

SCHEDULE OF EVENTS

WEDNESDAY, OCTOBER 21

6:00–7:00 p.m. **Opening Reception** **Hotel Terrace**
Everyone is invited to our Welcome Party. Enjoy a cash bar and hors d'oeuvres as you meet and mingle with your regional and constituency directors. Learn what to expect during this conference, meet first-time delegates, and hear from Sigma Xi President Mark Peeples. Also, get a special preview of the Robotics Showcase.

THURSDAY, OCTOBER 22

8:00–9:30 a.m. **Assembly of Delegates I** **New York Ballroom**
Hear Society reports and introductions for this year's resolutions and commemorative resolutions. A caucus goal-setting plan will be introduced.

9:30–9:45 a.m. **Break**

9:45–10:30 a.m. **Concurrent Sessions**

Leadership Workshop I **Empire A, Empire B**
Best Practices for Chapters
Mark Peeples, Sigma Xi President
Linda Mantel, President of Columbia–Willamette Sigma Xi Chapter
Doug Jardine, Past President of Kansas State University Sigma Xi Chapter
Tina Niemi, President of Kansas City Sigma Xi Chapter
Cristina Gouin-Paul, Sigma Xi Chair of the Committee on Qualifications and Membership, Director of Sigma Xi's Mid-Atlantic Region
This session will focus on best practices for chapter success. Topics will include recruitment and retention of Sigma Xi members, establishing strong chapter leadership/succession and other valuable tips.

Membership-at-Large Discussion **Chouteau A**
Maximizing Benefits for Members-at-Large
Vijay Kowtha, Sigma Xi Associate Director for Membership-at-Large
This session will focus on the benefits and challenges of being a member-at-large, ways to affiliate or engage with chapters, and opportunities to improve the member-at-large experience.

10:45 a.m.–Noon **Leadership Workshop II** **Empire A, Empire B**
Chapter Engagement and Finance
Mark Peeples, Sigma Xi President
Ron Millard, Sigma Xi Treasurer
Cristina Gouin-Paul, Sigma Xi Chair of the Committee on Qualifications and Membership, Director of Sigma Xi's Mid-Atlantic Region
Tina Niemi, President of the Kansas City Sigma Xi Chapter
Jasmine Shah, Sigma Xi Director of Finance and Administration, Corporate Administrator
This session will be divided into two parts. The first part will focus on chapter outreach, science cafés, and connecting scientists across disciplines. The second part will focus on chapter finances and fundraising.

SCHEDULE OF EVENTS

Noon–1:30 p.m.	Lunch on Your Own	
1:30–2:45 p.m.	<p>Regional Caucuses Regional caucuses meet to set a goal for the year, hear updates, make FY17 nominations, and discuss suggested structural improvement.</p> <p>Northwest Region (NW) Southeast Region (SE) Mid-Atlantic Region (MA) North Central Region (NC) Southwest Region (SW) Northeast Region (NE)</p>	<p>Chouteau A Chouteau B Empire A Empire B Empire C Benton</p>
2:00 p.m.	<p>Poster Setup Starts Research poster setup begins. If you are presenting a professional, chapter, or student poster, you may begin to prepare it for your presentation.</p>	Exhibit Hall B
2:45–3:00 p.m.	Break	
3:00–4:15 p.m.	<p>Constituency Caucuses Constituency caucuses meet to set a goal for the year, hear updates, and make FY17 nominations.</p> <p>Baccalaureate College Constituency (BA) Canadian/International Constituency (CI) Research and Doctoral (RD) Membership-at-Large (MAL) Area/Industry/Government Constituency (MI) Comprehensive Colleges and Universities Constituency (CM)</p>	<p>Chouteau A Chouteau B Empire B Benton Empire C Empire A</p>
4:15–4:30 p.m.	Break	
4:30–5:30 p.m.	<p>Town Hall Meeting An open forum Q&A session. Hear updates from Sigma Xi’s headquarters staff about the new building, reorganized staff, and initiatives.</p> <p>Concurrent Evening Events Join us at venues around Kansas City for Science Cafés. Participants are responsible for purchasing their own food and beverages. Or, head to the room called Van Horn C at the Sheraton for hands-on robotics training. See details on the next page.</p>	New York Ballroom

SCHEDULE OF EVENTS

5:00–7:00 p.m.

