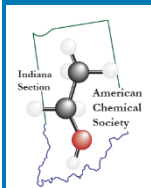


# The Accelerator



INDIANA SECTION OF THE AMERICAN CHEMICAL SOCIETY



SEPTEMBER 2016

## Chair's Corner BY LINDA OSBORN

Dear ACS Members, I hope you have enjoyed your summer. As we transition to fall, we review some awesome events that have occurred since our last edition and have a great series of events for you to look forward to in the remaining months.

I encourage you to participate in our annual elections for local section offices that will take place soon. Also, at the National level, in addition to our President Elect candidates, we have an opportunity to vote for our District II Director for 2017-2019. Please visit the candidate's links below and vote!

**George M. Bodner**

Purdue University,  
West Lafayette, IN

<http://goo.gl/7tvfGA>



**Christina C. Bodurow**

Eli Lilly and Company, Indianapolis, IN

<http://www.chrisbodurow.com/ACS/>

<http://goo.gl/qA5ir4>

Congratulations to Ann Hunt, our newest ACS Fellow, and to Greg Smith for a fantastic lecture and tour at the Indianapolis Museum of Art for "Solving Art Mysteries through Chemistry". Ann Cutler was successful on obtaining an Innovative Project Grant for \$2,000 to cover some of the expenses for this event along with Matt Gardlik who personally donated funds. The difference was covered by our 2016 general sponsorship funds from Monument and Heritage Research Group. Thanks to all.

Tom Xiao was able to secure a commitment for \$10,000 from the Eli Lilly foundation for our section for 2017 and \$1500 for 3 events this year from Lilly. Our four councilors, Robert Pribush, Christina Bodurow, Beth Lorsbach, and Brian Mathes all attended the National ACS meeting in Philadelphia. Recruited by Beth Lorsbach, Tejas Shah has agreed to be our new Young Chemist Committee Chair so younger crowd can look forward to more exciting things to come! Tejas will be in touch with our young chemists soon!



Project SEED students raved about the program, thanks to the efforts of Elmer Sanders, Rosie Bonjouklian, Josh Taylor, Paul Ridenour (grant-related assistance) and many of our members who served as mentors for these science enthusiasts.

Beth Lorsbach is spearheading our succession planning, currently in progress. Beth and Paul Morgan teamed up to present "Engaging and Motivating Volunteers" at Butler University, an important element of our survival. Christina Bodurow will be hosting a "Blue Sky" event on September 22 at the University of Indianapolis (thanks to Kathy Stickney) to initiate strategic planning for the National meeting in 2023!



Brian Mathes organized another hit at Victory Field on July 21<sup>st</sup> and will be presenting “Chemistry of Beer” on **October 18<sup>th</sup>**. Maria Alvim-Gaston will be presenting the “Chemistry of Cheese” on **October 14<sup>th</sup>**. Orchestrated by Ann Cutler, a follow-up event for our senior members will take place on **October 20<sup>th</sup>**. Amazingly, ~43% of our members are over 50. Ann Cutler refers to us as “career-experienced” members! This event is covered by a grant from the Silver Circle.



Upcoming community outreach includes three significant events where many volunteers will be needed. Celebrate Science Indiana (Oct. 1<sup>st</sup>) with two ACS sponsored booths: an ACS booth organized by Julie Holland and an AACT focused booth organized by Erica Posthuma-Adams who will be on Indy Style on September 26<sup>th</sup> to advertise the event! National Chemistry Week (Nov. 5<sup>th</sup>) is being organized this year by Tom Xiao and Belgin Canturk, and Impress for Success will be held at IUPUI on Nov. 14<sup>th</sup> and is orchestrated by Tamiko Porter and Kim Stewart. Many others have been assisting with all of these events and all are helping each other out. I thank everyone on our extended executive committee who are outstandingly dedicated and talented. The level of effort is truly impressive. For all of your volunteer hours, we will be hosting a volunteer appreciation event sometime in December. Stay tuned!

This edition of the Accelerator is brought to you by the editor, Julie Holland who just got married and is preparing for their honeymoon! Thank you and congratulations Julie!

Finally, I'd like to welcome our 80 new members who joined our local section in 2016. Names in red have been ACS members, but this is their first year in our section. Ben Woodworth and Randall Short have also recently signed up. Congratulations – you are in great company!

Nawara	Abufares	Andrada	Diaconescu	Michael	Kelsey	Rebekah	Reynolds
Audrey	Ackley	Beth	Donald	Nikeeta	Kheradia	Ronald	Ross
Syed	Alam	Gregory	Donald	Emil	Khisamutdinov	Matthew	Russell
John	Atkinson	Victoria	Doss	Jin Hee	Kim	Daniel	Schemenauer
Thomas	Barton	Shoeb	Fasih	Patrick	Knerr	Han	Shih
Tierra	Binder	Mara	Fattah	Rajesh	Kulkarni	Kimberly	Steward
Thomas	Boise	Kaitlyn	Gray	Joseph	Kurek	Yinying	Tao
Reid	Bonner	Thakshila	Habarakada Liyanage	Amie	Langland	Claire	Terry
Isobel	Bowles	Stefan	Harry	Stephen	Leonard	Kathryn	Trentadue
Edmond	Bradley	Kimberly	Hazel	Mei	Li	Jesse	Tye
Joel	Bragg	Elijah	Hendley	Zhihai	Li	Jill	Uhlenkamp
John	Bragg	David	Hollis	Karen	Lobb	David	Valkovci
Kyle	Burch	Lindsey	Horty	William	Lorenz	He	Wang
Belgin	Canturk	Seyyedamirhossein	Hosseini	Vivian	Lu	Xuelin	Wang
Emily	Coffer	Bingjie	Hu	Drew	Manica	Laurence	Webster
Steven	Combs	Lee Roy	Johnson	Matt	Mergy	Brittany	Witherspoon
Holly	Cox	Robert	Johnson	Rachel	Miller	Junpeng	Xiao
Sonya	Cropper	Jakob	Jozwiakowski	Hannah	Munro	Bin	Yang
Christian	De Neau	Adrienne	Kelley	William	Nugent	Yvonne	Yip
Frederiqu	Deiss	Liz	Kelley	Sandeep	Ramineni	Xiao	Zhou

