

American Chemical Society – Kalamazoo Local Section Newsletter

June 1, 2014

Vol. 4 - Issue 4



Summer 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

The fireworks season is here. Fireworks are very old. They were developed in India and China, long before the idea of fireworks came to Europe. Fireworks came to Europe somewhat later. However, by 1635, a book published in London showed fireworks very similar to what we have today.



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

The book even discloses salts used to provide color. Fireworks are based upon straight forward chemistry. The major components of fireworks are oxidizers, reducing molecules, and metals which provide color. An oxygen-containing molecule provides oxygen to oxidize a reducing agent.

The major oxygen containing molecules used on fireworks are potassium nitrate (KNO_3), potassium chlorate (KClO_3), and potassium perchlorate (KClO_4). The major reducing molecules are carbon, and sulfur. The metals include magnesium, aluminum and iron. Various metal salts are added to provide color. Strontium provides red color; barium provides green color, and copper provides blue color.

(Continued on Page 2)

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

(Continued from Page 1)

Black powder, that is, a mixture of potassium nitrate, sulfur, and charcoal is the most common composition used in fireworks. Aerial displays use black powder as the propellant to get the fireworks display into the air. Another common mixture used in fireworks is flashcracker powder used to make firecrackers which explode with a loud report and a bright flash. Flashcracker powder is a mixture of potassium perchlorate, aluminum and sulfur. It is used in aerial devices to provide explosions accompanied by a bright flash. Colored displays include flakes of various metals or metal salts which are added to the composition to produce colored stars which twinkle as they burn. So look up to the night sky and enjoy fireworks.

KACS makes educational donation

By John Miller

Thanks to a recommendation to the Executive Committee of the KACS, we have donated two sets of study guides, one each, to the libraries of Western Michigan University and Kalamazoo College. These guides were provided as an additional resource to help students prepare for the American Chemical Society's *General Chemistry*, *Organic Chemistry*, and *Physical Chemistry* subject examinations. (The Kalamazoo Valley Community College library declined a similar offer.)

Webinar Redux

By Elke Schoffers

On May 6, 2014, the Kalamazoo Local Section participated in an "LSAC Best Practices Webinar", which was organized by the National ACS Committee on Local Section Activities (LSAC). LSAC Chair Martin Rudd facilitated the webinar, which included the discussion of three local sections' events – those adaptable to any section size. KACS Past-Chair Elke Schoffers was one of three presenters; she explained how our Zoetis-sponsored "Sustainable Science-Recycle A Poster" activity at Bell's Eccentric Cafe was organized, how it is currently executed and clearly communicated its success as a forum for bringing together students and professional chemists from industry and academia. A transcript and the presentation slides can be viewed under the Training & Support subheading at www.acs.org/getinvolved.

Special Event



JUNE 6TH, 2014 **CGSA PICNIC**

Fun in the Sun!

On Friday June 6, the Chemistry Graduate Student Association (CGSA) will be hosting a picnic at Oshtemo Park (7275 West Main) from 5-8pm. The purpose of this event is to introduce chemistry graduate and undergraduate students to the KACS community outside of the university. There will be vegetarian and non-vegetarian food options provided. All members of the local chemistry community and their families, are welcome at this event. Please come join us for a fun afternoon at the park on June 6th!

**June 6th from
5-8pm**

**Free Food-
Vegetarian and
Non-Vegetarian
Options Provided**

**Open to all Local
Chemists and
their Families**

**Family Friendly
Activities!**

**Hope to see you
there!**

CHEMISTRY GRADUATE STUDENT ASSOCIATION

1903 West Michigan Ave.
Kalamazoo MI, 49008

www.wmich.edu/CGSA

KACS Awards Ceremony

By Megan Grunert

The 41st KACS Awards presentation was held on Monday, May 12, on the Western Michigan University campus with a record-number of attendees. Awardees included four individuals celebrating 50 years of ACS membership, the Outstanding High School Chemistry Teacher, Outstanding College Chemistry Student awards, several high school student awards, and awards recognizing service to the KACS section.



The awards for high school students are based on outstanding achievement on the Competitive Examination Competition, organized by Dr. James Kiddle, or on nominations from teachers at local schools. The Outstanding High School Chemistry Teacher is nominated by the high school principal. Dr. Sherine Obare and Dr. Andre Venter were instrumental in reviewing nominations and selecting this year's award winner. Both Western Michigan University and Kalamazoo College selected an Outstanding College Chemistry Student.

The Kalamazoo Section Award Winners were Sherine Obare for her many years of service on the Education Committee, Charissa Oliphant for her many years of participation as presenter at Chemistry Day at the Museum, and Doug Williams and Elke Schoffers for their enthusiastic, positive, and continuing leadership in the Section. The section would also like to recognize the significant contributions from the Education Committee (Megan Grunert, James Kiddle, Sherine Obare, and Andre Venter), Lydia Hines, Elke Schoffers, and Robin Lenkart in organizing another outstanding awards ceremony. Congratulations to all awardees who are recognized below.

