa Barbara spill led to a moratorium on offshore drilling along most of our coastline. This ban only showed signs of lifting prior to the spill this summer, and its continued fate is now in question. Likewise, we saw construction of the last U.S. nuclear power plant to date in the 80's around the time of the failure at the Three-Mile Island facility. On the other hand, oil still flows from Alaska long after the spill of the Exxon Valdez. The residents of the Gulf Coast will rightly have much to say about the outcome of this debate. Livelihood will no doubt figure prominently in their efforts to balance their risk. While the financial losses to industries like tourism and

fisheries are current and real, the economic benefits of an engaged petroleum industry ever seeking new prospects are very real as well. On a national level, the potential environmental impacts of present and future spills will weigh against the need for domestic energy. Some balance will be struck. One would hope that logic trumps emotion as these matters move forward but history provides us no guaranties that this will in fact be the case on any side. What does seem evident is that three variables will prevail. These are the final tally for documentable environmental destruction, success level of industry efforts to assure such a spill will not be revisited upon our shores, and real economic pressures exerted on the nation by the need for handy petroleum supplies. Only the second is directly in industry hands.

I close simply by noting that for anyone who has forgotten how important, risky, and consequential be our chosen profession, there is this summer to remind.

John Holbrook
President

Highlights

The GCSSEPM News is published three times a year. Your comments and suggestions are welcome. Please contact Charlotte Jolley, GCSSEPM Secretary at charlotte.jolley@shell.com, or contact your local business representative. Visit the GCSSEPM Website at www.gcssepm.org for Section and Foundation news and information.

- 1
 - ◆ President's Column
 - ◆ Welcome New Members
 - 2
 - ◆ The Director's Chair
 - 3
 - ◆ Hilding-Kronforst, S., 2010 Middle Eocene western North Atlantic biostratigraphy and environmental conditions.
 - 5
 - ◆ Ed Picou Fellowship Grant Rules
 - 6
 - ◆ Membership Application/Renewal Form
- Also included**
- ◆ 2010 Research Conference and Hotel Registration
 - ◆ Final Call for papers for 2011 Research Conference
 - ◆ First Call for papers for 2012 Research Conference

**The GCSSEPM
Welcomes
New Member**

Roman Matranga
River Bend Energy Corp
Slidell, LA

The Director's Chair

[1] It is now mid-August and the great catastrophe has faded into the past and so we can concentrate on more important matters, such as the fate of Snookie.

I must remember never to comment on an active situation while it is still active. Having said that, most of what I said is still true. My only real error was in my estimate of the flow

rate while the young man from Purdue was closer to the truth (whatever it was); I congratulate him on his skill and ability. I still maintain that the news coverage was terrible. (Unlike CNN, we know how to pronounce Don Von Nieuwenhuis.) I did offend my good friend Mutzko by not discussing the other plays of Lake Erie, but

the exploration plays were not my point. In any event, I read that the marshes are showing signs of new growth and the environmentalists are muttering that maybe this will not be the catastrophe they predicted. But we still have a moratorium which will help kill our profession and a public perception

Continued on page 2

that the oil industry in general is still the Evil Empire.

[2] I hope by now that you have at least visited our new web site. I also hope that you will update and maintain your personal information as we really do like to know where our members are, and it is difficult to contact you if all the information we have is six years out-of-date. For those of you who do not have e-mail, don't worry, you will still get a hard copy by snail mail if you live in the U.S. Please do note that for all people who live outside the United States, hard copies will no longer be sent by mail. We will send you an e-mail that the newsletter is available on-line. Also, for the first time we are having our election of officers on-line. I do hope that you did vote and try out our new system.

[3] Years ago when I was an undergraduate, I received my B.Sc. in geology, majoring in geomorphology. When people (especially other geology majors) heard geomorphology, they asked me if I was in the Geography Department. I don't think geomorphology started to become respectable until the Mars mission, when a knowledge of land forms and how they formed and what they meant became imperative. Now geomorphology is important to geophysics and we are going to have a conference this December on Seismic Imaging of Depositional and Geomorphic Systems. Seismic geomorphology is now a respected discipline and extremely useful for understanding depositional systems and deciphering geologic history. Lesli Wood, Toni Simo, and their technical committee have been hard at work in preparing an excellent program. We do hope you-all will come and enjoy.

[4] If this is August, then not only do we have to carry out the 2010 conference but it is time to start worrying about 2011. Seismic attributes (such as AVO) have already shown their importance in predicting lithology and fluid, and new attributes are now available, not all of which are totally understood by everyone: the discussion of what they can do for you is the subject of the 2011 conference.

I might add that we will soon announce the 2012 conference (busy finalizing the technical committee) and I have the Council of Gray Beards thinking about 2013 (again, assuming the Mayans are wrong).