**WELCOME new Local Section members! We hope to see you at one of our many events!**

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<http://twitter.com/indianaacs>



<http://www.facebook.com/ACSINLocal/>

Executive Committee	
Chair	<i>Linda Osborn</i>
Chair-Elect	<i>Tom Xiao</i>
Secretary	<i>Tamiko Porter</i>
Councilors	<i>Robert Pribush</i>
	<i>Brian Mathes</i>
	<i>Christina Bodurow</i>
	<i>Beth Lorsbach</i>
Alternate Councilors	<i>Amy DeBaillie</i>
	<i>Robert Sammelson</i>
	<i>Sibel Selcuk</i>
Past Chair	<i>Matt Gardlik</i>
Treasurer	<i>Paul Ridenour</i>
Member-at-Large	<i>Paul Morgan</i>
	<i>Greg Smith</i>
	<i>Maria Alvim-Gaston</i>

Members are welcome to join the Executive Board meetings which occur on the 2<sup>nd</sup> Tuesday of each month at 6 pm in the Kurek building at Heritage Research, 7901 West Morris Street.

Meeting typically last 2 hours and include discussions budget planning, community outreach and professional development.

Committee Chairs	
Awards	<i>Katherine Stickney</i>
Celebrate Science	<i>Julie Holland</i>
Education	<i>Robert Pribush</i>
Events	<i>Rob Sammelson, Amy DeBaillie, Sibel Selcuk</i>
Grants	<i>Ann Cutler</i>
Kids in Chemistry	<i>Brian Mathes</i>
K12 Outreach	<i>Erica Posthuma Adams</i>
Newsletter Editor	<i>Julie Holland</i>
Newsletter Design	<i>Andrea Moberly, Julie Holland</i>
Project Seed	<i>Elmer Sanders</i>
Project Seed Co-Chair	<i>Josh Taylor</i>
Science Day	<i>Ryan Jeske</i>
Social Media	<i>Erica Posthuma Adams</i>
Webmaster	<i>Matt Gardlik</i>
Women Chemists	<i>Amy DeBaillie</i>
Nat'l Chemistry Week	<i>Tom Xiao, Belgin Canturk</i>
Trustees	<i>David Mitchell, Dawn Brooks, Ann Hunt</i>
2014 Chair	<i>Erin Dotlich</i>

## Come and join us!



## New Accelerator Format

As our regular readers will note in this issue, the Accelerator is testing a new format which we hope will be easier to read on smaller portable devices. We will be using fewer double columns for each issue. We hope that you continue to read the newsletter and we welcome your feedback at [acsaccelerator@gmail.com](mailto:acsaccelerator@gmail.com).



## Call for Nominations *by Linda V. Osborn*

The Indiana Local Section of the ACS has had so many great volunteers over the years. Thank you to all of you that have and continue to serve! Many of you were involved in the 2013 National Meeting in Indianapolis. We are also looking forward to hosting another National Meeting in 2023 and preparations have already begun. We are always in need of people willing to use their talents to help our Indiana section carry out its mission. Every October a new slate of officers is elected by the membership to serve on the executive committee. We are currently seeking nominations for the following officers: a Chair-Elect (who will serve as Chair the following year), a Treasurer, a Secretary, one Alternate Councilor, and 3 Members-at-Large. The Chair-Elect, and Alternate Councilor serve for three years; and the Treasurer, Secretary, and Members-at-Large serve for one year, with all terms beginning January 1, 2017. If you feel called to serve, please send your self-nominations to [linda.osborn@hrglab.com](mailto:linda.osborn@hrglab.com) by **September 20<sup>th</sup>**.



In addition to the elected officers, we have appointed positions available to chair and serve on special committees. Local talent who would like to serve as speakers for events are also welcome. If you have any questions about the roles and responsibilities, please email Linda with questions. Matt Gardlik will begin preparing for electronic elections after that date. Thank you in advance for considering these important roles. To learn more about the responsibilities of the executive committee positions, please follow the link:

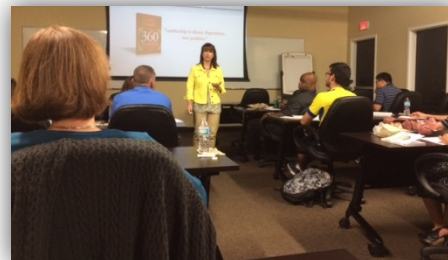
<https://www.acs.org/content/acs/en/membership-and-networks/ls/local-section-organization-and-job-responsibilities.html>

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## Leadership by Influence

*by Amy DeBaillie and Paul Morgan*

The Local Section executive committee hosted a two hour workshop focused on leadership by influence on June 9th, 2016 at Heritage North from 6-8pm. The workshop was attended by nineteen members and non-members. During the workshop, attendees learned practical strategies that they could use to lead with influence and affect real change in their personal and professional lives. The workshop was very interactive as attendees spent time during the workshop applying the influence strategies to a particular influence challenge and received feedback from other attendees and the facilitator. All attendees received a copy of the book “Influence: the New Science of Leading Change,” which the workshop was based on. The course facilitator was Jeannie Phillips. She is a technical professional and business coach with 17 years of experience in a corporate environment leading projects, people and the development and execution of strategy. Jeannie has developed programs and conducted workshops and training in leadership development, mature workforce engagement, learning culture and continuous improvement.



