

American Chemical Society – Kalamazoo Local Section Newsletter

November 3, 2014

Vol. 4 - Issue 8



From the Chair

John H. Engelmann

2014 KACS Executive Officers

Chairperson

Dr. John H. Engelmann, Miller Canfield
jengelma@hotmail.com

Past-Chairperson

Dr. Elke Schoffers, WMU – Chemistry
elke.schoffers@wmich.edu

Chairperson-Elect

Dr. Brian Eklov, Kalexsyn
bmeklov@kalexsyn.com

Secretary

Angela Willson, WMU, Mallinson Institute
angelamwillson@gmail.com

Treasurer

Dr. John Miller, WMU – Chemistry
john.b.miller@wmich.edu

Councilor

Dr. Lydia E. M. Hines, WMU – Chemistry
lemhwgh@gmail.com

Alternate Councilor

Dr. Doug Williams, Kalsec, Inc.
dwilliams@kalsec.com

Thanksgiving is almost here. Thanksgiving involves hunting various game birds, and hunting involves gun powder. Gun powder is a complex mixture containing potassium nitrate, sulfur and charcoal which has evolved over time.



John H. Engelmann, Ph.D.
(KACS Chair)

Gun powder was first used in pyrotechnics, but as the name suggests its quickly spread to fire arms. The early history of gunpowder is shrouded in obscurity. Gunpowder seems to have been invented in China. It came to Europe through trade with China, or perhaps it was invented independently in Europe. Whatever its early development may have been, it is well documented that by 1242 Francis Bacon knew of gunpowder, and by 1350 gun powder and guns existed in Europe. Gunpowder was used in grains, and the grain size differed for different guns. Small firearms, such as pistols, used small grains, while cannons used large grains.

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KACS website: <http://kalamazooacs.org/>

Do you have questions, comments, or would like to contribute to this newsletter?
Send an email to: ACSkzoo@gmail.com

Miscellaneous

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Black powder was the propellant explosive of the world until 1884, when Paul Vieille invented a smokeless powder called Poudre B made from 68.2% insoluble nitrocellulose, 29.8% soluble nitrocellulose gelatinized with ether and 2% paraffin. Firearms have used smokeless powder similar to Poudre B ever since. One thing has not changed -- small guns use small grain powder and large guns use large grain powder. The largest grain powder is used in large cannons because this large grain powder will continue to burn for the relatively long time it takes to drive a projectile from a cannon barrel.

KACS Position Open for Volunteer (Urgent)

By Lydia Hines

We have an immediate need for an **Education Committee Chair**, a very important role in our Local Section organization, as Education is a highly valued outreach for us. Descriptions of the responsibilities for this role can be found on our website in the section's Operations Manual: www.kalamazooACS.org (look under About Us → [Operations Manual](#))

Section Election News

By Lydia Hines

We want to extend our thanks to **Dr. André Venter** for agreeing to be a candidate for the position of **treasurer**, to **Dr. Lydia Hines** for agreeing to stand for re-election as **councilor**, and to **Dr. Brian Eklov** for agreeing to continue as **chair** for a second year.

Ballots for this election will be distributed through Survey Monkey and we trust that you will vote.

Please consider offering your service to your Section - our immediate need right now is to identify one or more members who are willing to serve the Section in the capacity of chair-elect beginning in 2016 (election to be held in 2015). Descriptions of the responsibilities for this role can be found on our website in the section's Operations Manual: www.kalamazooACS.org (look under About Us → [Operations Manual](#))

Special Upcoming Event

Kalamazoo Sci-Mix Poster Session



“Sustainable Science - Recycle a Poster”

5-9 pm, Wednesday, November 5, 2014



Bell's Eccentric Café

(355 E. Kalamazoo Ave)

Free and open to the public

*Complimentary hors d'oeuvres will be provided**

**Poster
Cash
Prizes!**

- 5 pm** Poster Setup, Registration, Reception
- 6 pm** Keynote Speaker Prof. Tim Jamison (MIT)
- 7-9 pm** Poster Session, Network with Scientists and Speaker
- 8 pm** Announcement of Poster Prizes

Student poster presenters can win a prize!

Undergraduate and graduate students are encouraged to participate.

The Kalamazoo area has historically been rich with exciting chemistry. Please join us and share the area's wealth of exciting chemistry by bringing a poster of your chemistry accomplishments. Your poster can either be newly prepared or a “recycled” poster of your accomplishments. This Mixer invites local academic and industrial chemists from all areas of chemistry: Analytical, Biochemistry, Inorganic, Organic, and Physical, in addition to Food and Medicinal Chemistry are invited to this mixer. See you there!

Presenters should email Elke.Schoffers@wmich.edu by **Monday, November 3** to reserve an easel by sending: (a) the title of the poster, (b) a list of authors, and (c) institution information.

Present Science, Network, Mingle, Celebrate Kalamazoo Chemistry
Stay in touch with KACS at <http://KalamazooACS.org/>

“Continuous Flow Multistep Synthesis”

by Keynote Speaker Prof. Tim Jamison (6 pm)

ABSTRACT: Flow chemistry has the potential to revolutionize the synthesis of organic molecules. Flow systems can reduce reaction times, increase efficiency, and obviate problems often encountered in scaling up. In addition to these important practical advantages, flow chemistry expands the “toolbox” of organic reactions available to scientists engaged in the synthesis of molecules – from small-scale experiments to large-scale production. These benefits are a direct result of several features of flow synthesis that batch synthesis typically cannot achieve, for example, the ability to control fluid flow precisely, the access to temperature and pressure regimes not usually considered to be practical, and the enhanced safety characteristics of flow chemical systems. In this lecture we will discuss some of our investigations in this area in the form of case studies, wherein a specific target or family of organic molecules has served as an inspiration for the development of new methods of organic synthesis in flow.