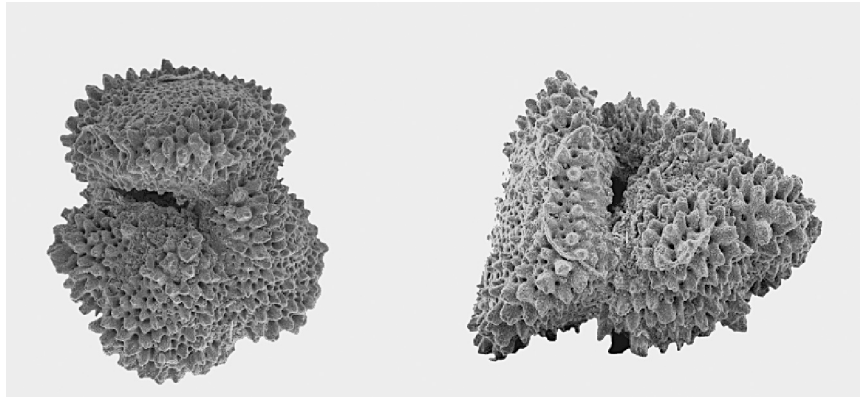
Stay thirsty, my friend.

Dr. Norman C. Rosen,
Executive Director
GCSSEPM Foundation

As noted in our summer newsletter, we have five fellowship winners this year. The following proposal by Shari was one of the first that we received.

Middle Eocene western north Atlantic biostratigraphy and environmental conditions

Application for GCSSEPM Ed Picou Fellowship Grant 2010
Submitted by Shari Hilding-Kronforst



Acaranina praetopilensis

Figure 1. Site 1051 Eocene planktonic foraminifera SEM. Left image 200 magnification, right image side view 250 magnification.

Rationale

How and why climate transitioned from Eocene greenhouse to Oligocene icehouse is still widely debated. What role did CO₂ play, when did high latitude glaciations commence, was this transition from greenhouse to icehouse abrupt or as recent studies have suggested, occurred in a stepwise manner? Can we correlate middle Eocene biostratigraphy and environmental conditions to other basins? This project will examine the north western Atlantic Ocean planktonic foraminiferal assemblage for refinement of the middle Eocene zonal markers and investigate environmental changes in stable oxygen, carbon and trace element isotopic signatures, resulting in a biostratigraphic and climatic record for the mid Eocene period from 42-44 Ma.

The middle to late Eocene is a critical climatic transition period from the Eocene greenhouse to Oligocene icehouse conditions. Understanding climate dynamics during this period is essential to identifying what drives climate change, and may allow us to better understand our current and changing environmental state. There are presently few, lower resolution Pacific or Southern Ocean records for this interval and there is a need for enhanced biostratigraphy of middle Eocene zones E9-E11.

Relevance

The marine sediment samples used in this study were obtained during Ocean Drilling Project (ODP) Leg 171B Blake

Nose in the western North Atlantic Ocean. Blake Nose offers well defined biostratigraphic, magnetostratigraphic, and cyclostratigraphic controls (Quillevere et al., 2008; Wade and Kroon, 2002) which are inherently applicable and relevant to the present day Gulf Coast region as during the time period of this project there was no barrier between Blake Nose and the Gulf Coast. Refinement and/or recalibration of the middle Eocene zonal markers in this region represent a valuable predictive tool for other geoscientists. The foraminifera will also be utilized for $\delta^{13}\text{C}$, $\delta^{18}\text{O}$, and trace element analysis using an isotope ratio mass spectrometer.

The sea surface is the interface between the ocean and atmosphere with sea surface temperatures (SSTs) representing an important boundary condition for both these circulation systems. Determining SSTs during periods of changing climate is essential to understanding the nature of the global ocean, recognizing changes in ocean circulation that occurred in conjunction with climate change, calibrating climate models, and understanding what controls climate change.

Analysis of foraminiferal oxygen isotope composition ($\delta^{18}\text{O}$) is the standard approach for paleoceanographic studies. The $\delta^{18}\text{O}$ of calcite from planktonic foraminifera has been shown to reflect both temperature and seawater $\delta^{18}\text{O}$, itself an indicator of global ice volume and salinity (Emiliani, 1955; Shackleton and Opdyke, 1973). For