Life on Pluto? Life on Mars? Life Elsewhere?

A Streetcar Named Desire

Mark Schneegurt, Sigma Xi Member and Professor of Biological Sciences at Wichita State University

Water, water everywhere, nor any drop to drink? Follow the water for the best chances of finding life on other celestial bodies. Now we know that there is liquid water on Mars, Europa, and Enceladus, and other icy satellites appear to have oceans. The water may be very salty, cold, and acidic. What makes a location habitable on another world? What are the challenges? Could organisms from Earth grow in these exotic environments? We will discuss current and past robotic missions to potential habitats across the solar system. **The program starts at 6 p.m. Food and drinks will be available for purchase.**

Location: A Streetcar Named Desire

Crown Center Shops, Level 1

Crown Center is located at 2450 Grand Blvd, Kansas City

www.crowncenter.com/maps/A-Streetcar-Named-Desire



5:30–7:00 p.m.

Here's the Science Behind the Beer

Border Brewing Company

Eric Martens, the Brewer

Learn about the science of beer making. **The program begins at 6 p.m.**

No food is available in the brewery, but Grinders and other restaurants are nearby.

Location: Border Brewing Company

406 E 18 St., Kansas City

www.borderbrewco.com

6:00–7:00 p.m.

Hands-on Training in Robotics Showcase

Van Horn C

This activity will expose Sigma Xi members to the current leading-edge design tools used by engineers in research and design centers. Hands-on learning sessions for the delegates will provide an opportunity to develop conceptual designs for game-based challenges. Participants will produce design relevant to today's autonomous challenges (VEXU).

FRIDAY, OCTOBER 23

8:00–9:15 a.m.

Assembly of Delegates II

New York Ballroom

Delegates vote on resolutions and the caucuses report their goals for the year. Presidential candidates will make statements.

SCHEDULE OF EVENTS

- 9:30–10:30 a.m.** **Leadership Workshop III** **Empire A, Empire B**
Leveraging the Sigma Xi Website, Communities, and Social Media for Engaging with Members
Jamie Vernon, Sigma Xi Director of Science Communications and Publications, Editor-in-Chief of *American Scientist*
Heather Thorstensen, Sigma Xi Manager of Communications
The updated Sigma Xi website, launched in the fall of 2014, offers chapters and members more value for their Sigma Xi membership than ever before. Learn how to use the member directory, participate in discussions, and stay connected to your chapter members on Sigma Xi’s online communities, and keep your chapters engaged via social media and other digital strategies.
- 10:30–10:45 a.m.** **Break**
- 10:45–11:45 a.m.** **Leadership Workshop IV** **Empire A, Empire B**
Sigma Xi Publications and Programs
David Moran, Sigma Xi Membership-at-Large Director; Publisher of *American Scientist* and *Chronicle of The New Researcher*
Jamie Vernon, Sigma Xi Director of Science Communications and Publications, Editor-in-Chief of *American Scientist*
Paul Stein, Sigma Xi Southwest Regional Director
Learn what Sigma Xi offers you and your chapter’s members through its award-winning magazine, *American Scientist*, and its journal for pre-college research, *Chronicle of The New Researcher*. Also, hear about updates on GIAR, the Student Research Showcase, the revitalized Affiliate Circle, and plans for new national and chapter programs.
- 11:45–Noon** **Break. Welcome, Student Research Conference participants!**
- Noon–1:30 p.m.** **Young Investigator Award Keynote Luncheon** **Chicago Ballroom**
Ticket required for entry
Science That Is More Than the Sum of Its Parts
Melissa A. Kenney, Sigma Xi’s 2015 Young Investigator Award Winner in recognition of her excellent, active Sigma Xi membership within 10 years of her highest earned degree; Research Assistant Professor in Environmental Decision Science and Indicators at the University of Maryland, Earth System Science Interdisciplinary Center
Multidisciplinary science combines several disciplines within the physical, natural, and social sciences. To solve societal problems requires that we combine the disciplinary parts into a more holistic, multidisciplinary science that creates something larger than its individual pieces. Thus, the next wave of major scientific contributions will necessarily move away from competitive single-investigator disciplinary insights to multidisciplinary collaboration—embracing unique combinations of qualitative and quantitative methods, new technologies, and modes of communication. As a multidisciplinary scientific society, Sigma Xi is in a unique position to support the scientists who will be transforming our current understanding and solving our most vexing problems.