(Continued on Page 5)

KACS Awards Ceremony

(Continued from Page 4)

Fifty-Year Members

Dr. David R. Buss

Dr. Rex Hornish

Dr. Ferenc J. Kezdy

Mr. Eldon George Nidy

Outstanding College Chemistry Students

William B. Thayer - WMU

Amanda Bolles - K-College

2014 KACS Outstanding High School Chemistry Teacher

Jennifer Billington - Parchment High School

Outstanding High School Chemistry Students

Brian Bartley - Loy Norrix High School

Sean Brennan - Paw Paw High School

Denise Garner - Gull Lake High School

Logan Hughey - Kalamazoo Central High School

Callahan Katrak - Mattawan High School

Doug Keto - Comstock High School

Emily Konkel - Portage Central High School

Felicia Murry - Portage Northern High School

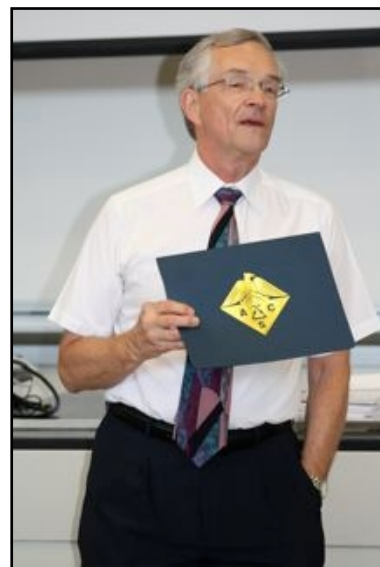
Ashley Pepple - Plainwell High School

Justin Richardson - Kalamazoo Christian High School

Katherine Wu - KAMSC



2014 Outstanding High School Students



Fifty Year Member Dr Rex Hornish



2014 Outstanding High School Chemistry Teacher Jennifer Billington (Parchment High School), with Education Chair Dr. Megan Grunert

(Continued on Page 6)

KACS Awards Ceremony

(Continued from Page 5)

2014 Competitive Scholarship Winners

Andrew J. Bingham – Plainwell
Amanda G. Gibson – Mattawan
Anastasia C. Kupstas – Gull Lake
Callahan K. Katrak – Mattawan
Kaylie E. Colyer – Plainwell
Chandler L. Stockwell – Gull Lake
James C. Gibson – Gull Lake
Kade C. Katrak – Mattawan
Tyler A. Leverton – KAMSC / Loy Norrix
Brian Bartley – Loy Norrix
Anna K. Lane – Gull Lake



2014 Competitive Scholarship Winners

2014 Competitive Scholarship Honorable Mention

Allison E. Bartz – Portage Central
Sydney Bodzianowski – KAMSC / K-Central
Jacob A. Cipich – Portage Northern
Malachi C. Cox – Loy Norrix
Sarah J. Melbow – Gull Lake
Joshua M. Mussche – KAMSC / Comstock
Ashley L. Pepple – Plainwell
Evan M. Stoll – Portage Northern
Trenton L. Thelen – Wayland
Ryan T. Vennard – Gull Lake



2014 Competitive Scholarship Honorable Mention

Kalamazoo Section Award Winners

Sherine Obare
Charissa Oliphant
Doug Williams
Elke Schoffers



Kalamazoo Section Award Winners.

Left to right: Dr. Doug Williams, Dr. Sherine Obare, Dr. Lydia Hines,
Ms. Charissa Oliphant, Dr. Elke Schoffers

Important News from ACS

By Lydia Hines

- In the spring of 2014 there was a report of an accident in a New York High School Chemistry class after a presentation of the Rainbow Demonstration. **The Committee on Chemical Safety of the American Chemical Society responded to that incident with a comment in the March 17, 2014 (p. 43) issue of C&ENews, along with an offer of a website, www.acs.org/safety , where teachers can find alternative demonstrations, suitable for the HS classroom, which can be carried out safely.** Our Councilor, Lydia Hines, sent this information by e-mail to all of our K-12 teachers immediately upon her return from the Spring ACS Meeting in Dallas, in March.
- Another item which our councilor sent out to our **Section's HS teachers** was an e-mail informing them that in addition to the many educational chemistry resources available to teachers at acs.org/education, the ACS offers opportunity for them to **apply for grants up to \$1500** for enhancing their students' educational experience. Application and further information may be found at www.acs.org/hachgrants.
- [Coming in September, The American Association of Chemistry Teachers \(AACT\)!](#) Serving K–12 teachers of chemistry everywhere, AACT will offer specialized chemistry teaching resources, a periodical about teaching chemistry in the K–12 classroom, an online community for sharing, and more.
- For our **unemployed members** the ACS offers links to career-assistance tools, benefits and other resources at www.acs.org/unemployed. {Also, our own KACS offers the **ChemAble grant** to our unemployed members – visit our website www.kalamazooacs.org/jobs/chem-able/ }