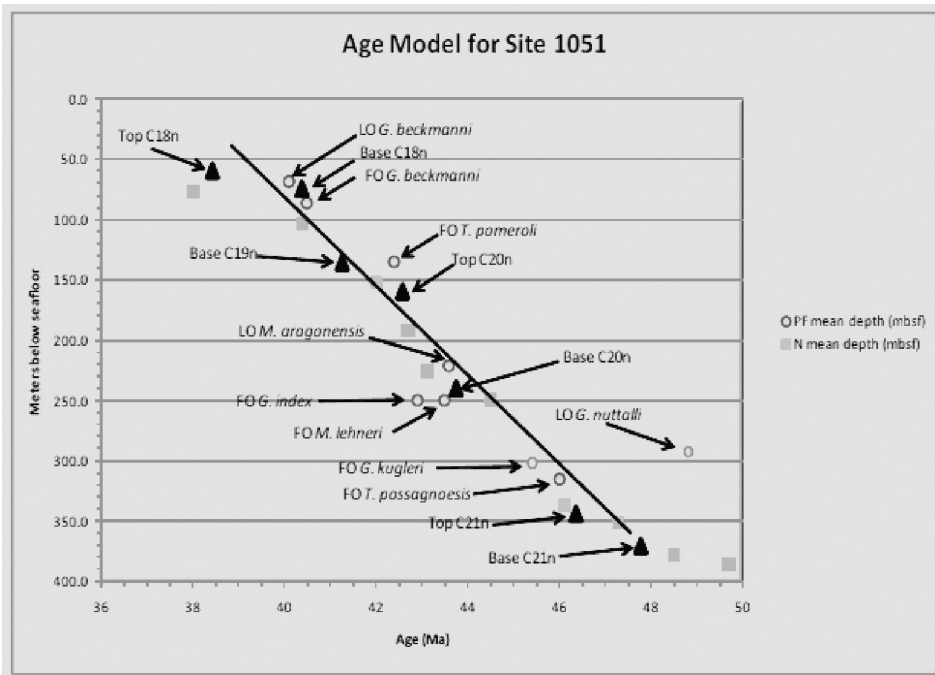


Figure 2. Age model for Site 1051 based on planktonic foraminifera (PF) and nannofossil (N) data compiled from Norris and Kroon (1998); Ogg and Bardot (2001).

this reason, foraminiferal $\delta^{18}\text{O}$ indicates changes in global ice volume/climate. Mg paleothermometry provides an independent approach to estimate past water temperatures. Mg/Ca ratios in foraminiferal calcite show temperature dependence due to the partitioning of Mg during calcification. In addition, measuring both Mg/Ca and $\delta^{18}\text{O}$ in the same foraminifera shells makes it possible to separate the magnitude and timing of SST and $\delta^{18}\text{O}_{\text{water}}$ changes (e.g., Elderfield et al., 2000; Lea et al., 1999; Nürnberg et al. 2000; Rosenthal et al., 2000).

The oxygen isotopic values will be used to reconstruct a temporal record of global climate/ice volume; the carbon isotopic values will be used to construct a record of carbon cycling; and the Mg/Ca ratios will be used to reconstruct a regional SST record of western North Atlantic Ocean climate. With this higher resolution biostratigraphic, paleoclimate and paleoenvironmental data, this study represents a valuable predictive tool for other geoscientists allowing for correlation between ocean basins further enhancing our understanding of this dynamic and variable period.

Strategy

In a completed pilot study of 20 sediment samples from Leg 171B site 1051 cores 16 through 25, there was a significant lack of benthic foraminifera but abundant and well preserved planktonic foraminifera (Figure 1, see page 2). This study was

revised to utilize planktonic foraminifera and an additional 126 samples from Site 1051 cores 14H through 30X were requested from International Ocean Drilling Program (IODP) Atlantic Core Repository. These cores encompass planktonic foraminiferal Zones E 9-11. The resolution of this study involved sampling every 1.5 m down core and spans the mid Eocene from 42 to 44 Ma (Figure 2, see above).

Each sample has been cleaned and the planktonic foraminiferal assemblage is currently being examined, and identified to allow for refinement of the zonal markers as well as for calibration to the paleomagnetic data. These foraminifera will also be utilized for $\delta^{13}\text{C}$, $\delta^{18}\text{O}$, and trace element

analysis using an isotope ratio mass spectrometer. Once the values for the proxies are obtained, they will be used several ways. First, the $\delta^{18}\text{O}$ data will provide the chronology for the sediment cores, and will be used to reconstruct a temporal record of global climate/ice volume. Second, carbon isotopic values will be used to construct a record of carbon cycling. Third, Mg/Ca ratios will be used to reconstruct a regional SST record of western North Atlantic Ocean climate. The combination of proxies will provide the history of the middle Eocene climatic dynamics in a regional and global context.

The objective of any environmental study is to examine and interpret the relationship between the biota and their environment. The ecological behavior of mid Eocene planktonic foraminifera at Blake Nose depends on biological, chemical and physical factors. A change in any of these elements drives changes in behavior that can be interpreted. Changes in marine sediment color (L^* not shown) and magnetic susceptibility data (Figure 3, see below) are proxies for changes in lithology. This cyclic variation in the record is a result of Milankovitch orbital cycles, the primary effect of which are changes in seasonality affecting sedimentation rates, and biota recorded in the sediment record. Recognizing that cyclic signature in marine sediments depict changes climate and ocean circulation in response to changes in Earth's orbital configuration, these changes can be used for calibration of other proxies. As this study has retained the fine fraction, we can further analyze the bulk $\delta^{13}\text{C}$ to delineate cyclic shifts.