SCHEDULE OF EVENTS

1:30–3:45 p.m. **Professional Research and Chapter Poster Session** **Exhibit Hall B**
Professional researchers and Sigma Xi chapters present their work. Presenters with odd poster numbers will be at their posters from 1:30–2:30 p.m.; those with even poster numbers will present from 2:30–3:30 p.m. Everyone will be at their posters from 3:30–3:45 p.m.

3:45–4:00 p.m. **Participants Move to New York Ballroom**

4:00–4:30 p.m. **Virtual Q & A with Miles O’Brien** **New York Ballroom**

Miles O’Brien, Science, Technology, and Aerospace Journalist; Sigma Xi 2015 Honorary Member Inductee
Moderator: **Heather Thorstensen**, Sigma Xi Manager of Communications

Award-winning journalist Miles O’Brien will join us by teleconference to share his advice for communicating with the public about science topics in the news. O’Brien is a producer and correspondent for *PBS NewsHour* and a producer and director for the PBS science documentary series *NOVA*. He is also a regular correspondent for the PBS documentary series *FRONTLINE* and the National Science Foundation Science Nation series. He serves as an aviation analyst for CNN. Sigma Xi will induct O’Brien as an honorary member this year.



4:30–6:00 p.m. **Dinner on Your Own**

Concurrent Evening Events

Join us at venues around Kansas City for Science Cafés. Participants are responsible for purchasing their own food and beverages. Or, head to the room called Van Horn C at the Sheraton for a demonstration from the Robotics Showcase. See the following details.

6:00–8:00 p.m. **Lessons from *The Hot Zone*** **A Streetcar Named Desire**

Jerry Jaax, DVM, ACLAM, COL, USA (ret)

Associate Vice President for Research Compliance and University Veterinarian, Kansas State University

The session will relate events and issues associated with an unexpected outbreak of Ebola fever in monkeys in the U.S. featured in *The New York Times* #1 Bestseller, *The Hot Zone*. Additionally, there will be information about bio- and agro-terrorism, biological arms control and counter proliferation, and the new federal initiative in Manhattan, Kansas, to improve biological agricultural research infrastructure. Finally, there will be discussions about vulnerabilities and lessons learned during the ongoing outbreak of Ebola in West Africa and during its introduction into the U.S. During this Science Café, food and drinks will be available for purchase.

Location: A Streetcar Named Desire, Crown Center Shops, Level 1
Crown Center is located at 2450 Grand Blvd, Kansas City
www.crowncenter.com/maps/A-Streetcar-Named-Desire

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6:00–8:00 p.m. **Here’s the Science Behind the Beer** **Border Brewing Company**
Eric Martens, the Brewer
Learn about the science of beer making. The program begins at 6:30 p.m.
No food is available in the brewery, but Grinders and other restaurants
are nearby.
Location: Border Brewing Company
406 E 18 St., Kansas City
www.borderbrewco.com

6:00-7:00 p.m. **VEXU Demonstration** **Van Horn C**
This activity from the Robotics Showcase will expose Sigma Xi members
to the current leading-edge design tools used by engineers in research and
design centers.

SATURDAY, OCTOBER 24

8:00–8:15 a.m. **Student and Judge Orientation** **New York Ballroom**
Jamie Vernon, Sigma Xi Director of Science Communications and
Publications; Editor-in-Chief of *American Scientist*
Emma Perry, Past Chair of Sigma Xi’s Grants-in-Aid of Research Committee
Presenters and judges in the Student Research Conference receive an
orientation for the evaluation of student presentations and awards.

8:15–9:15 a.m. **Power Up Breakfast** **Exhibit Hall B**
Everyone is invited to enjoy a continental breakfast prior to student
poster presentations.