## K-12 Teacher “Thank You” at Celebrate Science Indiana on Saturday, October 1

by Linda V. Osborn



We celebrate K-12 teachers for the positive impact that they have every day on students' lives. If you know a K-12 teacher, please recommend that they stop by the American Association of Chemistry Teachers (AACT) booth at Celebrate Science Indiana on October 1st at the Indiana State Fairgrounds for a chance to win some awesome prizes. All K-12 teachers that stop by the booth will receive a ticket for a chance to win. Drawings will occur at 11:30 am, 2:00 pm & 4:30 pm. Winning ticket numbers will be posted at the AACT Booth and prizes can be redeemed right after the drawing up until 4:35 pm. All non-winning tickets will remain until the last drawing.

A collage of images related to Celebrate Science Indiana 2016. The central part is a large poster with the following text:

*Indiana's Premier Science Festival*  
**Celebrate Science Indiana 2016**  
**Saturday, October 1<sup>st</sup> 9:30 AM – 5:00 PM**  
*Hands-on Family Fun for Everyone*  
**Indiana State Fairgrounds – Blue Ribbon Pavilion**  
1202 E 38th St, Indianapolis, IN 46205  
Admission is **FREE** and it is open to the public;  
parking at the fairgrounds is \$5.  
[www.celebratescienceindiana.org](http://www.celebratescienceindiana.org)

Surrounding the poster are several smaller images: a mascot in a brown suit and goggles, children at a booth, a woman at a laptop, and a group of children.

Come to Celebrate Science Indiana at the Indiana State Fairgrounds in the Elements Blue Ribbon Pavilion on **Saturday, October 1** and help us celebrate K-12 teachers! If you or your group would like to donate a prize for these honored teachers, please contact [linda.osborn@hrglab.com](mailto:linda.osborn@hrglab.com).

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## Ann Hunt Received Distinguished ACS FELLOW Award

*by Linda V. Osborn*

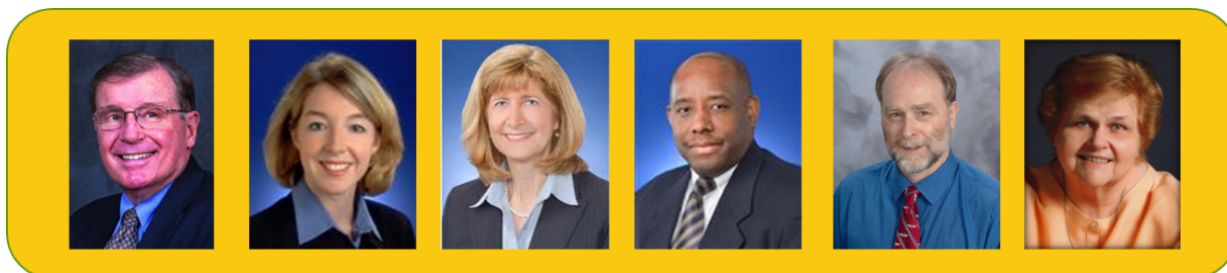


While at the regional meeting in Cincinnati, Lee Latimer, ACS Director-at-Large, asked how **Ann Hunt** was doing. I said that she is doing great and that we recently nominated her as ACS FELLOW. Low and behold, Ann won this well-deserved honor. The ACS Fellows Program was created by the ACS Board of Directors in December 2008 to recognize members of ACS, like Ann, for both their exceptional contributions to their profession *and* for their excellent volunteer service to the ACS community. Her nomination was submitted on behalf of the Indiana Local Section by Erin Dotlich.

When I first started becoming actively involved in the Indiana Local Section, I recall Sibel Selcuk telling me about Ann; that she was a phenomenal contributor to the ACS. Sibel was in awe of how much she had done. Ann's efforts, intelligence, and accomplishments in both her career at Eli Lilly as an expert in NMR spectroscopy and her service within the ACS at the local, regional and national levels justify this prestigious honor. Ann has provided years of industry expertise and mentoring to many of us on the committee and was unanimously elected by the local section committee. Bob Pribush talked about how active she continues to be in the Indy community; giving her talents and financial support to so many different entities such as the Indianapolis Museum of Art.



Ann joins a list of 5 other members from the Indiana section who have received this award: Robert Pribush (2013), and Dawn Brooks, Christina Bodurow, David Mitchell and Kenneth Racke (2014). Next year, Ann will celebrate her 50<sup>th</sup> year as an ACS member. An official announcement with the complete list of 2016 ACS Fellows appears in C&EN – <http://cenm.ag/acsfellows2016>. Photos and citations are posted at <http://www.acs.org/fellows>.



## National ACS Meeting - 2023

- Blue Sky Brainstorm Event
- September 22, 2016 at Uindy
- Success in 2013 – what can we do better
- Invitation sent to ~70 leaders!
- Goal: initial discussion for Indiana Section Leaders to develop strategies for the Spring 2023 National ACS meeting



CHRISTINA C. BODUROW  
2013 ACS NM Lead  
Eli Lilly and Company,  
Indianapolis, Indiana

## Update from the 2016 National Meeting (Philadelphia, PA)

*By Chris Bodurow (abridged by Julie Holland)*

The 252<sup>nd</sup> ACS National Meeting and Exposition was held in Philadelphia, PA from August 21-25. There were a total of 12,800 attendees. A host of awards were given for contributions to chemistry in many disciplines. The following provides a full list of 2016 awards:

<https://www.acs.org/content/acs/en/funding-and-awards/awards.html>

The Board came together to discuss the past year as well as future succession plans of ACS. Although the decisions made are too many to list, some of the highlights that may be of interest to Local Section members are:

- The Council conducted a special discussion to gather input on proposed recommendations from the ACS Presidential Task Force on the U.S. Employment of Chemists. The task force has been examining and considering all known influences that can impact employment in the chemical sciences. Councilors were invited to share their thoughts, comments, and suggestions on the proposed suggestions to date, in preparation for the report's expected release later this year.
- The Council approved a petition to amend the ACS Bylaws to extend the Unemployed Members' Dues Waiver, which will extend waivers for unemployed members' dues from the current two years to three years, subject to confirmation by the Board of Directors.
- The Council approved the *Chemical Professional's Code of Conduct*, subject to confirmation by the Board of Directors.
- The Board and the Council Policy Committee are creating a new task force that will look at the Society's future governance needs to ensure an agile, efficient, and effective ACS



- The Board discussed the history, role, and contributions of its Standing Committee on Corporation Associates, and the responsibility of ACS to effectively capture the needs of industrial members and their corporations.

The Society's 2016 Probable 1 Budget calls for a Net from Operations of \$17.3 million. This is \$3.9 million higher than the Approved Budget but only \$723,000 higher than 2015. Total revenues are projected to be \$528.8 million, essentially on budget, and 3.3% higher than the prior year. Total expenses are projected at \$511.5 million, which is 0.6% favorable to budget, and 3.3% higher than 2015.

Additional information can be found at <https://www.acs.org/content/acs/en/about/aboutacs/financial.html>. There you will find several years of the Society's audited financial statements and IRS 990 filings. In addition, the Board held a well-attended regular session which featured a discussion on ACS National Meetings of the Future. Board Chair Pat Confalone opened the discussion by stating ACS National Meetings are a key way that ACS fulfills its obligation to deliver scientific information. These National Meetings are successful, but they are always looking for ways to improve and to anticipate what members' future needs – as to these meetings and other subjects – will be. Almost two dozen audience members came forward to offer comments, observations, and suggestions, prompted by a list of questions designed to help focus the discussion.



Our Local Section presented a newly designed poster of the many activities that we support throughout the year (left with Beth Lorsbach).

Beth and Chris Bodurow were on hand to celebrate Ann Hunt's FELLOW award (right).



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## 2016 BCCE: Biennial Conference on Chemical Education

*by Paul Morgan*

The 2016 Biennial Conference on Chemical Education, co-sponsored by the ACS Division of Chemical Education, was held on the campus of Northern Colorado State University in Greeley, CO from July 31 to August 4, 2016. This continuing event pulled together over 1000 chemical educators and others interested in chemical education from around the country and around the world to talk about innovations and issues mainly in formal learning environments and also outside the classroom. The Indiana Section was well represented at the conference with presentations by members.

Faculty members from many institutions including Marian, Butler, IUPUI, University of Indianapolis as well as University High School presented on topics from their classrooms and research. Topics included everything from “Big Ideas”, to community outreach events and included a presentation by University of Indianapolis faculty members in collaboration with student Sydney Reynolds.

Of particular note to those who perform chemistry outreach events, Mary Kirchhoff, director, Education Division of ACS, presented on the forthcoming report from the National Academies on *Effective Chemistry Communication in Informal Environments*. The report provides a framework on how to organize presentations that occur outside formal educational environments, which many types of situations including anything from local section events to researchers talking about their work. Electronic copies of the pre-publication report are available from the National Academies Press (<http://www.nap.edu/catalog/21790/effective-chemistry-communication-in-informal-environments>).

If you are interested in chemical education, BCCE 2018 will be held right here in Indiana on the campus of Notre Dame University. This is a great event to network, communicate your work and get great ideas from others.

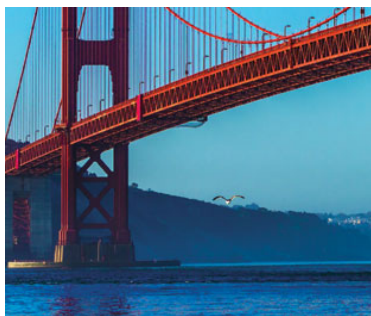
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## Local Section 2016 Meetings & the 2017 National Meeting Reminders

There are still several ACS Local Section meetings coming up this year. These meetings offer poster sessions, expositions and social events on a diverse array of topics. They are smaller and more local-centric, and therefore provide a great opportunity to network within the local community. Upcoming 2016 meetings include:

[42<sup>nd</sup> Northeast \(NERM\)](#), **October 5-8**, Binghamton, NY  
[68<sup>th</sup> Southeastern \(SERMACS\)](#), **October 23-26**, Columbia, SC  
[51<sup>st</sup> Midwest \(MWRM\)](#), **October 26-28**, Manhattan, KS  
[72<sup>nd</sup> Southwest \(SWRM\)](#), **November 10-13**, Galveston, TX

For more information, go to the [ACS Regional Meetings](https://www.acs.org/content/acs/en/meetings/regional.html) (<https://www.acs.org/content/acs/en/meetings/regional.html>) home page, or follow [@ACSRegionalMtgs](#) on Twitter.



Don't miss out on the 253<sup>rd</sup> ACS National Meeting & Exposition in San Francisco, CA

**April 2-6, 2017**

More information to come regarding this exciting meeting!

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## Mystery Solved? Local Section Celebrates Art-Science Interface at the IMA

by Dr. Greg Smith

On August 26<sup>th</sup> nearly 100 scientists, cultural heritage specialists, and art enthusiasts gathered at the Indianapolis Museum of Art (IMA) to hear about the intersection of Art and Science. How old is that artwork? What happened to those previously bright colors? Is that statue even real? As an early celebration of the ACS National Chemistry Week theme “Solving Mysteries through Chemistry,” Dr. Gregory Dale Smith, the Otto N. Frenzel III Senior Conservation scientist, presented a series of “cold cases” from the IMA collections where chemistry ultimately solved mysteries surrounding the museum’s artworks.



