

February 2016

NEWSLETTER

February Meeting:

Antarctica's Sedimentary Archives of Past Glacial History: Tools for Understanding Climate Change



SINCE 1950

Four Corners
Geological Society

SPEAKER:	Dr. Julia Wellner , AAPG Distinguished Lecturer
DATE / TIME:	Thursday, February 4 th , Social starts at 5:30pm, dinner at 6:00pm, talk at 7:00pm.
LOCATION:	Fort Lewis College, Student Union Building, Colorado Room
COST:	\$20.00/person, \$2.00/person talk only, Students free. You can RSVP & pay online at: http://www.fourcornersgeologicalsociety.org/Events/events.asp
RSVP:	By Tuesday, February 2 nd at 5pm to Rebecca Helms, rhelms@rwpc.us or 970-563-5356. (Students, please RSVP by email as the online PayPal system doesn't work for free admission).



ABSTRACT: During times of past extensive glaciations, the Antarctic ice sheet extended from its current position, reaching across the continental shelf. As the ice sheet retreated to its modern extent, the shrinking ice sheet left behind seawater, rather than ancient ice, leaving behind a sedimentary signature of deglacial history.

Marine geophysical survey data, including 3.5 kHz profiles and multibeam swath bathymetry, combined with sediment cores, are used to map the extent of past ice, estimate the speed at which it was flowing, and understand the style of retreat. Radiometric dating gives ages of retreat and allows comparison to other global archives. Past periods of glacial retreat, which tend to be diachronous, are compared to the modern day retreat, which is happening across large areas in a short period of time. Ongoing work is targeting records from times of past high CO₂ conditions, like those predicted in our future.

PLEASE RENEW YOUR MEMBERSHIP: *Membership in the Four Corners Geological Society runs on the calendar year. Please either renew online at www.fourcornersgeologicalsociety.org or fill in the form on the last page and mail it with your check to FCGS / P.O. Box 1501 / Durango / CO 81302.*

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SPEAKER'S BIOGRAPHY: JULLIA WELLNER, PH.D.

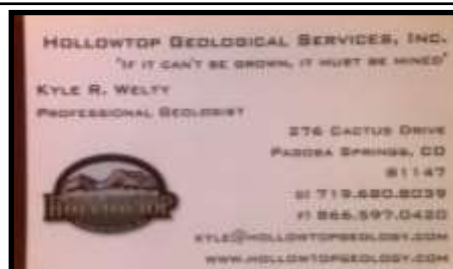
AAPG Distinguished Lecturer



BIOGRAPHY: Wellner is a sedimentologist and stratigrapher who works primarily in the Gulf of Mexico and offshore Antarctica on questions related to sediment facies, stratigraphic architecture, glacial history, and sea-level change. She earned her PhD from Rice University in 2001 where she also completed a post-doctoral fellowship. She has been at the University of Houston since 2006 where she teaches stratigraphy, sequence stratigraphy, marine geology, and oceanography. Wellner has completed over a dozen ocean-going cruises collecting seismic data and sediment cores, including eight in Antarctica. - See more at: <http://www.aapg.org/career/training/in-person/distinguished-lecturer/details/articleid/22897/julia-wellner#sthash.I1jQNbaK.dpuf>

UPCOMING FCGS MEETINGS

March 10 th	Tim Rynott, Ridge Resources LLC, " <i>Evolution and Economic Implications for Upper Cretaceous Sandstones: A New Example from the Inboard Gulf of Mexico</i> ". Farmington, location TBA.
April 28 th	Fort Lewis College Geology Seniors, <i>Senior Thesis Presentations</i> . Fort Lewis College, location TBA (<i>Date changed from January Newsletter</i>)
June 3 rd	Dr. Leslie J. Wood, CSM, " <i>Overview of field trip including the nature of the Torrivio Fluvial systems near Gallup and physical modeling of plunging plumes over an oversteened shoreline</i> ". Farmington, location TBA.
June 4-5 th	<u>SAN JUAN BASIN FIELD TRIP!!!</u> , led by Dr. Leslie J. Wood.



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FCGS FIELD TRIP ANNOUNCEMENT!!!

THE TOCITO, EL VADO AND GALLUP SANDS OF THE SAN JUAN BASIN

Dr. Lesli J. Wood

Dates: Saturday, June 4-5th, 2016

Leader: Dr. Lesli J. Wood, Weimer Distinguished Chair and Professor in Sedimentary and Petroleum Geology, Department of Geology and Geological Engineering, Colorado School of Mines

Itinerary: Friday, June 3rd: Dr. Wood will give a talk to the Society on her research and give an overview of the fieldtrip. This meeting will be held in Farmington. Time and place TBA.

