



# The Rock Record - April, 2015

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Please contribute to the SGS Newsletter

The SGS Newsletter is produced by the SGS executive. Letters, announcements, notices, comments, photos, news and information about SGS members, etc. are always welcome. Call an executive member or write to us at:

**Saskatchewan Geological Society**

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[Sask.Geol.Soc@hotmail.com](mailto:Sask.Geol.Soc@hotmail.com)

**SGS Website:**

[www.sgshome.ca](http://www.sgshome.ca)

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## Saskatchewan Geological Society Luncheon Talk

**Friday, April 17th**

Dr. Taury Smith, Smith Stratigraphic LLC.

AAPG Distinguished Lecturer

Environmental Implications of the Shale Gas Revolution and  
Associated Hydraulic Fracturing

### NOTE CHANGE OF VENUE:

University of Regina

Classroom Building, Rm 127

**Lunch: 11:45 a.m.**

**Meeting talk: 12:15-1:00 p.m.**

For lunch the cost is:

Members: \$15.00

Student Members: \$5.00

Non-Members: \$20.00

For those not having lunch the talk is free

RSVP to Dr. Jason Cosford at [cosford@jdmollard.com](mailto:cosford@jdmollard.com)

or Monica Cliveti at [monica.cliveti@uregina.ca](mailto:monica.cliveti@uregina.ca)

before 5:00 pm, Monday, April 13th if you are going to have lunch.

**For those not having lunch the talk is free**

## DETAILS OF NEXT LUNCHEON TALK

### Taury Smith - Bio

Taury Smith currently works as a geological consultant on integrated characterization of carbonate and unconventional reservoirs. He has a BS in Geology from Temple University, a Ph.D in geology from Virginia Tech and did post-doctoral work on carbonates at the Rosenstiel School of Marine and Atmospheric Sciences at the University of Miami.

In 13 years at the New York State Geological Survey, Taury worked as the State Oil and Gas Geologist and then as the Acting State Geologist. Taury spent the first several years there working on the origin and reservoir characteristics of hydrothermal dolomite reservoirs and more broadly on fault-related hydrothermal diagenesis. While this work did generate some controversy within the carbonate community, he went on to win the best paper award from AAPG Bulletin in 2006 with co-author Graham Davies for their paper on hydrothermal dolomite reservoirs.

When the unconventional boom arrived in the Appalachian Basin, Taury became interested in the origin, distribution and reservoir characteristics of organic-rich mudrocks in the Ordovician Utica Shale and Devonian Marcellus Shale of the Appalachian Basin. His work again generated some scientific controversy for suggesting that some organic-rich mudrocks appear to have been deposited in relatively shallow, storm-influenced seasonally anoxic settings rather than deep, quiet, permanently anoxic settings. He has won three A.I. Levorsen best talk awards at AAPG Eastern Section meetings. As a consultant, Taury has worked on carbonate projects in Saudi Arabia, Algeria, Argentina, Brazil, Venezuela, Mexico, Canada and the United States and has recently worked on unconventional projects in Abu Dhabi, Argentina and the USA.

## ABSTRACT

### Environmental Implications of the Shale Gas Revolution and Associated Hydraulic Fracturing

Shale gas and associated hydraulic fracturing or “fracking” has become a hot-button environmental issue in the United States and around the world. Fears of widespread groundwater contamination, chemicals added to frac fluids, earthquakes, air pollution, greenhouse gas emissions, land use and more have fueled opposition to shale gas development in New York and many other states. A good deal of misinformation has made its way into public discourse that has clouded the issue. The purpose of this talk is to provide some background geological and engineering information on the issue and to take a more in-depth look at some of the environmental pros and cons of shale gas development.

Starting with the assumption that the US and the rest of the world are going to continue to use energy at something like present day levels or more, properly regulated shale gas development is an attractive option from an environmental standpoint. As long as it is displacing coal and being developed and transported at high safety and environmental standards, its increased use will likely lead to cleaner air, cleaner water and fewer greenhouse gas emissions.

