

Science is BIG in Kentucky

What is the largest export from Kentucky? If you ask around, you will get responses like “bourbon”, “horses”, or possibly “cars”. How much in total **IS** actually exported from Kentucky? Well, the answer to the second question is that in 2015, there were \$27.6 billion worth of items exported from the Commonwealth. This is more than twice the size of the entire operating budget of Kentucky. What are we making? According to the U.S. Census Bureau, horses were number 25, at around \$147 million in 2015. Not too shabby. Bourbon, also symbolic of the state, came in 9th at \$311 million. These are healthy numbers, but pale when compared to those at the top. Cars as units are not in the top 25, but car parts in various flavors (i.e., steering wheels are number 5 at \$360 million; parts related to engines are numbers 2 & 3 totaling \$2.5 billion) are sprinkled throughout.

Very few indeed would pick the number one export, aerospace products. Kentucky and aerospace are not usually found in the same sentence, yet they should be. Aerospace products from aircraft engines and parts, electrical systems, and also satellites and their subsystems are all products that were exported to the tune of \$8.7 billion in 2015. If you really want to astound folks, point out that Kentucky ranks number **two** in the nation in aerospace exports, trailing only Washington (think Boeing).

The object of all of this is to point out that there is a great deal to be proud of with the state of science in Kentucky. It has often been a concern of residents that there would be no jobs in high-tech or science for their children in the

state and that people would have to move away. Well, the prospects on that front seem to be changing. Also among the top exports are those related to immunological products (biological sciences), silicones (chemistry, materials science), and uranium products (geology, chemistry). These are just a few examples, and the list is no doubt incomplete simply due to the fact that using export data alone is not a full picture of what activities are taking place.

During this last 8 months or so, when Kentucky was mentioned in newspapers and other news outlets, it mainly concerned the new budget priorities set by Governor Bevin. For many, including those of us in higher education, it has been a stressful time with no shortage of anxiety about where things would lead. But through all of this, the “business” of science has not stopped, and the outlook is bright for opportunities.

The Kentucky Academy of Science works to keep track of the pulse of science in the Commonwealth, and is currently 3400 members strong. We are in the final planning stages for our annual meeting at the University of Louisville, taking place on November 4-5, and I encourage everyone to plan to attend and see for themselves how robust science is here in Kentucky. Get involved, and check out the KAS. We’re still here, and not planning on going anywhere!

-Eric Jerde, KAS President



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NEW! KAS now offering free Teacher memberships!

<http://kyacademyofscience.net/membership/>

The Kentucky Academy of Science (KAS) supports the NGSS, and our member scientists want to offer support for teachers who are teaching and doing science in the classroom. We're offering teachers a variety of FREE resources - check these out and share them.

Complimentary P-12 Teacher memberships! KAS is now welcoming any P-12 teacher in Kentucky to join. Teachers can connect with member scientists via our Member Directory (<http://www.kyacademyofscience.net/kas/members/directory.php>), and find out about science & engineering that is happening around the state.

KAS' Science Teacher Resources (<http://kyacademyofscience.net/membership/resources-for-teachers/>) include:

- NGSS lesson plans
- Science Myths & Misunderstandings Debunked, from AAAS
- Places to get your science questions answered
- Short videos highlighting inspiring science teaching, from NSF

And MUCH MORE....

Check our website (kyscience.org) for updates on science events around Kentucky and send your event announcements to: executivedirector@kyscience.org



Announcements From the KAS Executive Director

Amanda Fuller, executivedirector@kyscience.org, (859) 227-2837

KAS Bylaws proposed to replace the Constitution

We have new KAS Bylaws and after the August 13 Board meeting, we will be asking members to approve them before the Business meeting in November. MANY thanks are due to David White for an overdue and thorough update. These bylaws include everything that was previously in the KAS Constitution, and then some, and would replace the Constitution:

<http://kyacademyofscience.net/about/constitution/>

Call for KAS Governing Board Nominations

The Kentucky Academy of Science Governing Board is seeking nominations from the KAS membership for quality candidates to assume leadership roles within the Academy for 2017. Officers' and Board members responsibilities are outlined in revised bylaws at <http://kyacademyofscience.net/about/constitution/>

KAS members interested in nominating colleagues for these vacant positions (or individuals willing to volunteer to be placed on the ballot) should forward the name, e-mail address/phone number for each candidate, and indicate the leadership position of interest. The immediate Past President will contact each candidate to request the necessary information to be included on the ballot. We require at least two candidates for the ballot for each position and we appreciate our members' assistance in identifying willing candidates for these vacancies.