Saturday, June 4th:

- Depart Farmington, NM at 8:00 am head to Hog Back Oil Field outcrops. Look at the Tocito. Discuss shale lengths work, facies associations, core collected on adjacent ridges. Exxon interpretation, Nummedal and Riley interpretation, Burton and Wood work. Lunch at this location.
- Depart outcrop at 12 pm drive to Chama. 2 pm Go to the type locality of the El Vado, near El Vado Reservoir.
- Depart for Bernillio, NM by 4 pm. Down through Cuba. Overnight in Bernillio (6 pm) or overnight in Cuba, depending on how adventurous people are feeling.

Sunday, June 5th:

- Depart for outcrop 8:00 am, down to Cabazon Peak area.
- Stop 1: overview Tocito/El Vado/Gallup to the southeast, correlations west and north.
- Stop 2: Tocito at Hunters Camp Road. Discuss hummocky cross-stratification and implications for processes along the shoreline. Distance of sand distribution.
- Stop 3: Tocito at the Culvert. Lunch after the Culvert Stop
- Stop 4: El Vado Hedayati's Section 1. Subsurface correlations to the north. Correlation to El Vado Reservoir, El Vado type section
- Stop 5: Tocito at the Cabazon Peak.
- Stop 6: Gallup Tocito contact. Nature of the Gallup A.
- Return to Farmington. Arrive by 6 pm.

Trip Description: The Tocito/El Vado/Gallup Interval Sands/etc. are a very diverse group of rocks. This trip will examine variability of these units from northwest to southeast in the San Juan Basin. The group will discuss what factors control these differences. Are these temporally different units that are just being called the same thing? Are they changing due to distance from a northwest source (a la Exxon models)? Or are they changing due to alongshore changes in sediment supply and conditions? The economic importance of these sands to hydrocarbon production in the basin makes this a timely topic.

Fee: To be decided.

Limit: To be decided (may depend on transportation options).

Sponsors: Need some!

EVENTS, MEETINGS & COURSES (by date)

DENVER MINING CLUB MONDAY MEETINGS: Sheridan, CO. Must purchase buffet lunch at Golden Corral Buffet & Grill, 3677 South Santa Fe Drive. More info at <http://www.denverminingclub.org/> .

February 1st: Martin Lockley, Dinosaur Ridge

February 8th: Don Moon, The Bully Moose Pulpit, LLC, Bringing Teddy Roosevelt to Life

February 22nd: Paul Johnson, President CSM, Keeping Mines Special

ROCKY MT ASSOC. OF GEOLOGISTS FEBRUARY LUNCHEON: Denver CO, Feb. 3rd., Maggiano's Little Italy - 500 16th Street Mall #150, 11:30am. **Speaker: Matt Silverman, "Tempest at Teapot Dome, Wyoming: the Greatest Political Scandal in the History of the American Oil Industry.** To register go to: <https://rmag.memberclicks.net/february-luncheon-registration> .

ABSTRACTS DUE, GEOTHERMAL CONFERENCE: SMU Power Plays, Geothermal Energy in Oil and Gas Fields. Conference will be held April 25-26 at SMU Campus, Dallas, Texas. Submit your abstract by email to geothermal@smu.edu by Friday February 5, 2016.

WESTWARD LOOK MINERAL SHOW: Tucson, AZ, February 5-8. For more information go to: <http://www.westwardminerals.com/> .

SUBSURFACE CONSULTANTS AND ASSOCIATES: Upcoming classes:

Applied subsurface geological mapping. Houston, TX., Feb 15-19 & March 28-Apr1

Applied subsurface geological mapping. Dallas, TX., Feb. 29-Mar4.

More info and registration at: <https://www.scacompanies.com/> .

PTTC (Petroleum Technology Transfer Council) WORKSHOP: Golden, CO, February 16th. **"Air Emission Analysis for State and Federal Air Compliance"** . L. Peter (Pete) Galusky , Jr. Ph.D., P.E., Texerra LLC, instructor. For information and to register: <https://www.eventbrite.com/e/air-emission-analysis-for-state-and-federal-air-compliance-tickets-20076264648> .

NGWA CONFERENCE: "Hydrology and Water Quality in the Southwest", February 23-24, Albuquerque, NM. More info and registration at: <http://www.ngwa.org/Events-Education/conferences/Pages/5034feb16.aspx> .

22nd ANNUAL RMAG & DGS 3D SEISMIC SYMPOSIUM: Denver, CO, March 3rd. For more information go to: <https://rmag.memberclicks.net/3d-seismic-symposium> .

AAPG WORKSHOP: Midland, TX, February 24-25. **"Reality-Based Reservoir Development: New Teams, Techniques, Technologies"**. More information at: <http://www.aapg.org/career/training/in-person/workshops> .