The shale gas revolution has led to increased production of natural gas which has caused the price of gas to fall to the point where it is competitive with coal for power generation and many power plants have switched from coal to gas and as a result. Burning gas emits half the CO<sub>2</sub> and a tiny fraction of the mercury, SO<sub>2</sub> and particulate matter that burning coal does for the same amount of energy produced. This switch from coal to gas has been the main reason that US greenhouse gas emissions have fallen to their lowest level since the mid-1980s. Finally, natural gas is perhaps the best energy source currently available to back up intermittent sources of renewable energy such as wind and solar.

Rather than competing with these energy sources natural gas may actually make them more efficient and economically viable. Natural gas plants can cycle up and cycle down far more rapidly than coal and nuclear plants which means that there is far less time when both the renewable source and the backup power source are both producing electricity.



## NEWS AND EVENTS

### President's Blog - Engagement

Michelle Hanson, the Treasurer of the Society, recently suggested to the rest of the Executive that we should add a column to the SGS Newsletter entitled "Geoscientists in the Community". Her vision is that this piece would highlight anyone doing any kind of geoscience volunteer work, such as the Science Fair, the school lecture, the students that volunteer for the core workshop, Dave's involvement with APEGS and so on. It will serve two purposes: (1) shine a light on those members who are doing things and (2) by sharing this with the rest of the membership it may lead to more volunteer engagement. And possibly some members who are doing things that the Society is not aware of would be given the opportunity to talk about that. For example, maybe someone has recently gone into their kids' classroom to talk to the students about rocks and mineral. Maybe someone has volunteered their time and given a lecture at the University. So please, if you are aware of someone having done such noble deeds, write down a paragraph and submit it for inclusion in the newsletter. Please see the write-up in this issue further down.

Just recently I came across an interesting article in a newsletter by the North Dakota Geological Survey. It was about North Dakota's role in the K/T boundary controversy, written by Ed Murphy. Great little article that takes another look at Walter and Louis Alvarez's theory, which proposed that the extinction event that killed the dinosaurs at the end of the Cretaceous, one of the five largest mass extinctions, was caused by an asteroid impact. A lot of the evidence supporting the theory comes from north Dakota. For those interested, here is the link to the article. Just a nice quick informative read with lots of pretty pictures:

<https://www.dmr.nd.gov/ndgs/documents/newsletter/Winter%202015/ND's%20Role%20in%20the%20KT%20Boundary%20Controversy.pdf>

And while I am on the theme of newsletters, Kate MacLachlan recently brought my attention to a report by the Geological Society of London about 'Geology for Society'. It is a 20-page article that essentially tries to tell the general public why they should care about geology, how it affects everyone's life every day.....It's worth browsing, as it has lots of interesting ideas in regards to public outreach. Just a very well done report for those interested in that sort of thing:

<http://www.geolsoc.org.uk/~media/shared/documents/policy/Geology%20for%20Society%20final%20version%20v3%20March%202014.ashx>

In our own world of Public Outreach, as most of you would know by now, the SGS has formed a committee to publish a geological calendar. The committee has selected the 12 photos for 2015. As this is supposed to be an annual publication I would really encourage everyone who will be traveling across the Province this year to take lots of photographs of interesting geoscience features and landscapes. The photographs should be uniquely 'geological' and uniquely 'Sask'.

Happy  
Ralf Maxeiner



## Geoscientists in the Community

At the Regina Regional Science Fair, held recently at the University of Regina, a number of SGS members volunteered to judge exhibits. The volunteers were (in alphabetical order) Michelle Hanson, Zenghua Li, Kate MacLachlan, and Maria Velez Caicedo. The Science Fair featured 55 exhibits, included students from Grades 5 – 12, English and French. For people interested in volunteering for future science fairs and for more information please visit: <https://reginarsf.wordpress.com/>

They also have a social media feeds:

<https://www.facebook.com/ReginaRegionalScienceFair?ref=ts&fref=ts>

<https://twitter.com/RSFRegina>

The SGS is a regular sponsor of the Science Fair.