The diversity and preservation of planktonic foraminifera present in this study

Continued on page 4

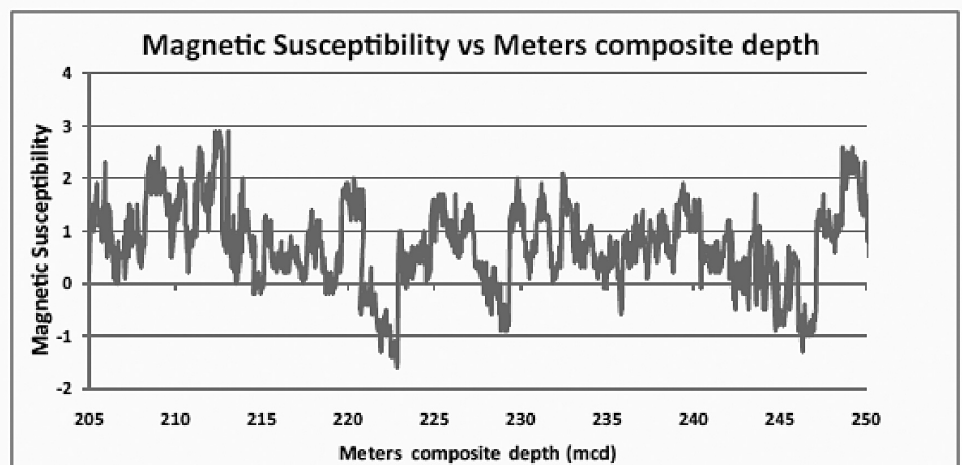


Figure 3. Magnetic susceptibility reflecting cyclicity in percent carbonate within this study interval, data compiled from Norris and Kroon (1998).

interval (select species shown in Figures 1 and 2) in addition to the number of species with first and/or last occurrence within this time period will allow refinement and recalibration of the foraminiferal Zones E9-11. In addition, it is noted that for *Globigerinatheka* “there is a pressing need for better calibrated ages for this genus.” (Premoli Silva 2006). This biostratigraphic and environmental study provides an important tool through the middle Eocene, correlation with isotope records provides chronostratigraphic control and enhances our understanding of this dynamic and variable period.

References Cited:

Elderfield, H., and Ganssen, G. 2000. Past temperature and $\delta^{18}\text{O}$ of surface ocean waters inferred from foraminiferal Mg/Ca ratios: *Nature*, v. 405, p. 442-445.

Emiliani, C., 1955. Pleistocene temperatures: *Journal of Geology*, v. 63, 538-578.

Lea D.W., Mashiotto, T.A., and Spero, H.J. 1999. Controls on magnesium and strontium uptake in planktonic foraminifera deter-

mined by live culturing: *Geochimica Et Cosmochimica Acta*. v. 63. p. 2369-2379.

Norris, R.D., Kroon, D., et al., 1998, Proceedings of the Ocean Drilling Program, Initial results, Volume 171: College Station, Texas, Ocean Drilling Program, 749 p.

Nürnberg, D., Müller, A., and Schneider, R.R., 2000. Paleo-sea surface temperature calculations in the equatorial east Atlantic from Mg/Ca ratios in planktic foraminifera: a comparison to sea surface temperature estimates from U^{k}_{37} , oxygen isotopes, and foraminiferal transfer function: *Paleoceanography*, v. 15, no. 1, p 124-134.

Ogg and Bardot in Norris, R.D., Kroon, D., et al., 2001, Proceedings of the Ocean Drilling Program, Scientific Results, Volume 171: College Station, Texas, Ocean Drilling Program.

Premoli Silva, I., Wade, B., and Pearson, P., in Pearson, P., Olsson, R., Huber, B., Hemleben, C., and Berggren W. 2006. Atlas of Eocene Planktonic Foraminifera, Cushman Foundation Special Publication No. 41.

Quillevere, F., Norris, R.D., Kroon, D., and Wilson, P.A. 2008. Transient ocean warming and shifts in carbon reservoirs during the early Danian: *Earth and Planetary Science and Letters*. v. 265. p. 600-615.

Rosenthal, Y., Boyle, E.A., and Slowey, N., 1997. Temperature control on the incorporation of magnesium, strontium, fluorine, and cadmium into benthic foraminiferal shells from Little Bahama Bank: Prospects for thermocline paleoceanography: *Geochim. Cosmochim. Acta*. 61, v. 17. Pp. 3633-3643.

Shackleton, N.J., Opdyke, N.D., 1973. Oxygen isotope and palaeomagnetic stratigraphy of equatorial Pacific core V28-238: oxygen isotope temperatures and ice volumes on a 105 and 106 year scale. *Quaternary Research* 3, 39-55.

Wade, B.S., and Kroon, D., 2002. Middle Eocene regional climate instability: Evidence from the western North Atlantic: *Geology*, v. 30, p. 1011-1014.

GCSSEPM FOUNDATION

ED PICOU Fellowship Grant For Graduate Studies in Earth Science

Programs and Rules for 2010-2011

Founded in 1981, the **GCSSEPM Foundation** is a tax-exempt, nonprofit organization whose primary objective is to promote the science of stratigraphy through research in sedimentary petrology, reservoir quality, paleontology, and any other related geological and geophysical fields, especially as it relates to petroleum geology, with emphasis in (but not limited to) the Gulf Coast region.