ABSTRACTS DUE FOR GSA ROCKY MTN SECTION MEETING: by March 1st. For meeting to be held May18-19 in Moscow, Id. More information at: <http://www.geosociety.org/sections/rm/2016mtg/> .

ROCKY MT ASSOC. OF GEOLOGISTS MARCH LUNCHEON: Denver CO, March 2nd., Maggiano's Little Italy - 500 16th Street Mall #150, 11:30am. **Speaker: Sheri Bowman-Young, "Fracture size scaling of hydraulic fracture simulations in shale reservoirs.** To register go to: <https://rmag.memberclicks.net/upcoming-luncheons> .

22nd ANNUAL 3D SEISMIC SYMPOSIUM, Denver, CO., March 3rd. Sponsored by RMAG and DGS. For more information and to register see: <http://www.rmag.org/3d-seismic-symposium>.

HART ENERGY DUG CONFERENCE: Denver, CO., March 9-11. Developing Unconventionals, Rockies. Plays Covered: Bakken, Three Forks, Niobrara, Codell, Mancos, Parkman, Turner, Frontier, Mesaverde, Wasatch, Fort Union. Information and registration at: <http://www.dugrockies.com/> .

PTTC (Petroleum Technology Transfer Council) WORKSHOP: Golden, CO, March 15-16th. "The Petrography of Shales from Mudstones to Chalks". Dana S. Ulmer-Scholle and Peter Scholle, instructors. For information and to register: <https://www.eventbrite.com/e/the-petrography-of-shales-from-mudstones-to-chalks-tickets-20699858835> .

PTTC (Petroleum Technology Transfer Council) WORKSHOP: Golden, CO, March 17-18th. "Petra Basics". Jewel Wellborn, instructor. For information and to register: <https://www.eventbrite.com/e/petra-basics-tickets-20699182813> .

PLAYMAKER FORUM: Denver, CO., March 24. Rockies Playmaker Forum sponsored by RMAG, AAPG and DPA. More information at: <https://rmag.memberclicks.net/playmakers> .

IHS TRAINING FOR RMAG MEMBERS (Must be full time student or unemployed RMAG member to attend). Registration opens Jan 13th. Held at IHS, 321 Inverness Drive S, Englewood, CO. More info at: https://rmag.memberclicks.net/assets/IHStrainings/IHS%20Trainings_Full%20Pg_12.15.pdf

April 25-27: Kingdom Seismic Interpretation (Value: \$2,100)
April 28-29: Kingdom Geological Interpretation (Value: \$1,400)

COLORADO STATE UNIVERSITY, DEPARTMENT OF GEOSCIENCES SEMINAR SCHEDULE:
Schedule posted at: <http://warnercnr.colostate.edu/geo-news-and-events/departement-seminars> . Seminars are located in Room 320, Warner College of Natural Resources (NR) Building on Thursday afternoons, and will begin at 12:30 p.m. Questions? Please call (970) 491-5661.

February 4. Yvette D. Kuiper, CSM. "Along-strike Variations in the (Northern) Appalachians: a Model of Mid-Paleozoic Oceanic Ridge Subduction"

February 11. Karl Karlstrom, CSM. TBA.

February 18. Ben Crosby, Idaho State U. "Landscape Response to Changing Climate: Studies of Instability from the Alaskan Arctic".

March 3. Craig Jones, U of CO. "Making the Rockies by Drowning Colorado".

GSA ANNUROCKY MTN. SECTION MEETING: May 18-19, Moscow, Idaho. More information at: <http://www.geosociety.org/Sections/rm/2016mtg/> .

AAPG ANNUAL CONVENTION AND EXHIBITION: June 19-22, Calgary, Alberta Canada. Abstract submission closed. More information at:


<http://www.aapg.org/events/conferences/ace/announcement/articleid/5662/aapg-2016-annual-convention-exhibition>.



Mug o' Merit

Everything tastes better from the Mug o' Merit. Earn yours by sharing your knowledge with the membership.

Please contact Rebecca Helms: rhelms@rwpc.us to set up your talk. OR heard a good talk lately? Speaker recommendations are also appreciated!



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LOST MEMBER CONTACT:
Tom Ann Casey
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THANKS!



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My professional interests are: _____

The dues year begins on January 1st. For dues paid after March 1, add a \$5 late fee (does not apply to new members).

- I am making a donation to the FCGS Foundation! Amount \$_____.
(Please enclose a separate check).

Please print, complete and return this form with your check for dues made payable to: Four Corners Geological Society and mail to the address above. OR go online to www.fourcornersgeologicalsociety.org to join or renew.