*Please note that each attendee who is (1) a current ACS member, or (2) a poster presenter or (3) a Zoetis employee will receive two complimentary drink tickets.

Funding provided by **zoetis**

National Chemistry Week 2014

By Lydia Hines

A. Chemistry Day at the Kalamazoo Valley Museum

Saturday, October 11, was a beautiful day in Kalamazoo, a day for families to take a trip to the Kalamazoo Valley Museum for our Section's annual **National Chemistry Week** outreach event. As in the past 27 years the staff and volunteers at the Museum collaborated with KACS members to present a **successful event** which was excitedly received by all who attended, parents and children alike – at least 800 visitors.

More than fifty volunteers from our Section – from Kalamazoo College, WMU, KVCC, Zoetis, Pfizer, Gull Lake High School and Kellogg's, to name some – presented 24 hands-on activities for 4 hours non-stop; some of the activities were the old stand-bys like slime, "dancing milk", volcano, and super-absorbent polymer; others were new, like how to detect sour candies from those which are not, to ways to be a "Kitchen spy"; the Mentos-pop geyser was another favorite. The theme this year was *The Sweet Side of Chemistry – Candy*. A large number of written materials for Grades 4-6 and High-School-age young people were happily received by eager children and adults – parents, scout leaders, teachers – who were there.

Our event got some publicity through the AP Wire service (courtesy a Press release from the Museum Director); there was additional publicity in the Museum's quarterly publication Museon and their Volunteer Newsletter; an article in the Three Rivers Commercial-News; advertisements in the Kalamazoo Gazette; articles and invitations in our Section e-newsletter, and e-blasts; and a flier supplied to K-12 teachers with the request that it be sent home with their students – some were. On the morning of the event, museum staff presented one of our activities live on our local TV station! Three weeks prior to the date of the event the publication Celebrating Chemistry, for children Grades 4-6, along with the announcement flyer, was distributed through our Section's Public Libraries' children's rooms.

Through this article I would like to extend a **heart-felt Thank You to all our volunteers and the able staff at the Kalamazoo Valley Museum.**

B. Illustrated Poem contest

Since the deadline for submission of entries to National ACS is not until November 15, the results of this part of the event are not in yet, but all K-12 teachers whose e-addresses are in hand received an invitation (and a subsequent reminder) to have their students participate in this opportunity for prize \$. The deadline for submission locally is not until November 10, so stay tuned...

Miscellaneous

Successful Fall Welcome Ice Cream Social for WMU chemistry Students

By Sarut Jianrattanasawatt

On September 12, 2014, the WMU Chemistry Club and the Chemistry Graduate Student Association hosted an ice cream social for the graduate and undergraduate students, faculty and staff of the Department of Chemistry. With more than 40 people in attendance, students were able to make new connections, get to know the student organizations*, as well as catch up with old friends. All in all, this event met its aim of introducing the new students to the more established members of the department.

* WMU Chemistry Club for undergrads, Chemistry Graduate Student Association (CGSA), and NOBCCChE (National Organization for the Professional Advancement of Black Chemists and Chemical Engineers)

Joint Great Lakes Central Regional Meeting

By Lydia Hines, co-General Chair

Mark your calendars and offer to assist in the successful implementation of this **ACS Meeting** to be held at the Amway Grand Hotel/DeVos Place in **Grand Rapids** on Wednesday through Saturday, May 27-30, 2015. Participate along with about 1000-1400 other chemist in an affordable venue.

Offer to **chair a symposium** in your area of Chemistry, and/or invite your students and colleagues to **present papers orally or in poster form**, to help with **registration**, with **assisting our visitors** to the area, with **keeping exhibitors happy** with their surroundings, and by **attending technical sessions and social events**, etc.

Dr. Scott Denmark (University of Illinois at Urbana–Champaign), **Dr. Joan Brennecke** (University of Notre Dame) and **Dr. Dustin Mergott** (Eli Lilly) have agreed to be our keynote speakers. **Dr. Tom Lane** (Past-President, ACS) will be giving the Award address at the banquet on Friday evening.

Visit our website at www.JGLCRM2015.com for updates on program and other “breaking news”....



Grand Rapids, MI | jglcrm2015.com

Final Thoughts

Congratulations!

We congratulate our Kalamazoo-based **Stryker** in being ranked as **#42 in the list of Top Chemistry-Related Companies to Work for** in the January 16, 2014 issue of *Fortune* magazine (see page 34 of C&ENews October 13, 2014).

2015 Joint Great Lakes Central Regional Meeting – Call for Sessions

By James Kiddle

The co-program chairs are soliciting suggestions for technical session topics for the 2015 Joint Great Lakes Central Regional Meeting of the American Chemical Society to be held May 27 - May 30, 2015 in Grand Rapids. The overall theme of the meeting is "Chemistry - A Grand Enterprise" and will focus on three main areas: Food, Health, and the Environment.

Please follow the link to submit your suggestions.

https://docs.google.com/forms/d/1eyX-D50xt_0z9Ownlx0a587L4x9vq3p4tSqWuFcJvu0/viewform



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