Among the activities which the **Foundation** may engage in are:

- Conduct research directly or through promotion, assistance, encouragement, or support of studies and research in the field of stratigraphy and in the science related thereto;
- Dissemination of information relating to stratigraphy and related fields through lectures, seminars, research conferences, symposia, publications, educational courses, teaching aids, and by other means and material;
- To carry on programs of continuing education in stratigraphy and related studies;
- To assist in career guidance to persons interested in stratigraphy and related studies;
- To assist public and private schools and colleges and universities and technical schools in teaching and education in the field of stratigraphy and related fields.

Therefore, we are hoping to support students whose thesis or dissertation is related to our primary objective. **We are primarily concerned about quality of work and how it relates to our objectives, but we are not limited to a particular geographic area.** Maximum grant will be for \$2500.

Interested students should submit: **(1)** a short description of their proposed work, not to exceed 4 pages (in type no smaller than 11 point and with standard margins), in written form and in digital format (Word, Word Pro, *etc.*). **(2)** A list of expenses and other support should be included; again in written format and digital format. **(3)** The student's advisor should write an appropriate document of support in written format. **(4)** We also require a short biography of the student as well as a digital picture. All of the above should be submitted to:

Dr. Norman C. Rosen
Executive Director
GCSSEPM Foundation
2719 S. Southern Oaks Drive
Houston, TX 77068

Submission of a proposal to the GCSSEPM indicates acceptance of the following conditions.

[1] The GCSSEPM Foundation will be acknowledged in the work.

(1) This money is being granted for the defraying of the cost of thesis/dissertation work associated with a degree program only. In the event that this work is not done, the money must be returned to us.

(2) We request a note at six (6) month intervals letting us know about the progress of the research. The first such note will be due (*i.e.*, posted) by December of the year in which the award is granted

(3) You will submit two notes (expanded abstracts) for publication in our GCSSEPM News Letter. The first will refer to the goals of your study; the proposal for the grant in general will be used. The second will be a summary of results of the work after completion.

(4) If the topic is appropriate for submittal to the GCAGS-GCSSEPM, we request that you present your work at a GCAGS-GCSSEPM convention.

(5) We request a 2-3 panel poster display at a GCSSEPM Research Conference after completion of your work and after you have received your degree. You would not be required to be there (although we will be pleased if you do come); the display is to help us show case the grant program in order to attract more corporate donations for the program.

Failure to comply with these terms may result in our refusal to consider future proposals from students of your professor and university. (Please make your advisor aware of this.)

DEADLINES

This program is designed to support research starting summer 2011 and into the 2011-2012 calendar/academic year. Therefore, we ask that all requests be sent by **March 15, 2011**. We hope to notify award winners by the end of March, 2011.

Gulf Coast Section – Society of Economic Paleontologists and Mineralogists

MEMBERSHIP APPLICATION AND RENEWAL

PLEASE USE THIS FORM FOR MEMBERSHIP APPLICATION, MEMBERSHIP RENEWAL AND ADDRESS CORRECTIONS AND CHANGES

Check appropriate box(es): APPLICATION RENEWAL ADDRESS OR E-MAIL CHANGE

Membership dues for the year 2010 are now due. If the date shown on the name line of your mailing label is not **10** or later, please remit dues with this form as soon as possible in order to remain a member of the GCSSEPM and continue to receive this Newsletter. **You can also renew online at www.gcssepm.org.**

Today's Date: _____

Name (Last, First, Middle Initial): _____

Company or University: _____

Mailing Address: _____

City, State/Country, Zip: _____

Business Telephone: (____) _____ Daytime Telephone: (____) _____

E-mail Address: _____

Are you a member or associate member of National SEPM? Yes No

Please Check:

- RECOMMENDED** **5 Year Membership or Renewal \$40.00** (check or credit card)
 3 Year Membership or Renewal \$25.00 (check or credit card)
 1 Year Membership or Renewal \$10.00 (by check only)
 Lifetime Membership \$300.00 (check or credit card)

Method of Payment*: Check enclosed Discover Visa MasterCard American Express

** Credit Card Payment can be accepted for 3 year, 5 year or Lifetime Memberships only*

Credit Card Account Number _____ Card Expiration Date _____

Printed Name on Card _____ Authorized Signature for Card _____

**Mail this form with payment to: GCSSEPM Treasurer, 2719 S. Southern Oaks, Houston, Texas 77068
or Fax to (281) 586-0833 (Fax available for Credit Card Payment only)**



Gulf Coast Section
Society of Economic Paleontologists
and Mineralogists
2719 South Southern Oaks Drive
Houston, TX 77068-2610