KAS is currently seeking nominations for :

- Vice President (4-year term)
- At-large Representative (finish term ending 2019)

The Vice President rotates into President-Elect, President, and Past President. Any member may nominate another qualified member for Vice President or At-Large Representative. **Please send nominations by September 20, 2016 to:**

KAS immediate Past President David White

561 Emma Drive
Hancock Biological Station
Murray, KY 42071
270-809-2272
dwhite@murraystate.edu

Kentucky Heritage Land Conservation Fund representatives

KAS has 2 representatives on the KHLCF Board. One of our representatives' terms, Albert Meier, was due to end in July 2016. KAS has submitted to the Governor as required, two names for consideration. The Governor's office is required to appoint one of our nominees to this seat. As of August 5, the appointment had not yet been made. The Kentucky Heritage Land Conservation Fund board considers parcels of conservation and educational value as candidates for purchase using (ever-dwindling) funds from Nature's Finest license plate sales and other state funds. Find out more: <http://heritageland.ky.gov/Pages/default.aspx>

Call for 2017 KAS Research Grant Applications

The following sources of research funding are available through the Kentucky Academy of Science: The Marcia Athey and Botany Funds are available to support student and/or faculty research projects. The Special Research Program is directed particularly to faculty in Kentucky higher education institutions, public or private, involved primarily in undergraduate education; i.e., institutions which do not award the Ph.D. degree. The Undergraduate Research Program makes available funds for research planned and conducted by undergraduate students of Kentucky colleges and universities under the supervision of a faculty member. Applicants may submit for either an Undergraduate Research Supply Grant (up to \$500) or a Summer Undergraduate Research Grant (up to \$3,000). To submit a grant application, please log on to your KAS Member Profile page and select the "Apply for Grants" tab. The Terms and Conditions for all KAS Grants, the KAS Grant Application Cover Sheet, and the KAS Conflict of Interest form are downloadable in multiple formats.

The deadline for 2017 KAS Grant Applications is November 15, 2016.

All grant applications must be submitted through the online system: <http://kyacademyofscience.net/programs/kasresearch-grants/>

The Committee on Grants and Awards will review all submissions and award announcements will be made in February 2017.

Speaking & Volunteering



Kentucky Science Speakers Bureau

KAS is now offering teachers, non-profits, local governments, or anyone else, an opportunity to request a scientist from our Speakers Bureau. Sign up and offer your time & expertise! You'll be asked about your field of expertise, your preferred audiences and availability. The list of speakers will be publicly available on our website. Students, you are welcome to sign up too!

The Speakers Bureau may also serve as a way for teachers to request mentors and coaches - if you would consider an ongoing relationship with an educator near you who is looking for support, please indicate that in the questionnaire. Thank you!

The questionnaire can be found here:

<https://docs.google.com/forms/d/e/1FAIpQLSfle0KucZTc7jzTCgcT36wYqqIVY67nS0clTHHEran-QVN-fw/viewform>

Publicly viewable spreadsheet:

https://docs.google.com/spreadsheets/d/1m_3X26u4ITNXt45Ebd7lu5Q73GvpVufKMqvvdVcmu2g/edit?pref=2&pli=1#gid=1802070583

A form to request a speaker will be available soon (after the Bureau is populated..)

Seasonal programming opportunities at the Kentucky Science Center

National Chemistry Week, October 20-22

Seeking presenters on Chemistry in general and Forensics specifically as this year's theme.

There is also an opportunity to revisit this content at our annual **BOOnanza Halloween Event, October 29-30**

Clark County, IN Youth Science Summit, Saturday, November 5

Jeffersonville High School

Seeking Lab Presenters and Speed Mentors

Advanced Manufacturing Celebration, November 10-12

Seeking presenters to broadly interpret this theme: material science, robotics, etc.

For details on any of these opportunities, please contact Andrew Spence, Manager of Public Programs and Events, Kentucky Science Center at Andrew.spence@louisvilleky.gov

The Living Arts & Science Center in Lexington needs volunteers!