The festive night began with a catered reception that allowed longtime colleagues in the local section and new friends from the cultural heritage community to mingle and converse. Approximately 50 of the attendees also toured the 3000 square foot conservation science laboratory to hear more about the science underpinning our stewardship and understanding of the museum’s ~50,000 artworks. Two current science-based exhibitions at the IMA – *On the Flipside: Secrets on the Backs of Paintings* and *What Lies Beneath?* – added to the sense of mystery, discovery, clues, and evidence for the night.

Dr. Smith’s hour-long lecture, *Solving Art Mysteries through Chemistry*, relayed a series of case studies where chemical investigations were key to answering questions and solving puzzles related to the museum’s collections.



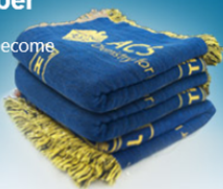
The audience was exposed to a millennium of technical art history and a dazzling array of beautiful objects, before Dr. Smith wrapped up the talk with a current research collaboration that has repurposed the world’s oldest manmade art material, Egyptian blue pigment, into a modern luminescent fingerprint dusting powder. This new forensic tool now stands to change the way crime scene investigators study and inspect

evidence for fingerprints.

This year’s highly successful evening lecture was made possible by the generous support of our local section past chair, Dr. Matthew Gardlik, and an Innovative Projects Grant from the National ACS and Local Section funds provided by Monument Chemical sponsorship.

### member-get-a-member

Invite a friend or colleague to become an ACS member and receive a Periodic Table of the Elements blanket!

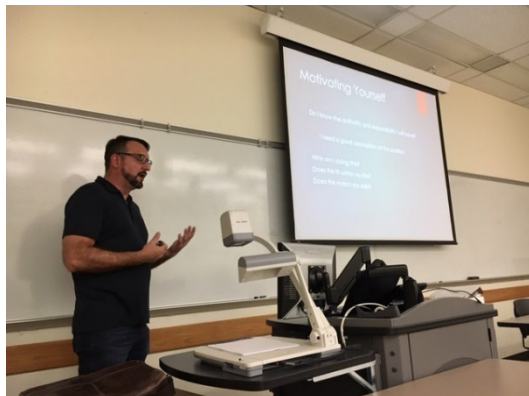




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## Engaging and Motivating Volunteers Workshop

*by Paul Morgan*




Volunteer recruitment and retention is essential to many organizations but, it is also challenging. On September 8, the Indiana Section hosted “Engaging and Motivating Volunteers” at Butler University, which was sponsored by a grant from Lilly. At the presentation attendees explored the motivations of their prospective volunteers and discussed how to match volunteer positions and recruitment statements to those motivations.

Beth Lorschbach (Local Section councilor, discovery chemistry leader at Dow AgroSciences,) and Paul Morgan (Local Section executive committee Member-at Large, chemistry instructor at Butler University) were the presenters. Both presenters have served in various volunteer leadership roles. Their unique perspectives of recruitment from industry and academics allowed the interactive presentation to be tailored to the interests of the participants. Those interests ranged from advocating for road worker safety in construction zones to engagements with STEM outreach events to recruitment for student affiliate programs. The group of ten in attendance sought advice from the presenters and each other on how to recruit volunteers for specific positions such as a social media coordinator and general event volunteers.

At the end, each attendee was challenged to write a volunteer solicitation and share it with their neighbor and with the group. The exercise allowed them to gain practical experience writing, analyze the methods of important solicitation components to ensure the target audience was engaged and it helped each person walk away with skills and information they could apply to their next volunteer leadership position.



**MOLECULES to MOZZARELLA:**  
**The CHEMISTRY of CHEESE**



**Dr. Maria Alvim-Gaston, Eli Lilly**  
October 14, 6-8 pm  
Location: Kahns Fine Wines and Spirits 5341 N. Keystone Ave  
Free and open to the public – Over 21 only  
Sponsored by Eli Lilly and the American Chemical Society

Maria's Chemistry of Cheese event is already booked; however, senior members are invited to a follow-up event held at Heritage Research Group at 7901 W. Morris St. in Indianapolis.

Please register by emailing Ann Cutler at [acutler@uindy.edu](mailto:acutler@uindy.edu). You may also reply to this email.

**A SPECIAL INVITATION TO JOIN US AS WE FOLLOW-UP OUR  
CHEMISTRY OF CHEESE EVENT!**

Enjoy a themed-dinner and lively conversation as we celebrate and connect our  
career-experienced members!

**Dr. Maria Alvim-Gaston & Dr. Ann Cutler**

**Thursday Oct. 20 from 6-8 pm**

Heritage Research Group 7901 W. Morris St. Indianapolis, IN 46231 (first building on the right)

Panera Bread Sandwiches  
Cheese Platter  
Brazilian Cheese Bread  
Cheesecake  
Water, Soda, Tea, Lemonade, Coffee

RSVP to Ann Cutler ([acutler@uindy.edu](mailto:acutler@uindy.edu)) by Oct. 15<sup>th</sup>.

## SPOTLIGHT on a Student Chemist

*by Rebekah Dickerson*



From a very young age, my parents encouraged me in the pursuit of knowledge by immersing me in curiosity, questions, and research, ultimately leading to my passion for science and literature. I wanted to have as much priceless knowledge at my fingertips as possible, therefore, one day I would be a librarian. As a bookworm, my immersion into science was like picking up another book: there was a whole new world to explore. I continued through these chapters of strange pets and 4-H

entomology until I never put the book down again.