Non-profit Organization
U.S. Postage
PAID
Winsted, CT 06098
Permit No. 140

Seismic Imaging of Depositional and Geomorphic Systems

30th Annual GCSSEPM Foundation Bob F. Perkins Research Conference

HOUSTON, TEXAS, DECEMBER 5-8, 2010

Houston Marriott Westchase Hotel

Seismic geomorphology is the integration of three dimensional seismic data and the historical study of earth forms – geomorphology. Through this discipline we can see the ancient morphology of our depositional systems, in a spatial detail and at a dense time scale that we have not considered before. Quantitative methods applied to these data enable us to risk and define our subsurface reservoir and seal systems with a reduced uncertainty. In areas where much of our understanding was previously based upon schematic models and distant analogs often derived in basins very different from our own, we now rely on quantitative morphologic data measured from our own reservoirs in our own data. Having these data allow us to reexamine the empirical relationships among system elements and create models to predict, for instance, channel lithology from channel sinuosity, levee width based upon levee height, or carbonate apron width from slope. They enable us to view the true distribution of petrographic facies within a context of 3D spatial distribution of depositional elements. We can begin to explain why some wells produce and others don't. We can begin to predict with increased accuracy. Application of quantitative seismic geomorphology to existing data volumes around the world has the potential to provide a heretofore unrealized dense, deep, and spatially extensive understanding of older geomorphologic framework of the world.

The aim of the 30th annual Bob F. Perkins Research Conference is to discuss the integration of geomorphic and depositional systems principles and three-dimensional seismic interpretation toward an improved understanding of how to interpret paleo-landscapes and seascapes.

The Call for Papers has been answered with over thirty significant papers from industry and academia that will address these questions. A current listing of papers is available on our web site. All papers will be presented orally as well as poster format available for browsing throughout the meeting. All authors will be writing complete articles or expanded abstracts, which will be published in CD or DVD format in the same successful manner as the GCSSEPM has done since 1999. This means full color illustrations, longer articles, and, perhaps, some oversized illustrations.

As in the past, our registration fees will include conference CD/DVD, ice breaker, meals, and refreshments. This year, the technical presentations will span 3 days! For GCSSEPM Members who are current in their dues, early registration (before November 12, 2010) will be \$450. Early registration for non-members or those who are behind in their dues will be \$500. Registration after November 12, 2010, will be \$550. A limited number of student registrations will be available for \$200. Because of expected space demands, student registrations will go on sale after October 1, 2010. (Note: Student presenters can register before this date.) All students should e-mail (gcssepm@comcast.net) for a special form. Up-to-date SECTION members 70 or more years of age may register for \$300 BEFORE November 12th. (Note: "Current" in dues means 2010 expiration or later. For \$475, non-members may join for 3 years and pay member's registration during early registration only.) Cancellation Policy: Before 11/12/10, \$75 charge; 11/12-11/25, \$125 charge if we have a replacement; no refunds will be granted for cancellations after 11/25/10. Payment may be made by our secure form on-line, by mail, or by fax: 281-586-0833. (FULL Session registration on-site will be \$600.)

The most current information and registration forms for the conference are always available on our web site at www.gcssepm.org. We will try and maintain an accurate listing of papers and authors. As we did last year, the final program will be on-line and available for downloading before the conference starts. In addition, we will have on-line registration available!

PROGRAM ADVISORY COMMITTEE COCHAIRMAN

Lesli J. Wood (clastics): lesli.wood@beg.utexas.edu

Toni T. Simo (carbonates): toni.t.simo@exxonmobil.com

PROGRAM ADVISORY COMMITTEE

Henry Posamentier: henry.posamentier@chevron.com

Mihaela S. Ryer: mihaela.s.ryer@conocophillips.com

Pat Lehmann: patrick.j.lehmann@exxonmobil.com

Christopher Jackson: c.jackson@imperial.ac.uk

Jeff Lukasik: jeluk@Statoil.com

Xavier Janson: xavier.janson@beg.utexas.edu

Hongliu Zeng: hongliu.zeng@beg.utexas.edu

Bill Morgan: w.a.morgan@conocophillips.com

Steve Bachel: steve.bachtel@chevron.com

Paul Weimer: paul.weimer@colorado.edu

REGISTRATION FORM
GCSSEPM FOUNDATION 30th ANNUAL BOB F. PERKINS RESEARCH CONFERENCE
 December 5-8, 2010 • Houston, Texas

❖ ❖ ❖ PLEASE USE THIS FORM TO REGISTER FOR THE CONFERENCE BY MAIL OR BY FAX ❖ ❖ ❖

Name (Last, First, Middle Initial) _____ Nickname for Badge _____

Company _____ Spouse Name (if registering) _____

Mailing Address (Street or P.O. Box) _____ Day Phone (Include area/country code) _____

City _____ State/Country _____ ZIP/Postal Code _____

e-mail Address: _____

- GCSSEPM Section Member \$450 Until 11/12/10 Nonmember \$500 Until 11/12/10 Spouse Registration \$75
 Late Registration \$550 (After 11/12/10) Over 70 \$300 (Before 11/12/10) Join Section/register \$475 \$600 ON-SITE (Full)
 Check enclosed Visa Discover MasterCard American Express _____
Credit Card Account Number

Card Expiration Date _____ Printed name of Card Holder _____ Authorized Signature for Card _____

Mail this form with payment to the GCSSEPM Foundation, 2719 S. Southern Oaks, Houston, Texas 77068 or Fax to (281) 586-0833 (Credit Cards only). Checks or money orders must be drawn on U.S. banks in U.S. funds only. We do have on-line registration available at <http://www.gcssepm.org> (Credit Cards only). Students wishing to apply for one of the limited number of \$200.00 student places should request a special student registration application from the GCSSEPM Foundation by mail, fax or telephone at the number given above, or email **after October 1st (except for student presenters)**.