Consider helping out with:

- *Astronomy programs in the Planetarium

- *Discovery Nights & Discovery Saturdays and exhibits on various topics

Details can be found here:

<http://www.lasclex.org/index.php/support-the-living-arts-science-center/get-involved/volunteering>

Kentucky Academy of Science Annual Meeting

2016 Program Summary * Tentative Schedule * University of Louisville

Friday, November 4

- 8:00 am – 10:00 am KAS Board meeting
(open to all KAS members)
- 9:00 am – 4:00 pm KBRIN NIH R15 Grant Writing Workshop
- 9:00 am - 11:00 am KY Organization of Field Stations meeting
- 10:00 am Section Officers & Judges Meeting
- 10:00 am Registration Open
- 10:00 am – 12:00 pm Poster Set-Up
- 11:00 am – 12:00 pm Lunch Break
- 11:45 am – 1:00 pm **Welcome & Keynote Presentation**
Welcome from U of L
Presentation – *A Visit with Marie Curie*
- 1:00 pm – 5:00 pm **FRIDAY AFTERNOON – ORAL PRESENTATIONS**
- 1:00 pm – 5:00 pm **FRIDAY AFTERNOON – POSTER JUDGING**
- 2:30 pm Afternoon Break
- 6:00 pm - 9:00 pm *Kentucky Science Center – Night at the Museum*
Admission is included in your KAS meeting registration
- 7:00 pm - 8:00 pm **Plenary Session** at the Kentucky Science Center
"Science and Suds" featuring our own KAS-themed beer

Saturday, November 5

- 8:00am Registration Opens (Coffee & Bagels: 8:00 – 9:30 am)
- 8:00 am - 5:00 pm Geological Society of Kentucky field trip to Clifty Falls.
- 8:30 am – 12:00 pm **SAT AM - ORAL PRESENTATIONS**
- 9:00 am - 4:00 pm **EXHIBITORS / CAREER FAIR**
- 9:00 am - 11:00 am KCTCS Sessions
- 10:00 am – 12:00 pm **SAT AM – POSTER JUDGING**
- 10:30 am Morning Break
- 12:00 pm - 1:00 pm **Past Presidents' Lunch**
- 12:00 pm - 1:00 pm **Lunch (on own)**
KAS Committee Meetings • Membership • Public engagement • Grants & Awards
• Science Education & Advocacy • Internal Communications
- 1:00 pm – 4:00 pm **SAT PM – ORAL PRESENTATIONS**
- 1:00 pm – 3:00 pm **SAT PM – POSTER JUDGING**
- 2:30 pm Afternoon Break
- 3:00 pm – 4:00 pm **SECTION MEETINGS** as needed
- 4:00 pm **KAS Annual Business Meeting**
- 5:00 pm **Reception, Closing Remarks, Science Bowl, and Awards**



Kentucky Academy of Science Annual Meeting

2016 Call, Registration and Program Details

Call for Abstracts – KAS Meeting

University of Louisville
November 4-5, 2016

Faculty, students, independent scholars, and practitioners are encouraged to submit abstracts for papers and posters in each of the KAS sections. The annual KAS meeting features a paper competition for undergraduate and graduate students, and a poster competition for undergraduate students.

This is a great opportunity for scientists to network and collaborate. The deadline for submitting abstracts is September 30. You must register for the meeting before you can submit an abstract.

Pre-registration deadline AND abstract submission deadline is **Sept 30, 2016**. The link to register and submit an abstract is: <http://kyacademyofscience.net/programs/annual-meeting/>

Before submission, please review the “Guidelines for Meeting Presentations” and “Guidelines for Abstracts” located at the KAS Annual Meeting webpage. Papers and posters will be presented and judged on Friday and Saturday. If you have any additional questions, please contact the Program Coordinator, Melony Stambaugh at program@kyscience.org.

Conference Registration

Pre-registration – until midnight Sept 30
\$60 Regular / \$35 Student / \$85 Professional

Registration After Oct 1
\$70 Regular / \$45 Student / \$95 Professional



Keynote Speaker: Susan Marie Frontczak

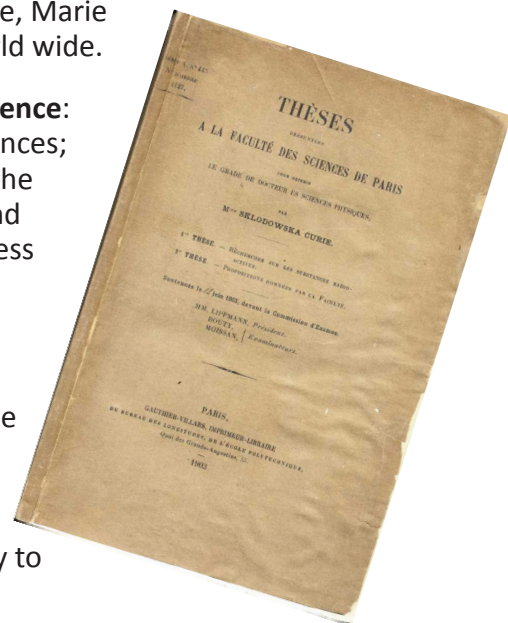
“A Visit with Marie Curie”

Likely the most famous woman scientist, Madame Marie Curie (née Maria Skłodowska) — changed the world in which we live through her discovery of radium and radioactivity. Through collaboration with the medical community the Curies discovered and established the first successful radiation treatments of cancer. Simply through her own passion and perseverance, Marie Curie opened the doors of science to women world wide.