It wasn't until high school, when two of my amazing teachers (shout out to Mrs. Kennedy and Dr. Conklin!) handed me a manuscript showing how chemistry was surrounding us and dictating how the world works. To me, it seemed suddenly obvious that the next few chapters of my life would be in pursuit of this knowledge. I had a new love: chemistry.

For me, the lab was like a second home. From high school to college, this feeling only grew! Being in the lab gave me some of my most treasured moments like conversing with my professors and learning leadership by their example. By being a Presidential Ambassador and a peer tutor, I can begin following in their footsteps.

This summer, Heritage Research Group gave me the incredible opportunity to work as an intern in their lab, granting me invaluable learning experience and priceless assistance in helping to discern my path after graduation. I cannot be more thankful to my family, teachers, professors, and new mentors who have walked with me every step of the way, who continue to help me learn new skills and reaffirm my journey.

I graduate in May with a degree in chemistry with a concentration in bio-organic chemistry and a minor in pastoral leadership from Marian University. As a San Damiano Scholar at this small university, involvement within community has taught me how to use my own gifts to affect the world as a transformative leader. After commencement, I plan to work as an analytical chemist in industry while gaining experience and learning about historical conservation for a future degree by cracking open a few new books.

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## 2017 Summer Internships Available at Dow AgroSciences!

Hello!

I would like to invite your students to apply to our R&D Summer Intern Program at [Dow AgroSciences](#). R&D internships are available in chemistry, biology, and computer science related disciplines, including, but not limited to, biochemistry, molecular biology, cell biology, microbiology, plant

breeding, organic chemistry, analytical chemistry, physical chemistry, surface chemistry, engineering (chemical, biological, material, or optical) and informatics (bio and chem). Our laboratory-based Research and Development internships are located at our global headquarters in Indianapolis, Indiana. This is a paid internship; salaries are determined by the student's year in school. Subsidized housing is available for qualified students. Eligible students will be pursuing a Bachelors, Masters or Doctorate degree from a U.S. based college or university with proper U.S. work authorization, or the ability to obtain work authorization through their university.

We believe that our program is one of the best and hope you will share this information with your students. Interested students should apply at <http://www.dowagro.com/en-us/careers/student-internships/science-laboratory-based-research>.

Applications will be accepted between **August 15** and **November 1, 2016** for the 2017 program.

*Karen Richardson*

R&D Summer Intern Program Administrator

<http://www.dowagro.com/careers/internships/lab.htm>

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**Chemistry Day**  
Theme "Solving Mysteries through Chemistry"  
Exploring the chemistry of fibers and forensics.

**November 5, 2016**  
**10 a.m. – 3 p.m.**  
*Museum open until 5 p.m.*

**National Chemistry Week**  
Solutions for the Future

**The Children's Museum of Indianapolis**  
3000 North Meridian Street, Indianapolis, IN 46208

Contact Tom at [tomxiao08@gmail.com](mailto:tomxiao08@gmail.com) or Belgin at [BCanturk@dow.com](mailto:BCanturk@dow.com) with questions.

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## UNITED STATES NATIONAL CHEMISTRY OLYMPIAD 2017

### INDIANA SECTION EXAMINATION

Dear Chemistry Colleagues:

Is your high school honoring their best chemistry students by sending them to participate in the 2017 American Chemical Society Indiana Section High School Scholarship Examination? The 2017 American Chemical Society Indiana Section High School Scholarship Examination reflects the Indiana Section ACS commitment to highlight the quality of Hoosier students by providing them with an opportunity to participate in the United States National Chemistry Olympiad (USNCO) competition.

The award structure is designed to honor top-scoring students from every school that sends at least three students to take the exam as well as overall top-scoring students in the First Year and Advanced Exams. The top three students in each exam will receive a recognition plaque and a \$100 cash award. Students who finish in the top 10% of those taking each exam will also receive recognition plaques.

The five top scoring schools in each exam will receive a team plaque and a one-year membership for one teacher in the American Association of Chemistry Teachers. Teachers receiving the membership can opt to apply the award as partial payment in the American Chemical Society.

**Again, every school that sends at least three students to take the exam will be awarded a perpetual recognition plaque showing the name of the top-scoring student from that school.**

The Local Section USNCO examination will be held at 8:30 on **Saturday, March 4, 2017** at Brebeuf Jesuit Preparatory School. Eli Lilly research chemist, Dr. Jianping Huang, who has extensive experience competing and coaching at the international level, will administer the exam, and I will add my many years of university teaching experience to the effort. Recognition awards will be based on student performance on the 110-minute Local Section Chemistry Olympiad Examination written by the ACS Examinations Institute with some additional tie-breaking questions that are written by us. Copies of Local Section Chemistry Olympiad Exams from previous years can be downloaded from the website:

<https://www.acs.org/content/acs/en/education/students/highschool/olympiad/pastexams.html>

The USNCO national screening exam will be held at Butler University in **April, 2017**. Thirteen Indiana Section students with no more than two students from a single high school may take the USNCO national screening exam to attempt to qualify to participate in the Air Force Academy workshop at which the USNCO team is selected. The thirteen students will be selected from those taking the USNCO Local Section Exam plus the additional tie-breaking questions.

Of over 10,000 students who take the USNCO exams annually, each of the past seven years the Indiana Section ACS has had at least one student finish in the top 20 and thus participate in the Air Force Academy camp with several other Indiana Section students finishing in the top 150. Four years ago an Indiana



student, David Liang of Carmel High School, was one of the four students chosen for the USNCO team, and he won a gold medal at the International Chemistry Olympiad that was held in Moscow, Russia.

