



The

Indiana Section of the American Chemical Society

# Accelerator

Visit our website: <http://membership.acs.org/i/indiana/>

## Chair's Corner

This past spring has been a busy time for our section, as you will see in the articles in this issue. We enjoyed an assortment of delectable sweets at Howard Peters' Chocolate talk at University High School in February; we asked the expert at Pike High School in April; we celebrated Earth Day with the help of student groups at Science Day in May; and we honored our 50- and 60-year members and celebrated our examination award winners at Butler University, also in May.

We show no signs of slowing down in the coming months. Dr. Nelson Shaffer of Nannovations will be presenting a talk about finding new uses for carbon dioxide conversion products and processes in July. In August, we'll have our 8<sup>th</sup> Annual Baseball Night at Victory Field where the Indians will take on the Charlotte Knights. In September, Suzanne Lomax will present a talk about Chemistry and the Examination of Works of Art. In October, DowAgroSciences LLC will host our 10<sup>th</sup> Annual Poster Session and the Indiana Medical History Museum will host the Wizard's Academy. In November, we will once again celebrate National Chemistry Week at The Children's Museum of Indianapolis. As you can see, we have many opportunities for you to become more involved with our local section by volunteering your time or by attending the events. I would like to encourage all of you to come out and see what makes our section so special.

Jason Ribblett, Chair

## Chocolate Event

The Indiana Section helped our members get a head-start on Valentine's Day by celebrating the joys of chocolate with our guest speaker Howard Peters. The event was held at University High School in Carmel on February 12 and was attended by about 70 people.

Peters spoke about the history of chocolate use and provided interesting trivia about modern chocolate making. At the end of his talk, he made three area college students very happy when they won various prizes related to chocolate, including a 10 lb. bar of Guittard dark chocolate.

After the talk, attendees were treated to a buffet of chocolate goodies, including a chocolate fountain, sampling chocolate, and chocolate cake. Many commented that they had never seen so much chocolate available for them to taste.

Julie O'Brien

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The Indiana Local Section of the American Chemical Society publishes the Accelerator four times a year. The Section is not responsible for statements or opinions printed in this publication. The Editor is responsible for all unsigned and staff articles.

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## Project SEED Wrap-Up

### SEED Donations

The Indiana Section of the American Chemical Society and Project SEED would like to thank the members of the section who have donated both financially and with their time to Project SEED. These gifts are even more important these days as the ACS National office has been cutting back their support of this program. With your help, the Indiana Section Project SEED is actually growing in its outreach instead of contracting. We would especially like to thank the following members for their outstanding gifts to the program.

Mr. & Mrs William Pfeifer  
Rosanne Bonjouklian  
Jim and Roberta Fowler  
Ann Hunt  
Danise and Vaidyanat Subramaniam  
Jeffrey White

If you would like to donate time or financially to this very important program, please contact Tamekia Anderson of the IUPUI Project office at [tlander1@iupui.edu](mailto:tlander1@iupui.edu) or the summer coordinator, Elmer Sanders, at [esanders@msdpt.k12.in.us](mailto:esanders@msdpt.k12.in.us).

-Brian Mathes

### Project SEED Awards and Notices

As mentioned on page 55 of the March 30, 2009 issue of *Chemical & Engineering News*, Ciera Brown, a graduate of Southport High School in Indianapolis, was named an Ulyot Scholar. Under the supervision of Professor Jay A. Siegel at Indiana University-Purdue University, Indianapolis (IUPUI), Brown worked on research titled, "The Forensic Analysis of Lipsticks." Brown attends IUPUI.

As reported by Mr. Elmer Sanders, Chemistry teacher at Southport High School in Indianapolis, a 2008 Summer SEED student from Northwest High School, Joshua Blevins, was named a co-author of a paper entitled, "Aspirin Impairs Transport of Protective Osmolytes in Renal Inner Medullary Collecting Duct Cells," which was published in *The Open Urology & Nephrology Journal* in 2009. Joshua worked with Dr. Stephen Kempson in the Department of Cellular & Integrative Physiology at Indiana University School of Medicine in Indianapolis.

-Denise Cudworth

### Ask the Expert

Many thanks go out to all the chemists of the Indiana Section of the American Chemical Society who participated in the first annual "Ask the Expert" session in the Pike Township Schools this past Spring. This session was set up to help teachers of science from primary grades up through high school learn more about their subject from experts in the field. At this session, experts from chemistry, biology, geology and other science disciplines provided an instructional forum for the teachers in attendance. In addition to helping answer instructor's specific questions, this session allowed the teachers to stay up on the most current issues in their fields. The Indiana Section had over 10 chemists present. The organizers said the session was a complete success and will be looking to do this again next year. Keep your eye out in the future for emails/newsletter articles if you are interested in participating next year.

