

The Eastern Section of the Society for Sedimentary Geology ~ ES-SEPM ~ FALL 2011 Newsletter



Announcements

At the 2012 **Northeastern GSA Meeting in Hartford, CT**, the Eastern Section of the Society for Sedimentary Geology (ES-SEPM) Reception will be co-sponsored by the Paleontological Society. The Keynote Address will be given by Dr. Christopher R. Fielding, Global SEPM President and Coffman Chair in Sedimentary Geology, Department of Earth & Atmospheric Sciences, University of Nebraska-Lincoln. His topic will be "Synsedimentary structural growth recorded in the Cenomanian to Turonian succession of the Western Interior Seaway Basin, USA." The Reception and Keynote Address will be on Sunday, March 18, 2012 from 6:30-8:00 p.m. in Ballroom D of the Hartford Marriott Downtown. Everyone is welcome and refreshments will be served.



Dr. Christopher R. Fielding

Abstract

Although tectonic forcing of stratigraphic architecture in foreland basins is likely, evidence for such forcing generally remains circumstantial owing to limitations imposed by the nature of surface and subsurface geological datasets. Herein, I illustrate two examples from surface exposures of Cenomanian-Turonian formations in the Cretaceous Western Cordilleran foreland basin complex of Utah and Wyoming that provide unequivocal evidence of synsedimentary fold growth, differential subsidence and erosional truncation. The first example is from the Turonian Ferron Sandstone

exposed on the western limb of the Henry Mountains Syncline in south-central Utah. A 65 km long, depositional strike-parallel cross-section based on 59 measured sections reveals a synsedimentary fold with an estimated wavelength of ~70 km and amplitude of at least 50 m. The lower member of the Ferron Sandstone, which is entirely incorporated into the fold, was truncated by a regional surface of erosion (sequence boundary) that was later tilted northward, probably contemporaneously with accumulation of the upper member. The second example is from the Cenomanian-Turonian Frontier Formation in the northern Bighorn Basin, Wyoming. Here, along a depositional dip-oriented cross-section 35 km long composed of 23 measured sections, another synsedimentary fold with at least 35 m relief and a wavelength of 30 km is evident. Much of the Frontier Formation is incorporated into the fold, and is truncated by a more or less planar erosion surface (sequence boundary) within the upper Torchlight Member in a manner similar to the Ferron Sandstone example. In the same region, numerous sedimentary dikes filled by massive sandstone petrographically indistinguishable from the lower Peay Member are preserved. Both examples can be clearly attributed to geodynamic/tectonic driving forces, likely related to forebulge migration.

At the 2012 **Southeastern GSA meeting in Asheville, NC**, the Eastern Section of the Society for Sedimentary Geology (ES-SEPM) Reception and Keynote Address is by David A. Budd. Dr. Budd is Global SEPM President-Elect and Professor of Geological Sciences at the University of Colorado at Boulder. His talk is titled "Are self-organizing processes an overlooked component of sedimentary diagenesis?" It will be on Sunday, April 1, 2012 from 6:30 p.m. – 8:30 p.m., Top of the Plaza – 12th floor Renaissance Asheville Hotel. Everyone is welcome and refreshments will be served.



Dr. David Budd

Abstract

The processes that alter sediments, turn them into rock, and continue to modify the rock throughout its burial history are well known, as are typical associations between processes, products and diagenetic settings. We do not fully understand all the controls on processes and products, but given a thin section and some key geochemical data, we can decipher a lot about a rock's diagenetic history.

What has been elusive is an understanding of the spatial distribution of alteration products. Recent work suggests that self-organizing phenomena may be one cause of spatial patterning at a variety of scales.

Self-organization creates pattern from interactions between the components of a dynamic system. The patterns are produced without external influences or a pre-existing template. Self-organization is increasing

recognized in the deposition of sediments and sedimentary bodies. With respect to diagenesis, disequilibrium and nonlinear feedbacks are the only requirements. Changes in physiochemical regime create disequilibrium between rocks and fluids. Nonlinear feedbacks arise between fluid flow, reactive surface area, changing petrophysics, and the system's evolving chemistry. The appropriate question may not be, are there self-organizing phenomena in diagenesis, but how do we recognize them and determine their origin?