Please share with your students the excitement of competing for individual awards, school awards and the possibility of becoming a member of the United States National Chemistry Olympic team. Challenge your best students to participate in this year's Indiana Section High School Examination. Registration forms will be sent to all teachers who wish to honor their top-performing chemistry students. **Note that there is no limit to the number of students from a given school allowed to take the exams.**

Sincerely,

Robert A. Pribush, Ph.D.  
Co-chair, Indiana Section USNCO  
317-989-6799  
[rpribush@butler.edu](mailto:rpribush@butler.edu)

Jianping Huang  
Co-chair, Indiana Section USNCO  
317-433-1675  
[Huang\\_jianping@lilly.com](mailto:Huang_jianping@lilly.com)

For more information and for forms to apply for the USNCO exam, please contact Robert Pribush at the above email address. The deadline for registration forms is **February 17, 2017**.

The poster for the "Chemistry of Beer" event features a central image of a glass of beer. Above the glass, the chemical structures of Humulone and Cohumulone are shown. To the left of the glass, the chemical structures are labeled "Humulone" and "Cohumulone". To the right of the glass, a diagram of a lupulin gland is shown with labels: "Strig", "Bracteole", "Bract", and "Lupulin glands Containing Resins and Essential Oils". Above the glass, the periodic table elements Beryllium (Be, 4, 9.0122) and Erbium (Er, 68, 167.26) are displayed. The text on the glass reads: "Chemistry of Beer", "October 18, 2016", "5:30 pm – 9:00 pm", "Speaker", "Brian Mathes", and "mathes\_brian\_m@lilly.com". To the right of the glass, an orange box contains the text: "Triton Brewhouse", "Fort Benjamin Harrison", "5764 Wheeler Road", "Indianapolis, IN 46216", and "All ages welcome!".

For information about our Chemistry of Beer event, please contact Brian at [mathes\\_brian\\_m@lilly.com](mailto:mathes_brian_m@lilly.com).

## Indianapolis Project SEED Students Say Thank You!

by Alyssa Heffren

Project SEED is a science research program created by the American Chemical Society for eligible high school students. SEED stands for Summer Experience for the Economically Disadvantaged, and was designed to encourage students from low income families to explore a career in science through a summer internship in a professional laboratory.

This program provides students with an opportunity to explore science in a manner that most disadvantaged schools are unable to provide, expanding the students' knowledge and passions for the sciences in the process. These are just a few letters received from this summer's SEED interns displaying their gratitude for the program and the opportunities it allowed.

Thank you so much for all the support you have provided Project STEM/SEED. This program has made a great difference in my life; though I am an economically disadvantaged student, it has allowed me to do research in a lab and to grow immensely as a young scientist. Thank you so much for everything.

Sakhi

Thank you for supporting Project SEED and making my experience here the best one possible. Because of your hard work and dedication to Project SEED I had an amazing experience this Summer that I will never forget. It has been a pleasure and privilege participating in this outstanding program.

Sincerely,  
Antonia

Thank you so much for your support of the ACS Project SEED program! I am a second-year intern working in the IUPUI School of Science, Dept. of Biology, and have loved my time here! My project is in bioinformatics and molecular genomics—specifically, investigating the molecular mechanisms of sex determination in a forensically important blow fly species. Analyzing my data with various biological software has really opened my eyes to the countless applications of technology, not only in biology but

across many disciplines. I haven't decided on a major yet, but Project SEED has helped me see that I want to do research and utilize technology in whatever field I choose. I am truly grateful for the ACS' outreach programs—like SEED—to students of all ages and am planning to give part of my stipend back to the SEED stipend fund for next year as a small token of my appreciation. I hope you know all the good you are accomplishing through Project SEED—thank you for all that you do!

Grace

Thank you so much for all the work you have done so that I may participate in this absolutely incredible organization for the second summer in a row! The financial support that the ACS has provided me will allow me to buy a car this summer so that I may commute to college and don't have to ride the bus. I am so thankful for the ACS and Project SEED.

Thank you so much  
Anha



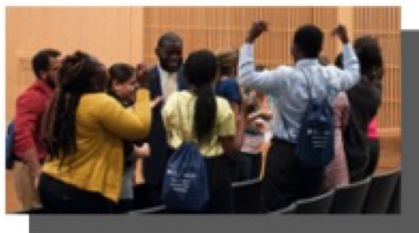
ACS

Chemistry for Life®

AMERICAN CHEMICAL SOCIETY



For under-represented minority college students in STEM fields



## Save the Date

November 12, 2016  
10 am—6 pm

to participate in



## *Impress for Success*

*Workshop for Advancement of  
Minority STEM College and Uni-  
versity Students! STEM stands for  
Science, Technology, Engineering  
and Math*



Indianapolis, Indiana

IUPUI University Library

Talented speakers, Mock  
Interview Segment, Re-  
sume Writing, Networking  
and much more!

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**science@iupui**

Need info? Contact Tamiko at [tnp@iupui.edu](mailto:tnp@iupui.edu) or Kim at [kimistry05@gmail.com](mailto:kimistry05@gmail.com)

Please forward names of students that qualify or professionals that want to help with networking!

## New Youth Committee Chair: Tejas Shah

*By Linda Osborn and Julie Holland*

After a year plus vacancy, we'd like to welcome Tejas Shah to the Local Section as the new Youth Chemistry Chair. In the first of many outreach events for our younger chemists, please attend a brand new event:

### **The Chemists' Code, 3 Essential Skill Sets for Your Career**

Who's invited: All younger ACS members ( $\leq 35$ ) or any College students interested in this topic

When: October 11, 2016 from 7-9 pm

Where: Heritage Research Group 7901 W. Morris St. Indianapolis, IN 46231 (first Building on right)

Meet your new YCC Chair Tejas Shah and other executive committee members in the ACS Indiana

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## White River Festival

*By Julie Holland*

The 2016 White River Festival is currently underway and runs until September 27<sup>th</sup>. This is a 2 week festival which focuses celebrating the White River, all of its tributaries and the watersheds from 16 surrounding counties. This festival focuses on building a better Indianapolis and the surrounding areas by focusing on the waterways that connect communities and neighborhoods.