-Brian Mathes

## Science Day 2009

The Indiana Local Section teamed up with the Ball State University Student Affiliates of the American Chemical Society (BSU SAACS) to organize our 6<sup>th</sup> Annual Science Day. The primary goal of this event is to create and develop interest in the sciences amongst elementary school students in the Muncie Area. Once again, the event was held indoors at the Delaware County Fairgrounds in Muncie, IN. By



having the event indoors, we did not worry about the weather or electricity needs. It also was more convenient for volunteers and attendees to access the event and for participants to set up and tear down the booths. Over the years, this event has been expanded and improved to incorporate the theme, Chemists Celebrate Earth Day, and to include games, contests, activities, and free giveaways.

Some topics covered at the tables included fossils, microbiology, recycling, magnets, candy molecules, Shrinky Dinks, polarity of water, slime and polymerization, and density. The event also had a carnival-like atmosphere outside where play-activities such as a moon bounce and games to increase interest and community participation were provided by Three-Bears Concessions. We had many free giveaways, including recycle bags donated by East Central Indiana Recycling. With funds received from Lilly USA, LLC and the BSU ISTEM Initiative grant, it was possible to do more this year than ever before.

The event featured new demonstrations, such as Genie in a Bottle and Elephant's Toothpaste, and activities coordinated by other BSU student organizations, such as the mathematics club (Council for Teachers of Mathematics), the Physics Club, the Storm-Chase Team, and the Genetics Club. BSU SAACS was able to create a new, expanded edition of the "My Own Science Day" book, which was given to all those in attendance. Toyota of Muncie was invited to bring three hybrid vehicles for children (and parents) to explore and learn about hybrid technology. Volunteers included BSU SAACS members as well as business, architecture, and elementary education students and members of volunteer sororities. Food for the volunteers was provided by Pepsi-Cola Inc., McAlister's Deli, and Taco Bell. T-shirts for the volunteers were made by Outfitters of Muncie. Over 400 people were in attendance this year, making Science Day a huge success once again. We hope to see you on Saturday, April 24, 2010 for our 7<sup>th</sup> Annual Science Day!

-Jason Ribblett

## Awards Night Ceremony

The Indiana Section ACS Awards Night Ceremony was held in the Krannert Room at Clowes Hall, Butler University, on Tuesday, May 12, 2009. Brian Mathes, MS and Publicity Chair for the Indiana Local Section, gave the welcome and opening remarks. After dinner, Dawn A. Brooks, Ph.D., Director of API Operations in Product Research & Development for Eli Lilly & Company, gave the Award Address entitled, "Science Needs You: Challenges and Opportunities for the Next Generation."



Professor Robert Pribush of Butler University then presented the ACS High School Chemistry Scholarship Awards (shown below). Jianping Huang, Local Section Olympiad Coordinator, presented the Indiana Section Chemistry Olympiad Participants. Brian Mathes presented awards to our 60- and 50-year anniversary members (listed below), as well as the Past-Chair Pin to Tony Trullinger, Ph.D., Dow AgroSciences LLC. Professor Pribush presented a Special Award for the Indiana Section to Charles (Bob) Baker, MS, retired. Closing remarks were provided by Brian Mathes.

### First-Year Examination Awards

Two book awards are also included for each scholarship and honorable mention awardee. This year the books for the first-year students are –

*Molecules That Changed the World* and  
*Laughing Gas, Viagra, and Lipitor: The Human Stories behind the Drugs We Use*

<b>\$1000 Scholarship</b>	
Ivy Yan	Carmel High School
<b>\$800 Scholarship</b>	
Zenas Shi	Carmel High School
<b>\$600 Scholarship</b>	
Kevin Song	Carmel High School
<b>\$400 Scholarship</b>	
Robert Hero	Indiana Academy for Science, Mathematics and Humanities
<b>\$200 Scholarship</b>	
Steven Chen	Carmel High School
<b>Honorable Mention</b>	
Rebecca Chen	Park Tudor
Stephanie Pittman	Carmel High School
Rebecca Xu	Carmel High School
David Zheng	Carmel High School

## Advanced Student Awards

Two book awards are also included for each scholarship and honorable mention awardee. This year the books for the advanced students are –

*Napoleon's Buttons: How 17 Molecules Changed History* and  
*Molecules and Medicine*

<b>\$1000 Scholarship</b>	
Jimmy Sun	Carmel High School
<b>\$800 Scholarship</b>	
Angela Ma	Carmel High School
<b>\$600 Scholarship</b>	
Lee-Wei Kao	Zionsville Comm. HS
<b>Honorable Mention</b>	
Sukriti Bansal	Zionsville Comm. HS
Ansel Nalin	Carmel High School
Ten Obara	Avon High School
Shelley Tang	Hamilton Southeastern
Michael Wang	Carmel High School
Lionel Zhao	Zionsville Comm. HS