## 2015 Field Trip (carried forward from last month)

### *John Lake, SGS Field Trip Coordinator*

This year the Saskatchewan Geological Society is going to Montana for the Annual Field Trip. The Trip will run from **August 21-25**. Montana offers excellent exposures of Igneous and Sedimentary rocks as well as excellent Structural Geology. We are in the planning stage for the Field Trip but tentatively expect to visit the Stillwater Igneous Complex, Shonkin Laccolith, Sappington (Devonian Bakken Equivalent), Madison (Mississippian) etc. Book early to avoid disappointment. Please contact [John Lake](#) to reserve your spot.

## Membership

SGS membership is on a calendar year basis. Please renew your membership for 2015 if you have not already done so. The most convenient way to renew your membership is to do it online and pay by Paypal; you do not need a PayPal account to do this: <http://sgshome.ca/membership>.



## Annual Golf Tournament Update

Please register for this year's golf tournament. The sign-up sheet is attached below. We would appreciate early registration as we had to make a deposit to hold our spot. We have room for 48 golfers. As promised in the last newsletter we will be playing at Sherwood Forest this year and it will be a nine-hole Texas Scramble.

**SASKATCHEWAN GEOLOGICAL SOCIETY**

**29TH ANNUAL GOLF TOURNAMENT AND BARBEQUE**

**FRIDAY, SEPTEMBER 11th, 2015**

Tee-off times for the Texas Scramble begin somewhere between 12 and 1pm, depending on the number of teams at the Sherwood Forest Golf Course.

The BBQ will commence around 6:00 pm at the MacDougall residence at 3730 McTavish Street. Food will be served around 6:30.

As usual, there will be refreshments and socializing throughout the evening. Any awards and prizes for your efforts on the links will be presented at the BBQ. (If you would like to donate prizes for the BBQ, please contact Monica Cliveti with the contact information below. Thank you!)

We have tee-off bookings for 60 participants; non-members are welcome but priority will be given to SGS members.

Costs are as follows:	9 hole Golf & BBQ (Members/Non-Members):	\$35.00/\$45.00
	BBQ only (Members/Non-Members):	\$10.00/\$15.00
	BBQ only: (Kids under 6 are free)	\$25.00
	Kids 6-12	\$ 5.00

Payment will be required no later than AUGUST 15th, 2015.

Participants can mail in the attached registration form with a cheque made **payable to the Saskatchewan Geological Society**.

Please send golf tournament funds to:

**Monica Cliveti**  
3737 Wascana Parkway, Geology Department  
University of Regina, Regina, SK  
S4S 0A2  
Monica.cliveti@uregina.ca  
306-585-4049

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See attached Booking Form for the golf tournament. Please fill in your name and vitals, as well as the rest of your team (if applicable).

Please also fill out and sign the attached **Event Waiver**; **must be signed by each** player/attendee in order for you to participate in the tournament.

Thank you!



## 2015 GOLF TOURNAMENT \ BBQ REGISTRATION FORM

**GOLFER 1:** \_\_\_\_\_

PLEASE CHECK ONE:    GOLF \_\_\_\_\_    GOLF & BBQ \_\_\_\_\_    BBQ ONLY \_\_\_\_\_

GUEST(S) FOR BBQ: \_\_\_\_\_

**GOLFER 2:** \_\_\_\_\_

PLEASE CHECK ONE:    GOLF \_\_\_\_\_    GOLF & BBQ \_\_\_\_\_    BBQ ONLY \_\_\_\_\_

GUEST(S) FOR BBQ: \_\_\_\_\_

**GOLFER 3:** \_\_\_\_\_

PLEASE CHECK ONE:    GOLF \_\_\_\_\_    GOLF & BBQ \_\_\_\_\_    BBQ ONLY \_\_\_\_\_

GUEST(S) FOR BBQ: \_\_\_\_\_

**GOLFER 4:** \_\_\_\_\_

PLEASE CHECK ONE:    GOLF \_\_\_\_\_    GOLF & BBQ \_\_\_\_\_    BBQ ONLY \_\_\_\_\_

GUEST(S) FOR BBQ: \_\_\_\_\_

**\*\* REGISTRATION & PAYMENT MUST BE RECEIVED BY AUGUST 15<sup>th</sup>, 2015 \*\***



## **SASKATCHEWAN GEOLOGICAL SOCIETY**

### **WAIVER OF LIABILITY AND AGREEMENT**

As a willing participant in this Saskatchewan Geological Society event I, the undersigned, hereby agree as follows:

#### **DISCLAIMER**

I agree that none of the Saskatchewan Geological Society (SGS) or any of its executive members, event organizers, volunteers, sponsors, service providers, or any other associated individual or organization for this SGS Event (collectively, the “**Releasees**”) is responsible for any personal injury, death, property damage or any other type of loss or damage suffered or incurred by me while participating in the SGS’s Annual Golf Tournament & Barbecue (the “**Event**”) and caused in any manner whatsoever, including without limitation the negligence of any of the Releasees.