9:00–11:45 a.m. **Student Research Poster Presentations** **Exhibit Hall B**
Students present their research for evaluation by career professionals. From
9:00–10:00 a.m., presenters with odd numbers will be at their posters. From
10:00 a.m.–11:00 a.m., presenters with even numbers will at their posters. All
presenters will return to their posters from 11:00–11:45 a.m.
Meanwhile, watch the Robotics Showcase’s Capture the Flag and VEXU
demonstration.

11:45–Noon **Participants Move to Chicago Ballroom**

SCHEDULE OF EVENTS

Noon–1:30 p.m.

John P. McGovern Award Luncheon

Ticket required for entry

Bee-nomics: Can Science Save the Honey Bee?

May Berenbaum, Recipient of Sigma Xi's 2015 John P. McGovern Science and Society Award for an outstanding contribution to science and society; Professor and Head of the Department of Entomology at University of Illinois at Urbana–Champaign

The sequence of the honey bee genome was published with great fanfare in 2006; the timing proved opportune in that unprecedented bee losses associated with what is now known as Colony Collapse Disorder. The availability of the bee genome proved transformative in elucidating basic bee biology and investigating the stresses experienced by America's honey bees, providing new insights and new tools for investigating the health of *Apis mellifera*, the world's premier managed pollinator.

Chicago Ballroom



1:30–1:45 p.m.

Break

1:45–2:45 p.m.

Concurrent Sessions

Panel Discussion: Speaking Up for Science

Moderator: **Jamie Vernon**, Sigma Xi Director of Science Communications and Publications, Editor-in-Chief of *American Scientist*

Josh Rosenau, Programs and Policy Director at the National Center for Science Education

Jack Schultz, Director of the interdisciplinary Christopher S. Bond Life Sciences Center at the University of Missouri in Columbia, MO

Experts from the field of science communication will address the politicization of science and the ongoing conversation about science denial. The panelists will discuss how to communicate and teach controversial science in the current political environment based on their past experiences and what the social sciences are telling us. Attendees will also learn about training resources and opportunities available for students and scientists to address these challenges.

Empire A, Empire B

SCHEDULE OF EVENTS

1:45–2:45 p.m.

Concurrent Sessions, continued

Workshop: Successful Grant Writing Using GIAR

Empire C

Host: **Emma S. Perry**, Associate Professor of Marine Biology / Center for Biodiversity at Unity College in Maine

The Grants-in-Aid of Research process is similar to, and serves as a model for, many grants. Bring your grant proposal with you and use this workshop to refine your message. We will examine the instructions and discuss both good practice and common mistakes.

2:45–3:00 p.m.

Break

3:00–3:45 p.m.

Concurrent Sessions

Panel Discussion: Science, Technology, and Entrepreneurship

Empire A, Empire B

Moderator: **Jamie Vernon**, Sigma Xi Director of Science Communications and Publications, Editor-in-Chief of *American Scientist*

Dane Stangler, Vice President of Research and Policy at the Ewing Marion Kauffman Foundation

Katie Boody, CEO and co-founder of the Lean Lab

The startup culture is on the rise, particularly among students and professional scientists. This panel will explore the importance of entrepreneurship to education and economic development. The panelists will share their personal stories about launching an entrepreneurial enterprise and advocating for entrepreneurship. The discussion will also highlight resources to help new entrepreneurs achieve their goals.

Workshop: Using Social Media for Science

Empire C

Host: **Heather Thorstensen**, Sigma Xi Manager of Communications

Scientific networking and outreach have changed through the advent of social networking sites like Facebook, LinkedIn, and Twitter. This workshop will introduce basic social media tools and techniques. Attendees will participate in a demonstration of how to engage with other scientists and science communicators digitally.

SCHEDULE OF EVENTS

3:00–3:45 p.m.

Concurrent Sessions, continued

Workshop: Inside the Peer Review Process

Chouteau A

Host: **Beverly Lindeen**, Managing Editor, Allen Press, Inc., Lawrence, Kansas

Peer review is generally accepted as an essential part of scientific publication. Scientists are often invited to review articles in their field, despite having little or no training. This workshop will provide insight into the peer review process and offer tips on how to be an effective peer reviewer. Participants will learn about different types of peer review, the ethical issues of being a reviewer, how to write a peer review, and what happens after the review is submitted.