### Top Five Schools

(\$100 to each school)

1. Carmel High School
2. Zionsville Community High School
3. Indiana Academy for Science, Mathematics, and Humanities
4. Whiteland High School
5. (tie) Union County High School  
Yorktown High School

## 2009 Sixty-Year and Fifty-Year Anniversary Members of ACS –

### Fifty-Year Members

Barry G. Campbell, Trafalgar  
Albert T. Chapman, Marion  
Samuel J. Dominianni, Indianapolis  
Alvin Donoho, Indianapolis  
Bruce H. Frank, Indianapolis  
William J. Himmler, North Vernon  
James R. Kuszewski, Carmel  
Jon E. Lewis, Carmel  
Eugene P. Schwarz, Greencastle

### Sixty-Year Members

Eugene Farkas, Indianapolis  
-Laura Slocum & Denise Cudworth



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## ACS Travel Grant Notes

### ACS National Meeting – Salt Lake City, Utah

This was my first year to attend the National ACS meeting. It was definitely an experience for me since I really did not know what to expect. There was always something going on, whether it was speaking with graduate school recruiters, performing chemistry experiments in the chem demo exchange and picking up ideas from other groups, or presenting a poster. I was interested in the companies that were represented since I am still not quite sure of what I want to do with my degree, I thought this would be a good time to walk around and see what companies did or sold. The night life was also fun. The girls I ran around with met a lot of students from all over the country that we were able to talk about our presentations with. This trip was in place of a spring break for me, and I am sure it was a lot more productive and beneficial for me to attend.



-Ashley Everett

The 2009 Salt Lake City National Meeting was a great networking opportunity for me. I learned about a couple of new online Master's level courses in which I will be applying/enrolling within the next year at Florida State University. I also met with another adviser for Oregon University, and had a discussion about current openings she knew of for Master's level graduates. I also brought back information for my PI about new equipment and products.

-Krystal Roark

Let me start out by thanking the Indiana Local ACS Section for helping make the Salt Lake City ACS trip possible. It was a great opportunity to get your research out there to people and also to see what others in the field are researching. I had a lot of fun walking around the expo and talking to different companies' representatives. It makes you feel more secure about your future in Chemistry seeing all of the great job opportunities. All in all, it was a great experience. Thanks again.

-Matthew Bray

During the time I spent in Salt Lake City with the Ball State University Student Affiliates of the American Chemical Society, I enjoyed visiting with other chemistry undergraduates from around the country. Through the undergraduate programs provided, I was able to network with professors and recruiters at many different universities to discuss possible options for graduate school. I was also able to present my own research in

the organic synthesis portion of the program. During my spare time I perused the exposition and my eyes were opened to the vast array of chemical equipment, software, and literature available.

While away from the meeting, I made a quick trip to the Church of Jesus Christ of Latter-Day Saints Family History Library to indulge my interest in my family's past that ended up helping to bring me closer to my grandmother. I also visited Temple Square to look at the beautiful architecture of the tabernacles and temples.

Overall, I returned to Indiana with a greater interest in exploring different opportunities with chemistry.

-Camille Kite

We arrived in Salt Lake City, Utah, for the National ACS Meeting on Tuesday, March 24<sup>th</sup>. On Wednesday, we spent the day at the meeting, attending presentations, walking around the expo, and participating in the Undergraduate Research at the Frontiers of Inorganic Chemistry poster session. On Thursday, when attempting to fly home, a blizzard hit Denver, Colorado, which resulted in an extra night in Salt Lake City, and an adventurous journey home.

I really enjoyed the experience the national meeting gave me. It was amazing to see all the various research projects that were being presented at the meeting. It really helped open my eyes as to how big the chemistry world really is. The expo was very interesting to walk around too. Since my school is small, we don't have a lot of expensive equipment or instrumentation to work with. Being able to see all the different booths with glassware, instrumentation, software, and other items was fascinating to see. The poster presentation was definitely the best part of the experience. Being able to talk through my research with several chemists and bounce ideas off them was extremely helpful. I was able to talk to computational chemists, inorganic chemists, synthetic chemists, and others about my work. I now have various directions to continue my research.