The simplest way to identify self-organizing phenomena is to detect patterns in diagenetic products. This is easiest at hand sample or thin section scales. At larger scales, patterns can only be detected with regular, closely spaced samples over tens to hundreds of meters, but such a sampling strategy is extremely rare. We will only know what self-organizing phenomena exist if we first adjust our sampling strategies and systematically look for it in the attributes of sedimentary rocks.

Recognizing patterns, however, will not explain how self-organizing diagenetic systems function. Due to the complexity of the systems and the range of possible outcomes, understanding self-organizational mechanisms requires numerical simulations. An example of recognizing pattern in massive dolostones, and understanding its origin through reaction-transport and fabric-evolution modeling of dolomitization illustrates one example of self organization in diagenesis.

Remember the deadline to submit abstracts to the GSA meetings are *December 13, 2011* and *January 17, 2012* for the Northeastern and Southeastern meetings, respectively.

The following are ES-SEPM sponsored events at the spring regional Geological Society of America meetings.

Northeastern GSA Meeting

<http://www.geosociety.org/Sections/ne/2012mtg/>
47th Annual Meeting of the Northeastern Section, GSA
18-20 March 2012, Hartford, Connecticut, USA
Chair: Jean Crespi (jean.crespi@uconn.edu)

Theme Sessions

News from the Newark Supergroup

Cosponsored by Eastern Section, SEPM.
Elizabeth Gierlowski-Kordesch, Ohio Univ., gierlows@ohio.edu.

Where It All Began: Trace Fossil Research in Northeastern North America

Cosponsored by Eastern Section, SEPM.
Patrick R. Getty, Univ. of Connecticut, patrick.getty@uconn.edu; Jacob S. Brenner, Tufts Univ., jacob.benner@tufts.edu.

Microbial Mats and Microbialites: From Ancient to Modern

Cosponsored by Eastern Section, SEPM.
Kristen L. Myshrall, Univ. of Connecticut, kristen.myshrall@uconn.edu; Natalie J. Stork, Univ. of Connecticut, natalie.stork@uconn.edu.

Geologic Hazards and Climate Change in the Northeast: Impacts and Opportunities

Cosponsored by Eastern Section, SEPM.
Nicholas K. Coch, CUNY Queens College, coch@earthlink.net; Laurence R. Becker, Vermont Geological Survey, laurence.becker@state.vt.us.

Southeastern GSA Meeting

<http://www.geosociety.org/Sections/se/2012mtg/>
Southeastern Section - 61st Annual Meeting
1-2 April 2012, Asheville, North Carolina, USA
Co-Chairs: Blair Tormey & Cheryl Waters-Tormey (Western Carolina University)

Theme Sessions

Ancient and Modern Eolian Systems of Eastern North America. (Cosponsored by Eastern Section, SEPM; GSA Sedimentary Geology Division) Chris Swezey, U.S. Geological Survey, cswezey@usgs.gov; Rich Whittecar, Old Dominion University, rwhittec@odu.edu.

Sedimentation and Stratigraphy of Fine-grained Strata: Insights from Modern and Ancient Marine Systems. (Cosponsored by Eastern Section, SEPM; GSA Sedimentary Geology Division) J.P. Walsh, East Carolina University, walshj@ecu.edu; Don Neal, East Carolina University, neald@ecu.edu

Hydrogeology and Geomorphology of Carbonate Aquifers in the Southeast US. (Cosponsored by Eastern Section, SEPM; GSA Sedimentary Geology Division; GSA Hydrogeology Division) Lee J. Florea, Ball State University, lflorea@bsu.edu.