----- CUT ON THIS LINE TO SEPARATE FORMS -----

Houston Marriott Westchase Hotel Reservation Form

GCSSEPM Foundation 30th Annual Bob F. Perkins Research Conference • December 5-8, 2010
MAIL OR FAX HOTEL RESERVATION FORM DIRECTLY TO THE HOUSTON MARRIOTT WESTCHASE

Houston Marriott Westchase Hotel - ATTENTION: RESERVATIONS
 2900 Briarpark Drive, Houston, Texas 77042
 (800) 452-5110 (If you call, mention GCSSEPM Foundation Conference) **Reservations Fax: (713) 735-2727**

Arrival Date: _____ Approximate Time: _____ Departure Date: _____ Number of Rooms: _____
 Guest Name: _____ Names of Additional Occupants: _____

Street Address: _____ Day Phone (Include area/country code): _____

City: _____ State/Country: _____ ZIP/Postal Code: _____

Special conference rate: \$121 single, \$121 double, \$131 triple, \$141 quad (BEFORE November 21, 2010)

- I have enclosed a check or money order in the amount of one night's room rate plus occupancy tax (currently 17%).
 Please charge one night's room rate plus 17% occupancy tax to the following credit card:
 Visa MasterCard American Express Carte Blanche/Diner's Club Discover

Credit Card No.: _____ Expiration Date: _____

I understand that (1) I am liable for one night's room rate plus occupancy tax (currently 17%, **subject to change**), which will be covered by my deposit, in the event that I do not arrive as scheduled or cancel reservations less than 48-hours prior to my scheduled arrival; (2) upon check-in I must verify departure date.

Name on Card (Print or type): _____ Authorized Signature: _____

This hotel reservation request form must be accompanied by a deposit of one night's room rate plus 17% occupancy tax either by check, money order or with a major credit card. This deposit will be applied to the first night of the reservation. Deposits made via a credit card will be considered guaranteed and billed accordingly in case of a no-show. **Occupancy Tax is subject to change without notification.** Check in time is 3:00 PM. Check out time is 12:00 Noon.

1st CALL FOR PAPERS AND POSTER PRESENTATIONS

New Understanding of the Petroleum Systems of Continental Margins of the World

32nd Annual GCSSEPM Foundation Bob F. Perkins Research Conference

DECEMBER 2-5, 2012, HOUSTON, TX

During the past decade, numerous discoveries have been made in many deep-water basins globally, as well as ongoing significant development of previous discoveries. With many new companies operating in deepwater globally, our goal is to assemble an outstanding, innovative technical program that summarizes the recent successes globally, and a CD-ROM with the conference proceedings.

We are soliciting papers that document some or all aspects of the petroleum systems of deep-water margins with major production and/or discoveries (source rocks, seals, generation, migration, reservoirs, and traps). We are interested in papers that address these specific elements in a field, discovery, emerging play or regional setting of a basin.

The conference will address current areas of active exploration/development, and emerging deep-water basins. Current deepwater basins of interest include northern Gulf of Mexico (including the emerging Paleogene and Mesozoic plays), Brazil (Santos, Campos, Sergipe-Alagoas, Espirito-Santo), West Africa (Angola, Congo, Gabon Equatorial Guinea, Nigeria, Ghana, Sierra Leone, Mauritania, Morocco), eastern Mediterranean (Nile Delta, Levantine basin), west of Shetland Islands, Norway (recent discoveries), Indian subcontinent (Krishna Godavari), circum-Borneo (Baram Delta, northwest Borneo basin, Kutei/Makassar), northwest Shelf of Australia, Sakhalin Islands.

Emerging deep-water basins of the world: east Africa (Madagascar, Mozambique, Tanzania, Kenya, Somalia), additional West Africa basins, Arctic basins (east- and west-Greenland, North Siberian Shelf, Beaufort Sea), southern Gulf of Mexico, north Africa (Algeria, Libya), eastern Canada (Scotian, Jeanne D'Arc), northern south America (Colombia, Venezuela, Guyana, Suriname), Caribbean (Trinidad/Tobago), additional Brazilian basins, Argentina, Western India, Black Sea, New Zealand basins.

Authors interested in presenting a paper at the conference should submit by e-mail a preliminary title and 250-word abstract to Norman C. Rosen or one of the technical co-conveners.