There are many family-oriented activities over this two week period. Activities are centered on wildlife, art, community, training and learning, entertainment, recreation and service (WATERS). There are lots of science activities for families to enjoy. Events take place at Mounds state park, Eagle Creek, White River, and the Indianapolis Zoo.

Outreach programs such as this help keep Indiana interesting and make our community a more desirable place to live.

For more information on this celebration, go to <http://whiteriverfestival.org/about-the-festival/>

## More Science Outreach Activities in the Indy Area

*By Julie Holland*

In addition to the upcoming ACS Local Section sponsored events, there are some other interesting happenings in the Indianapolis area over the next 3 months.

Starting October 20, the School of Science and the School of Science Alumni Association at IUPUI is returning with a monthly speaker series called Science on Tap. Attendees gather at a local brewery for socializing and a pint, then sit back and listen to a topics that range anywhere from health and life science to space to computer science. For more information on the dates, topics and location, please check <http://science.iupui.edu/science-on-tap>

On Saturday, October 29<sup>th</sup>, the Indiana Historical Society (450 W. Ohio) is hosting the Science of Halloween from 12-4 pm. Please go to <http://www.indianahistory.org/> for more information.

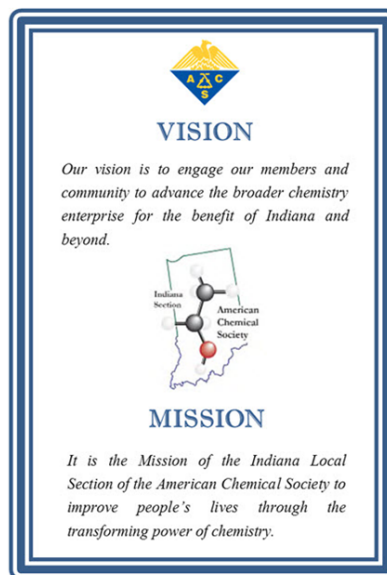
The Center for Inquiry and University of Indianapolis are hosting *An Evening with Richard Dawkins* on Wednesday, November 9<sup>th</sup> from 7-9 pm. This world renowned scientist and author will be discussing “matters relating to science, reason, freedom of inquiry, and humanist values.” General admission tickets are \$29.00. There is a 1 hour VIP session from 6-7. VIP tickets are \$250. Information and tickets can be purchased at <https://secure.centerforinquiry.net/events/DawkinsIN>

Local Section American Chemical Society Sponsored Events 2016		
Event	Location	Date
Deadline for self-nominations for 2017 Executive Committee	<a href="mailto:linda.osborn@hrglab.com">linda.osborn@hrglab.com</a>	Tuesday, September 20
Blue Sky Event to Discuss 2023 National Meeting in Indianapolis	University of Indianapolis	Thursday, September 22
Celebrate Science Indiana	Indiana State Fairgrounds	Saturday October 1, 9:30 am – 5 pm
YCC presents: The Chemists’ Code, 3 Essential Skill Sets for Your Career	Heritage Research: 7901 West Morris Street, 46231	Tuesday, October 11, 7-9 pm
The Chemistry of Cheese with Maria Alvim Gaston	Kahn’s Fine Wines	Friday, October 14, 6-8 pm
The Chemistry of Beer with Brian Mathes	Triton Brewhouse 5764 Wheeler Road	Tuesday, October 18, 5:30-9 pm
National Chemistry Week	Indianapolis Children’s Museum	Saturday, November 5, 10 am – 3 pm
Impress for Success	IUPUI	Saturday, November 12, 10 am – 6 pm
End of the Year Celebration	TBD	Tuesday, December 13,
USNCO registration	<a href="mailto:rpribush@butler.edu">rpribush@butler.edu</a>	February 17, 2017
<b>Be sure to look out for the fall return of Kids in Chemistry at the Children’s Museum!</b>		

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# Happy Halloween!

## THE CHEMISTRY OF CANDY

### Crystalline Candy



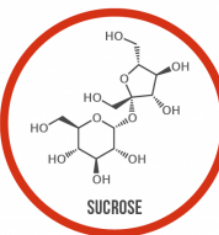
FUDGE



NOUGAT



FONDANT



### Non-crystalline Candy



LOLLIPOPS



CANDY CANES



CARAMEL



LOWER SUGAR CONCENTRATION THAN NON-CRYSTALLINE



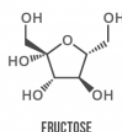
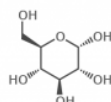
SUCROSE SOLUTION BOILED AT LOWER TEMPERATURE



CONTAIN MANY SMALL, FINE CRYSTALS OF SUCROSE

Generally smooth & creamy. Crystalline candies contain crystals of sucrose in their finished form; the sucrose molecules are able to align and form large lattices. They are best formed by slow cooling of a sugar solution, without stirring, which can disrupt crystal formation.

### Interfering Agents



HIGHER SUGAR CONCENTRATION THAN CRYSTALLINE



SUCROSE SOLUTION BOILED AT HIGHER TEMPERATURE



FROM VERY SATURATED SOLUTION - NO CRYSTALS

Generally hard & brittle. Non-crystalline, or amorphous candies, form when crystallisation is prevented. This can be accomplished by the addition of sugars such as glucose and fructose that interfere with the development of crystals. Often, their mixtures are too viscous for crystals to form.