3:45–4:00 p.m.

Break

4:00–4:30 p.m.

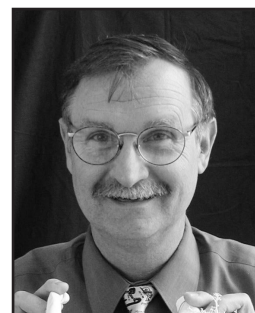
Evan Ferguson Award Keynote Lecture

New York Ballroom

Sigma Xi and You

Larry Johnson, Recipient of Sigma Xi's 2015 Evan Ferguson Award in recognition of his outstanding service to Sigma Xi and its mission; Professor of Veterinary Integrative Biosciences at Texas A & M University

Larry Johnson, who has held every officer position possible for the Texas A & M University Chapter of Sigma Xi and received their Chapter Science Communicator Award, will share what being a member of Sigma Xi means to him and what it can potentially mean to others.



4:30–5:00 p.m.

Student and Chapter Awards Presentation

New York Ballroom

Superior presenters in the Student Research Conference will receive medals and a nomination to join Sigma Xi in recognition of their exemplary work. These presenters are invited to be inducted on October 25 during the Closing Session. The District of Columbia Sigma Xi Chapter-sponsored Student Choice Award will be announced. Award-winning Sigma Xi Chapters will also be recognized, including the winner of this year's new member retention award.

5:00–6:00 p.m.

Break

SCHEDULE OF EVENTS

6:00–8:00 p.m.

Sigma Xi Banquet and Procter Prize Keynote Lecture

Ticket required for entry; Dress: Semi-formal

Seeing Through the Retina

David Williams, Recipient of Sigma Xi's 2015 William Procter Prize for Scientific Achievement for his outstanding contribution to scientific research and a demonstrated ability to communicate this research to scientists in other disciplines; University of Rochester's Dean for Research in Arts, Science, and Engineering; Director, Center for Visual Science, William G. Allyn Professor of Medical Optics

Although the human eye is correctly heralded as a remarkable achievement of evolution, it is nonetheless imperfect. All eyes suffer from dozens of optical defects or aberrations that blur the optical image formed on the retina. Glasses and contact lenses can correct three of the largest aberrations, but leave all the rest uncorrected. Williams's laboratory has developed a way to measure all the aberrations in the eye quickly and accurately. This has engendered new approaches to contact lens design and refractive surgery that are improving vision in patients throughout the world. Ongoing work at the University of Rochester also points the way to a new method of vision correction that may eventually avoid the need for glasses, contacts, or invasive surgery.

His team has also developed a related technology, the original idea for which was borrowed from astronomy, to correct the eye's aberrations with unprecedented accuracy while taking pictures of the retina inside the living eye. This technology, called adaptive optics (AO), has made it possible to image the retina noninvasively at microscopic, cellular resolution. The eye's pupil provides a natural window through which we can now view the neural circuitry responsible for vision and even monitor the electrical signals the retina sends to the brain. This high-resolution imaging capability is helping to complete our understanding of the computations the retina performs that allow us to see, and may also eventually help to restore vision in the blind.

Grant-in-Aid of Research Recipient

The Procter Prize recipient chooses a younger scientist to receive funding through a grant-in-aid of research. David Williams has selected **Sarah Walters**, a PhD student in the Institute of Optics and Center for Visual Science, University of Rochester.

Chicago Ballroom



8:00–10:00 p.m.

After Party

Dance the night away at our DJ dance party.

Chicago Ballroom

SCHEDULE OF EVENTS

SUNDAY, OCTOBER 25

7:00–8:00 a.m.	Farewell Breakfast A light breakfast will be provided.	New York Ballroom Foyer
8:00–10:00 a.m.	Closing Session All participants are welcome as we wrap up this year’s meeting. We will induct student award winners into Sigma Xi. Caucuses will report their goals for the year.	New York Ballroom
10:15–10:30 a.m.	Buses to Airport Ticket purchase is required Buses will leave at 10:15 and 10:30 a.m. to take participants to the Kansas City International Airport.	Hotel Lobby