#### **ASSUMPTION OF RISK**

I AM FULLY AWARE OF THE RISKS ASSOCIATED WITH PARTICIPATING IN THE EVENT AND I FREELY ACCEPT AND FULLY ASSUME AND SHALL BE SOLELY RESPONSIBLE FOR ALL RISKS OF PERSONAL INJURY, DEATH, PROPERTY DAMAGE OR ANY OTHER TYPE OF LOSS OR DAMAGE even though such injury, death, damage or loss may have been caused by one or more of the Releasees.

I acknowledge that there are risks associated with the Event which include physical activities where injuries or even death may occur. This includes transportation to, from and during the Event.

I acknowledge that I am solely responsible for ensuring that I am physically capable of participating in the Event.

#### **RELEASE OF LIABILITY**

I agree to waive all claims that I have or may in the future have against the Releasees relating to, and to release the Releasees from all liability for, any personal injury, death, property damage or any other type of loss or damage that I may suffer or incur as a result of my participation in the Event, due to any cause whatsoever, including without limitation the negligence of any of the Releasees.

**I ACKNOWLEDGE THAT I HAVE READ THIS WAIVER AND AGREEMENT AND FULLY UNDERSTAND ITS TERMS. I ACKNOWLEDGE THAT I AM ENTERING INTO THIS WAIVER AND AGREEMENT VOLUNTARILY, AND I INTEND FOR IT TO BE BINDING ON MYSELF, MY HEIRS, EXECUTORS, ADMINISTRATORS, AND REPRESENTATIVES.**

---

**Printed Name of Participant**

---

**Signature of Participant**

---

**Signature of Witness**

---

**Date** \_\_\_\_\_

---

**Date** \_\_\_\_\_





## APEGS AGM

As mentioned in my blog, please take note of the date and time of the 85<sup>th</sup> APEGS annual meeting, April 30 to May 2, 2015. Please [go here](#) to find out more details about the meeting and to register for the various events. Most are free.

## Professional Development Day - Friday May 1, 2015

### Hotel Saskatchewan Conference and Lobby Levels

Special guest and keynote speaker futurist Dr. Lowell Catlett

7:30 - 9:00	Buffet Breakfast			
	<b>Track 1 Infrastructure Oak Room</b>	<b>Track 2 Environment Saskatchewan Suite</b>	<b>Track 3 Innovation Victoria Room</b>	<b>Track 4 Personal Development Regina Room</b>
8:30 - 9:15	Saskatchewan's Electrical Needs Guy Bruce SaskPower	Water and Energy Usage in Potash Mining Todd Perras Vale Potash	Enhanced Oil Recovery in Saskatchewan Ken From PTRC	Social Media Cosanna Preston-Idedia
9:20 - 10:05	Tazi Twe Hydroelectric Proposal Mark Peters SaskPower	When will we Notice Climate Change? Dave Sauchyn University of Regina	Aquistore Ken From PTRC	Stop Cutting Corners Safety is in Your Hands Duane Janiskevich
10:05 - 10:25	Networking and Refreshment Break			
10:25 - 11:10	Clean Coal Michael Monea Sandra Beingessner SaskPower	Fracking Fluids Chad Lundberg Crescent Point	K+S Legacy Project Dwayne Selinger K+S Potash	A Respectful Workplace Rustin-Ann Blanke
11:10 - 12:00	Powering the Province Tom Kishchuk Mitsubishi Hitachi Power Systems	Diamonds in Saskatchewan George Read Shore Gold	Restoration of the Legislative Building Spencer Higgins Architect Incorporated	St. Louis Bridge Project The "Human" Side of Engineering Alison Lara Ministry of Highways
12:00 - 2:00	Professional Development Luncheon - Keynote Dr. Lowell Catlett			
2:00 - 2:45	Evolution of Telecommunications Daryl Godfrey SaskTel	CSA Standards Dwayne Torrey CSA Group	Innovative Advancement Brooke Dobni InnovationOne	Innovative Teaching Richard Evitts University of Saskatchewan
2:50 - 3:35	Prud'Homme Natural Gas Cavern Incident Phil Sandham TransGas	South Saskatchewan River Project Jody Scammel Water Security Agency	Cigar Lake Jet Boring Mining Martin Wacker Cameco	Present to Persuade Kangsheng Wu Water Security Agency
3:45 - 4:30	Regina Bypass Jeff Holland Ministry of Highways	Water Requirements Potash Mines Greg Vogelsang Western Potash	Queen Street Water Management System Michael Bucholzer City of Yorkton	Engineering Art Bruno Hernani University of Regina