This program **honors a preeminent woman of science:**

Madame Curie was the first European woman to earn a doctorate in the sciences; the first woman to receive a Nobel Prize (for the discovery of radioactivity); the first woman to teach at the Sorbonne; and the first *person* to receive a second Nobel Prize (a feat not to be repeated for another 50 years). Audiences witness the origins of scientific discoveries we now take for granted. They re-live the remarkable collaboration between husband and wife, Pierre and Marie, companion scientists.

This program **honors the ethic of scientific altruism**. Einstein said Marie Curie was “the only person to be uncorrupted by fame.” In today’s age of patents and litigation, the audience learns that the Curies declined to patent their methods, refused to bend their discoveries toward personal financial gain. Marie insisted that to profit from the discovery of radium would be “contrary to the scientific spirit.”





Night at the Museum

Kentucky Science Center, 727 W. Main St.

6:00 - 9:00 PM, Friday, November 4

On Friday night, join us for a Night at the Museum!

Your KAS Meeting Registration will admit you to the Kentucky Science Center (www.kysciencecenter.org) for the evening. We'll have a special reception in the 4th Floor Riverview Room. Upstairs, enjoy food and beverages, including our own KAS-themed beer. Learn about brewing at our "Science and Suds" plenary session.

In addition to our special programming, you can explore three floors of the Science Center. Tickets to shows in the 4-story Digital Theater are not included.

Friday November 4 is also a [First Friday Hop](#) in downtown Louisville. From 5-11 pm, enjoy other museums, galleries, and general merriment along Main & Market Streets. Hop on the free Zero Bus to make the whole loop (including past one of our hotel blocks at the [Galt House Hotel](#)).

Parking at the Kentucky Science Center is located directly behind Kentucky Science Center, at the intersection of River Road and Eighth Street, under I-64. Parking is \$6 in their lot or free after 6pm at downtown meters. The Science Center is also near the #2, #4 and #18 TARC lines (www.ridetarc.org).

KAS welcomes the Geological Society of Kentucky to our 2016 Annual Meeting

On Friday, November 4th, programming will include Geology sessions with posters & papers.

There will also be a field trip on **Saturday, November 5th** to the Madison, Indiana, area. This trip to Clifty Falls will include some local history, as well as stratigraphy and fossil hunting. Open to all KAS members! Further details will be available soon at our website: <http://kyacademyofscience.net/programs/annual-meeting/>



"Clifty Falls at Clifty Falls State Park" by Chris Light, CC BY-SA 3.0

Journal of the Kentucky Academy of Science

Deadlines: September 1 and March 1

All manuscripts and correspondence concerning manuscripts should be addressed to the Editor:

Dr. Jerzy W. Jaromczyk, jurek@cs.engr.uky.edu

Guidelines for submission are at:

<http://kyacademyofscience.net/publishing-in-the-journal/>

KBRIN NIH R15

Grant Writing Workshop

Friday, November 4th, 2016

University of Louisville, Health Sciences Campus

Clinical Translational Research Building (CTR), Room 123

The Kentucky Biomedical Research Infrastructure Network (KBRIN) will again offer an intensive workshop on the development of National Institutes of Health (NIH) R15-Academic Research Enhancement Award (AREA) proposals. AREA grants are specifically designed to support research projects (three years- \$300,000) in the biomedical and behavioral sciences conducted by faculty and students in colleges/universities and health professional schools that have not received more than \$6 million in NIH research grants in four of the last seven fiscal years. Thus, faculty at nearly all colleges/universities in Kentucky are eligible.

The three main goals of the AREA program are: (1) to support meritorious research; (2) to strengthen the research environment of the institution; and (3) to expose students to research.

The workshop will be led by faculty at KBRIN institutions that have been successful in competing for AREA grants. The morning session is designed for faculty with little of no NIH grant writing experience, whereas the afternoon session is designed to enhance the competitiveness of faculty with some NIH grant writing experience. Depending upon level of experience with the NIH, registrations will be accepted for either the full day workshop or the afternoon session only.