Coastal Response to Sea Level and Climate Changes. (Cosponsored by Western Carolina University Program for the Study of Developed Shorelines; Eastern Section, SEPM; GSA Sedimentary Geology Division) Katie Peek, Western Carolina University, kmcdowell@wcu.edu; David Mallinson, East Carolina University, mallinsond@ecu.edu

Field Trip

Caves and Karst of the Cumberland Plateau in Southeast Kentucky. (Cosponsored by Eastern Section, SEPM) Lee J. Florea, Ball State University, mr_chaos@hotmail.com.

Section News _____

Old Section Field Guides – Free for Active Members! _____

The following four field guides are available at no charge to active ES-SEPM members on a first come-first served basis. Please e-mail the Section Secretary/Treasurer Bosiljka Glumac (bglumac@smith.edu) a list of guides you would like to receive. If your membership is not up to date, please send in your dues before or with your request for the guides. Any contributions for shipping are welcome. Thank you!

“Sedimentology, stratigraphy, and ichnology of the Lower Silurian Medina Formation in New York and Ontario” by William L. Duke, William C. Brusse, Peter J. Fawcett, Gerard V. Middleton, Margaret A. Rutka, Carlos J. Salas, and S. George Pemberton, 1987.

“The Taconian clastic sequence in northern Virginia and West Virginia” by Richard J. Diecchio, 1985.

“Lower Paleozoic carbonate rocks, Roanoke region, Virginia” by J.F. Read with contributions from J.A. Bova, S.L. Dorobek, G.A. Grover, W.F. Koerschner, R.D. Kreisa, J.R. Markello, and W.J. Mussman, 1983.

Membership Information _____

Renew your Membership

To determine your current membership status, please check the mailing label of this newsletter. Following your name you will see “Stu” for student members or “Pro” for professional members. These indicators are followed by a year designation: for students it’s the year they joined the section or updated their information, and for professional members it indicates their membership dues status (for example, “Pro 11” means paid up through 2011). If your paid-up status is for a year earlier than 2011 or 2012, you owe dues now. If your

mailing label has your name and address only, and you are no longer a student, then your dues payment is currently due in the amount of \$8 and will be credited for 2012 (and beyond if additional money is sent). Student members are not required to pay dues, but please let us know about your current status and ensure that we have your updated contact information. We would like to avoid too many "Return to Sender" situations. For the same reason, we have started to delete from our membership list the names of members whom we have not heard from in a while. If you are one of those, please either update your status or let us know if you would prefer to be taken off the membership list (by e-mailing the Secretary/Treasurer Bosiljka Glumac: bglumac@smith.edu). Thanks to all of you who have recently paid your membership dues, and we hope to hear from the rest of you soon.

E-Mail Distribution List

Please make sure that we have your current e-mail address. We will also be e-mailing you a PDF version of this Newsletter and the link to our web page. If you do not receive this e-mail in the next week or so we do not have your current e-mail address. Please update your e-mail information on the enclosed membership form or by e-mailing the Section Secretary/Treasurer Bosiljka Glumac: bglumac@smith.edu. Thank you!

Get Membership for Life!

Tired of constant reminders about paying your \$8 ES-SEPM dues each year? For a contribution of \$100 or more you can become a life-long member of ES-SEPM! For more information, please see the **Membership Form** included in this Newsletter.

New Life-Long Members:

Amy Frappier
Robert N. Ginsburg

Thank you for your support!

Honorary Life-Long Members:

Gerald M. Friedman
Gerard V. Middleton
John B. Southard
H. Allen Curran

Other Announcements

- AAPG 2012 Annual Convention & Exhibition, April 22-25, 2012, Long Beach, California
- The ASLO Ocean Sciences Meeting, February 19-24, Salt Lake City, Utah
- 2012 National Conference on Undergraduate Research, March 29-31, 2012, Weber State University, Ogden, UT- Abstracts due December 1, 2011
- 16th Symposium on the Geology of the Bahamas and Other Carbonate Regions, June 2012, San Salvador Island, Bahamas: www.geraceresearchcentre.com
- The 22nd biennial meeting of the American Quaternary Association, Duluth Entertainment and Convention Center (DECC), University of Minnesota Duluth, June 21-24, 2012