-Rachelle Arnold

My trip to the American Chemical Society Conference was a great experience. This was my second conference and, like the first, it was full of opportunities to meet and talk to other students and professors from both graduate and undergraduate schools. For several days after we arrived on Sunday, I spent much of my time in multiple seminars where professors and students spoke about the research they have been conducting. These



included organic chemistry talks about guanidine analogs as stroke therapeutics, as well as the Suzuki-Miyaura reaction with unactivated chlorides. Dr. Porter also gave an inorganic/nano chemistry talk, which focused on the microwave research that has been done in his lab over the past several years and that contained data from my research. On Wednesday night, I presented my research poster in the combined graduate/undergraduate inorganic poster session. This was probably the most valuable portion of the conference. I was able to talk with several other students and professors regarding my research. I was not only able to explain the exciting work done in our lab to others, but also gain new ideas for upcoming projects. I even had the opportunity to meet a student working in Dr. Sailor's lab, whose previous research we used as a reference. Overall, the American Chemical Society Conference was full of many great experiences that have allowed me to further understand my chemical education.

-Nathan Line

### **Pittcon 2009**

While at Pittcon, I was able to freely explore the various branches of analytical chemistry, and observe the interactions of scientists from professional and political perspectives. I was able to see the most up-to-date research, as well as the current technology and products which make this research possible. I especially enjoyed a presentation from Dr. Hieftje from Indiana University, "ICP-OES: Past Winner, Future Champion?". Dr. Hieftje described the major problem associated with the ICP-OES, the sample matrix effect, and a method to overcome it. I also enjoyed a presentation by Dr. Cooks of Purdue University, "Use of DESI for Ambient Mass Spectrometry," where he discussed a portable mass spectrometry device with little-to-no sample preparation that can map fingerprints and detects trace compounds on these fingerprints. This instrument has been featured in an episode of CSI: Miami.

It was an outstanding opportunity to be able to experience this outside of the classroom in a national meeting environment. The commercialization of active research and technology is not a side of science that most undergraduates experience. Networking and collaboration were prevalent at Pittcon and I began to develop this essential skill. I met several of my advisors' fellow colleagues. Dr. Michael Samide introduced me to Dr. Chris Dahm, a chemistry professor at Wingate University. I also had the chance to meet Dr. Tom Spudich, a colleague of Dr. Olujide Akinbo. While presenting my research at the poster session, I met and discussed my research with several professors and industrial chemists. During the poster session, many people thought that I was a graduate student! Overall,

I enjoyed my time at Pittcon and have learned some very important skills that have prepared me for my future education and career.

Deven Shinholt

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## **Upcoming Events**

### **Sustainability**

The Indiana Section is very concerned with how chemistry relates to the environment and sustainability. The Indiana Section has invited Dr. Nelson Shaffer from



Nannovations to talk on sustainability issues and chemistry. His talk, "Green Chemistry: Finding new processes and uses for CO<sub>2</sub> derived technologies," will be presented on July 7th at 7:30 PM. The location will be Lilly Science Hall, Room 210 at the University of Indianapolis. This talk is open to all members, family and friends.

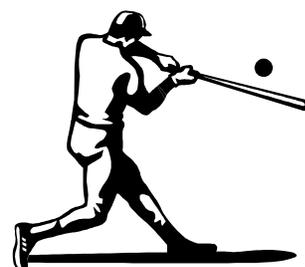
This is a great opportunity to learn about CO<sub>2</sub> and chemistry as well as open your mind to some new ideas in the area of sustainability. There is no fee for the seminar and light refreshments will be served. We hope to see you all there.

-Brian Mathes

### **Baseball Night**

Come on out for the Eighth Annual Indiana Section Indians Baseball Game. The game is August 6th at 7 PM at Victory Field. The Indians are playing the Charlotte Knights, the White Sox's AAA team. Tickets are \$10 each. ACS members, family, and friends are all invited. As usual, we will have baseball and chemistry trivia for prizes.

Contact Brian Mathes at [mathes@lilly.com](mailto:mathes@lilly.com) to reserve your tickets. The last day to reserve your spot is July 31st at 11AM. Brian will mail out tickets to your house so you have them before the game.



See you at the ballpark on August 6th. Let's see if we can break the record of 52 chemistry attendees!

-Brian Mathes

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## **CHECK IT OUT!      UPCOMING EVENTS!**

- July 7<sup>th</sup>:            Green Chemistry: Finding New Uses for CO<sub>2</sub> Conversion Products and Processes  
Dr. Nelson Shaffer of Nannovations  
7:30 PM University of Indianapolis Lilly Science Hall Room 210
- August 6<sup>th</sup>:        Baseball Night  
Indians vs. Charlotte Knights  
7 PM Victory Field
- September 23<sup>rd</sup>: Chemistry and Examination of Works of Art  
Suzanne Lomax  
7:30 PM Ball State University
- October 15<sup>th</sup>:    ACS Poster Session  
Professor Allen presenting "Uncovering the Ancient Nile"  
6 PM Dow AgroSciences LLC

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