Past attendees at this workshop have been successful in obtaining NIH funding and ***this workshop is required to be eligible for KBRIN research grants*** (see <http://louisville.edu/research/kbrin/kbrin-cores/research-core>)

The morning workshop will begin at 9:00 am EST and the afternoon session will begin at 1:00 pm EST. Lunch will be provided at noon.

The workshop is free and open to interested faculty at all Kentucky public and private institutions.

As space is limited, **please register online by Friday October 21st at:**

<https://kbrin1.redcap.louisville.edu/redcap/surveys/?s=4DTNFKHCD>

For registration information contact, Ms. Whitney Rogers, KBRIN UBM at whitney.rogers@louisville.edu or 502-852-3045

For additional workshop information, contact Dr. Nigel Cooper, KBRIN PI (nigel.cooper@louisville.edu) or Dr. Bruce Mattingly, KBRIN program coordinator (b.mattingly@moreheadstate.edu).

This workshop is sponsored by the Kentucky Biomedical Research Infrastructure Network (KBRIN), which is supported by a grant from the National Institute of General Medical Sciences (P20 GM103436) from the National Institutes of Health.

SHOUT OUT TO KAS VOLUNTEERS

THANK YOU!! Our excellent volunteers have been sharing their science with their fellow Kentuckians all over the state:

Thank you **Armin Maraghehmoghaddam** from Morehead for his Skype presentation for the Science Center's Robotics Festival on May 12.

GAMEology May 19 - Thank you **Doug Chatham** for presenting! Read about it here: <http://insiderlouisville.com/lifestyle/culture/kentucky-science-center-offers-up-gameology-an-evening-of-recess-for-adults/>

Tech Savvy Girls STEM workshop at KSU: Thank you **Marilyn Akers** for meeting & inspiring the next generation of scientists & engineers.

Lake Barkley Discovery Festival May 21: Thank you to **Howard Whiteman, Robin Baker, Robin Q Zhang, Cy Mott, Michael Flinn** and **Karla Johnston** at Murray State for all your help presenting and coordinating!

Owensboro Discovery Festival, June 4: Thank you to host Kentucky Wesleyan College, **Evelyn Hiatt** and her co-workers at KWC, WKU's **Jason Crandall**, and **Jacob Adler** from Brescia University!

Natural Bridge Discovery Festival June 18: Thank you to **Patrick Mineo** and his students from Berea College, and



Lake Barkley Discovery Festival

Tom and Chenzhao Vierheller from Big Sandy CTC for their Photosynthesis and Solar Panels demo for Appalachian BOLD.

ROMP music festival June 22-25 in Owensboro: Thank you to **Richard Gelderman** for organizing a great Science of Light exhibit that included maps & info about the 2017 solar eclipse, and a team of volunteers to help!

Youth Science Summit in Louisville June 18: Thank you to **Aaron Daley, Charles Staff, Gabriel Draper, Naomi Charalambakis, Carly Winn, Debbie Yoder-Himes, Ashley Richards Best, Ken Thompson, Adriana Bankston, Ali Maqablh, Mahavir Singh, and Peter Campbell!**

Thank you **Jamie Weimer** from NKU for presenting her research on energy drinks for the Kentucky Science Center Healthworks Festival August 6.



ROMP Music Festival

Ark Park Opens with Government Support



A pair of Stegosaurus in a pen on the Ark.

**Daniel Phelps, President, Kentucky
Paleontological Society**
email: edrioasteroid@msn.com

On July 7, 2016, five and a half years after it was first announced, the Answers in Genesis (AiG) controlled Ark Encounter theme park opened in Williamstown, Kentucky. Attendance the first week was approximately 5,000 people/day. Many in the scientific community tend to think that Kentucky-based Answers in Genesis only promotes misinformation to a small fundamentalist segment of Christians, but the examples of jaw-dropping pseudoscience and non-science and the fervor with which they are promoted suggest that the Ark Park is tapping into a deeply-held anti-intellectualism that is becoming more influential in our society.

The contents of the Ark Encounter are no threat to science or how science is practiced. Indeed, AiG, the Creation "Museum," and now the Ark Encounter are insulated in their own world, providing attacks on conventional science and history while participating in neither. However, the Ark is an attack on science education. AiG CEO Ken Ham reacted to warnings that public school trips to the Ark are unconstitutional by offering \$1 admission for public school students and free for teachers. It is unlikely that any public school system would foolishly risk a lawsuit by engaging in this publicity stunt, but it does illustrate that AiG is actively attempting to promote their ideas in regional public schools. A larger problem is that many teachers in the region are likely to soft pedal, or totally omit, topics in science classes that might upset the children of conservative and fundamentalist Christians.