- 45th Annual Meeting of The Palynological Society, July 21-25 2012, University of Kentucky, Lexington.
- The Third International Congress on Ichnology – ICHNIA 2012 – August 11-23, 2012, Memorial University of Newfoundland, St. John's, Canada:
<http://www.ichnology.ca/index.php/ichnia-2012>
- Society of Vertebrate Paleontology (SVP) 72nd Annual Meeting, October 17-20, 2012, Raleigh, NC USA: <http://www.vertpaleo.org/meetings/>
- 2013 AAPG Annual Convention & Exhibition in Pittsburgh:
Dear ES-SEPM Members -
To assist us with planning SEPM activities at 2013 AAPG ACE in Pittsburgh we would like to hear your ideas for potential topics and chairpersons for the SEPM Research Symposium and other technical sessions to be held at this conference. Please send your suggestions to the SEPM Vice-Chair Bosiljka Glumac (bglumac@smith.edu). Thank you very much in advance.
- From our friends at: **Northeastern Geoscience**
*an on-line academic journal of regional geological science
in the northeastern United States and adjacent Canada*

Dear colleagues,

At the end of 2008, the regional, peer-reviewed journal **Northeastern Geology and Environmental Science** ceased publication. A new journal called **Northeastern Geoscience** (www.northeasterngeoscience.org), published quarterly, which will be peer reviewed, and primarily on-line, will be available on-line at no cost.

The journal will accept submissions that deal with the geology and related subjects in northeastern North America, the region that corresponds roughly to the area of Northeastern Section of the Geological Society of America.

The language of the journal will be English, but authors publishing on areas with an historical French-language scientific literature are encouraged to include a French version of the abstract. The first issue will appear in winter 2012.

Northeastern Geoscience will begin accepting manuscripts immediately for the first issue, which will be published in January of 2012. Please check our webpage (www.northeasterngeoscience.org) for Guidelines for Authors. Manuscripts should be e-mailed to negeoscience@cobleskill.edu.

In addition, we are recruiting potential reviewers of manuscripts. If you are interested in reviewing, or even helping with editorial tasks, please contact one of the editors and let us know.

The Editors of Northeastern Geoscience,

James R. Ebert (ebertjr@oneonta.edu)

Department of Earth and Atmospheric Sciences, SUNY College at Oneonta

Edward J. Stander (standeej@cobleskill.edu)

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Department of Geology & Planetary Science, University of Pittsburgh at Johnstown

Call for Newsletter Contributions

Please send your news, announcements, and any other Newsletter contributions to the Newsletter Editor Deborah Freile (dfreile@njcu.edu). We look forward to hearing from you!

ES-SEPM MEMBERSHIP FORM

NOTE: This form is for New Members or for Current Members to update membership information. If the information on your mailing label is correct and we have your e-mail address, there is no need to return this form with your dues payment. Current members – *please pass this form on to prospective new members, both professionals and students as appropriate.*



Membership type:

Please check one: Professional (\$8/year*) Student (free)

* make checks payable to: Eastern Section SEPM

**for a contribution of \$100 or more become a life-long member!!!

Name: _____

Title/Occupation: _____

e-mail: _____

Would you like to have your e-mail included on our online list of members? _____

Address: _____

Professional interests: _____

Web page (if you wish to have a link from the ES SEPM page):

Return completed forms with dues payment as applicable to:

Bosiljka Glumac
Eastern Section SEPM Secretary/Treasurer
Department of Geosciences, Smith College
Northampton, Massachusetts 01063

e-mail: bglumac@smith.edu

You can find a copy of this form and other pertinent information at: www.essepm.org

**Eastern Section-SEPM
Bosiljka Glumac, Secretary/Treasurer
Department of Geosciences
Smith College
Northampton, MA 01063**

Address Correction Requested



Attention!!! Membership information ↓