**A P E G S****85<sup>th</sup> Annual Meeting**

April 30, May 1, and 2, 2015  
 Hotel Saskatchewan Radisson Plaza  
 Regina SK

# Through the Decades

## We see more

Registration			
Name _____	Designation _____		
Representing _____			
Email _____			
Guest Name _____			
Dietary Requirements? _____			
<b>Thursday, April 30</b>		<b>Member</b>	<b>Guest</b>
6:00 pm - 10:00 pm	Welcome Event .....	<input type="checkbox"/>	<input type="checkbox"/>
<b>Friday, May 1</b>		<b>Member</b>	<b>Guest</b>
7:30 am - 9:00 am	Buffet Breakfast .....	<input type="checkbox"/>	<input type="checkbox"/>
8:30 am - 12:00 pm	Track Sessions (morning session) .....	<input type="checkbox"/>	<input type="checkbox"/>
9:30 am - 11:30 am	Morning Tour(s) .....	<input type="checkbox"/>	<input type="checkbox"/>
12:00 pm - 2:00 pm	Professional Development Luncheon .....	<input type="checkbox"/>	<input type="checkbox"/>
2:30 pm - 4:30 pm	Afternoon Tour(s) .....	<input type="checkbox"/>	<input type="checkbox"/>
3:00 pm - 4:30 pm	Track Sessions (afternoon session) .....	<input type="checkbox"/>	<input type="checkbox"/>
5:00 pm - 8:00 pm	The Past Presidents' Dinner .....	<input type="checkbox"/>	<input type="checkbox"/>
8:00 pm - 11:00 pm	The President's Reception .....	<input type="checkbox"/>	<input type="checkbox"/>
<b>Saturday, May 2</b>		<b>Member</b>	<b>Guest</b>
7:30 am - 9:00 am	Buffet Breakfast .....	<input type="checkbox"/>	<input type="checkbox"/>
8:30 am - 9:00 am	Business Session Registration		
9:00 am - 12:00 pm	Business Session .....	<input type="checkbox"/>	
8:30 am - 4:00 pm	Youth Science Day (ages 7 to 14)		
	(lunch provided)		
	name _____	age _____	
	name _____	age _____	
	name _____	age _____	
10:00 am - 3:00 pm	Partners Program .....		<input type="checkbox"/>
12:30 pm - 2:30 pm	Recognition Luncheon .....	<input type="checkbox"/>	<input type="checkbox"/>
6:00 pm - 10:00 pm	Awards Banquet .....	<input type="checkbox"/>	<input type="checkbox"/>
<b>Registration Deadline April 17, 2015</b>			
Mail: 300 - 4581 Parliament Avenue, Regina SK S4W 0G3    Fax: (306) 525-0851    email: <a href="mailto:apegs@apegs.ca">apegs@apegs.ca</a>			
For hotel rooms please contact the hotel directly (quote "APEGS" for the conference rate, rooms will be held until April 3, 2015)			
Hotel Saskatchewan Radisson Plaza, Regina SK 306.522-7691 <a href="http://www.radisson.com/apegs">http://www.radisson.com/apegs</a>			



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