The Ark.

All photos courtesy of the author.



Opening day line.

Representative Brian Linder have written Grant County News newspaper columns in support of the Ark. The state is spending \$11 million of the Transportation budget to upgrade the I-75 exit near the Ark, based on exaggerated attendance figures of 1.4 million or more visitors the first year. This ignores lower attendance numbers calculated by the Hunden Strategic Partners research company. Ark Encounter paid \$58,000.00 to Hunden when it submitted the Tourism Incentive Application to the Tourism Cabinet. The Hunden study projects a more modest number of Ark visitors (325,000 the first year, about 425,000/yr the third year, then declining to 275,000/yr).

Ark Encounter has massive support in Grant County and in Williamstown's city government. The City of Williamstown issued \$62 million in bonds so the Ark could be financed. The Ark received a steep property tax reduction for the next 30 years from Williamstown. Williamstown created a special Tax Increment Financing (TIF) zone for people working in and near the Ark wherein 2% of their wages go back into paying for the Ark. The Ark received nearly \$200,000.00 cash from the Grant County Industrial Authority because someone leaked that the Ark was buying real estate and caused land prices to rise. The Ark bought 100 acres of land for \$1 from the Grant County Fiscal Court so the Ark would be built in Williamstown instead of elsewhere.

Since AiG is now the world's largest producer of creationist books and videos, the success or failure of the Ark project may have large implications on how much influence young earth creationism will have over education nationally. The very fact that the Ark has opened and has had the support of local and state government should be a cause of concern for anyone caring about education, especially science education, and the separation of church and state.

No scientific organization, not even the Kentucky Academy of Science, has close to the level of political influence of AiG. Ham's organization won the \$18.25 million tourism tax rebate incentive and the right to discriminate in hiring. The Ark has support of Governor Bevin, who did not appeal the Tourism Cabinet's defeat in the lawsuit over the tax rebate incentives granted the Ark. Kentucky's Lieutenant Governor, Jenean Hampton, showed up at the Ark's ribbon cutting ceremony and voiced her support saying: "We are so blessed that this great, great attraction was built here in Kentucky, it's just an honor to have this here. We hope to see millions visit Kentucky, to visit the Ark Encounter over the next few years. I can't wait to see inside." State Senator Damon Thayer and State



Depiction of Adam and Eve with dinosaurs.

*

Other Announcements

ES-AAPG 2016 - September 25-27

The scenic heart of Kentucky's bourbon country will serve as the setting for the 45th annual meeting of the Eastern Section of the AAPG in Lexington, Ky., September 25-27. The Geological Society of Kentucky and the Kentucky Geological Survey are hosting a full meeting of professional development opportunities, contemporary technical session, interesting field trips, and enjoyable social events. Kentucky's flourishing bourbon industry inspired the 2016 theme of "Basins to Barrels." Information on the agenda, registration, hotel reservations, and all other meeting activities can be found at www.esaapgmtg.org.

Register early! Registration opened in early June for the meeting, to be held at the Lexington Convention Center, where the adjoining Hyatt Regency Lexington will serve as the official hotel. Early professional registrants (through September 2) can get a \$50 break on the meeting cost. Some of the "extra" activities, such as field trips and Monday's social events, have limited availability. Early registration will insure more choices! The full range of registration levels is available under the "Registration" link at the meeting's web site.

Sponsorships and exhibit space are still available for the meeting. Interested companies and organizations can contact Sponsor Chair Mike Sanders at msasjs@aol.com and Exhibits Chair Dan Wells at wellsconsulting@twc.com.

SATURDAY SEPT. 24 (Pre-meeting)	SUNDAY SEPT. 25	MONDAY SEPT. 26	TUESDAY SEPT. 27	WEDNESDAY SEPT. 28 (Post-meeting)
Concurrent: Distillery Hydrogeology field trip and Dolomite workshop	Concurrent: Upper Ordovician field trip Congress Needs You workshop Unconventional Reservoir workshop <hr/> Opening session Icebreaker	Technical sessions Posters Exhibits Guest trip <hr/> Evening events (4 choices)	Technical sessions Posters Exhibits All-Division lunch Guest trip	Concurrent: Coal Geology field trip and Geochemistry workshop