Deadlines

Preliminary Title and Abstract:	October 1, 2011	First Manuscript: December 15, 2011
Tentative Program Announced:	November 15, 2011	Final Illustrated Manuscript: June 1, 2012

Technical Co-conveners

Paul Weimer (University of Colorado, Boulder, CO):	paul.weimer@colorado.edu
Marek Kacewicz (Chevron, Houston, TX)	mkacewicz@chevron.com
Bruce Trudgill (Colorado School of Mines, Golden, CO):	btrudgil@mines.edu
Richard Fillon (Earth Sciences, New Orleans, LA):	fillorh@bellsouth.net
Menno Dinkelman (GXT ION Geophysical, Houston, TX):	menno.dinkelman@iongeo.com
Technical Coordinator: Norman Rosen (NCR & Assoc., Houston, TX):	gcssepm@comcast.net

Technical Program Committee

Vitor Abreu (ExxonMobil, Houston, TX):	vitor.abreu@exxonmobil.com
Sam Algar (Murphy Oil):	sam_algar@murphyoilcorp.com
Jean Gerard (YPF-Repsol, Madrid, Spain):	jgerard@repsolypf.com
Sverre Henricksen (Statoil, Trondheim, Norway):	shen@statoil.com
Edmundo Marques (OGX, Rio de Janeiro, Brazil):	edmundo.marques@ogx.com.br
Trey Meckel (Woodside, Houston, TX):	trey.meckel@woodsideenergy.com
Henry Pettingill (Noble Energy, Houston, TX):	hpettingill@nobleenergyinc.com
Brad Prather (Shell Exploration, Houston, TX):	bradford.prather@shell.com
Gabor Tari (OMV, Vienna Austria):	gabor.tari@omv.com

FINAL CALL FOR PAPERS AND POSTER PRESENTATIONS

Attributes: New views on seismic imaging

31st Annual GCSSEPM Foundation Bob F. Perkins Research Conference

DECEMBER 4-7, 2011, HOUSTON, TEXAS

The aim of the 31st Bob F. Perkins Research Conference is to establish the value and limitations of both modern seismic attributes and their interpretation workflows in improving our understanding of the earth's subsurface as illuminated by modern 3D seismic reflection data. Geoscientists apply attributes in two ways. The first application is to use attributes to illuminate subtle features that allow us to reconstruct the depositional, tectonic deformation, and diagenetic history of the imaged earth volume. From these images we use principals of seismic geomorphology, structural geology, and fluid flow to infer lithology, the presence of fractures, or diagenetic alteration to enhance or destroy porosity. The second application is more quantitative, where densely-sample attributes sensitive to reservoir thickness, porosity, and fluid product are correlated to sparse well logs and/or production data to provide predictions of the well or production property on a dense grid. Multiattribute analysis tools range from simple animation, through more sophisticated multiattribute visualization and cluster analysis, to geostatistics.

The 1996 GCSSEPM Research addressed how seismic attributes such as AVO can aid geologists in predicting lithology and fluid product. Since that time, spectral decomposition, coherence, volumetric curvature, and elastic impedance inversion, as well as the 3D visualization, neural network, and geostatistical tools to analyze them have become available to almost all seismic interpreters.

Papers are solicited to span multiple scales – from basin analysis to reservoir characterization, and diverse lithologies – carbonates, clastics, intrusive and extrusive igneous rocks in the sedimentary section as well as fractured basement. The emphasis of the papers should be on interpretation and workflows and they should deal with the following themes:

- Attributes that predict fluid lithology and predict fluid product – AVO, acoustic/elastic impedance inversion, Q estimation and other reservoir attributes
- Attributes and workflows to map natural fractures, induced fractures, and present-day stress fields – Azimuthal velocity analysis, AVAz, curvature, and other related attributes
- Attributes and workflows to enhance or extend vertical resolution – spectral decomposition, spectral inversion, high-frequency reconstruction, etc.
- Attributes that map angular and depositional discontinuities
- Integration of attributes with seismic geomorphology interpretation workflows
- New multiattribute visualization tools and workflows
- Algorithms and workflows to accelerate interpretation – multiattribute geobodies, automatic channel detection, success and failure in automatic fault detection
- Algorithms and workflows that improve attribute performance – prestack gather conditioning, structure-oriented filtering, footprint suppression, enhanced diffraction illumination
- Multiattribute analysis using supervised and unsupervised classification

Authors of accepted papers will be required to submit a manuscript for a short paper of no fewer than 4 published pages (including illustrations) for publication on the CD-ROM proceedings of the conference. We do not anticipate setting a maximum page limit. Animations or movie files can be used to illustrate the papers in addition to static images. All authors should also prepare a poster for the conference poster session in addition to their presentation.

Authors interested in presenting a paper at the conference should submit by e-mail a preliminary title and 250-word abstract to Kurt Marfurt kmarfurt@ou.edu or Dengliang Gao dengliang.gao@mail.wvu.edu by October 1st, 2010.

PROGRAM DEADLINES

October 1, 2010	Preliminary title and abstract
November 15, 2010	Tentative program announced
December 15, 2010	First manuscript
June 1, 2011	Final illustrated manuscript

PROGRAM TECHNICAL CO-CHAIRS

Kurt J. Marfurt	The University of Oklahoma
Dengliang Gao	The University of West Virginia