

The

Accelerator

INDIANA SECTION OF THE AMERICAN CHEMICAL SOCIETY



MARCH, 2015

Chair's Corner BY MATT GARDLIK



Although the last edition of The Accelerator contained some of my biographical information, I thought I'd use this Chair's Corner to properly introduce myself and share some of my experiences.

My name is Matt Gardlik, and I'm a Patent and Trademark Attorney based in Indianapolis. My legal practice involves the drafting and prosecution of patent applications before the Patent and Trademark Office, as well as involvement in patent infringement lawsuits. But the path I took to arrive here in Indianapolis contained a few twists and turns along the way.

One of my earliest memories is going into work with my Dad at P&G's now-closed Miami Valley Laboratories on a Saturday morning while he worked on his monthly report and smelling the pleasant odor of ether drift down the hallway. My love of chemistry was certainly kindled by the alchemy I observed then. Although my dad has recently retired, his enthusiasm for chemistry, excellence, and willingness to help others left a lasting impression on me. In fact, I'm sure many of you have used some of his inventions, which include the cyclodextrin technology employed in Febreze® fabric refresher and Bounce® fabric softener products.

As an undergraduate chemistry major, my main interest was in analytical chemistry. I enjoyed performing maintenance on the instruments we had at Wittenberg University and understanding the details of how they worked

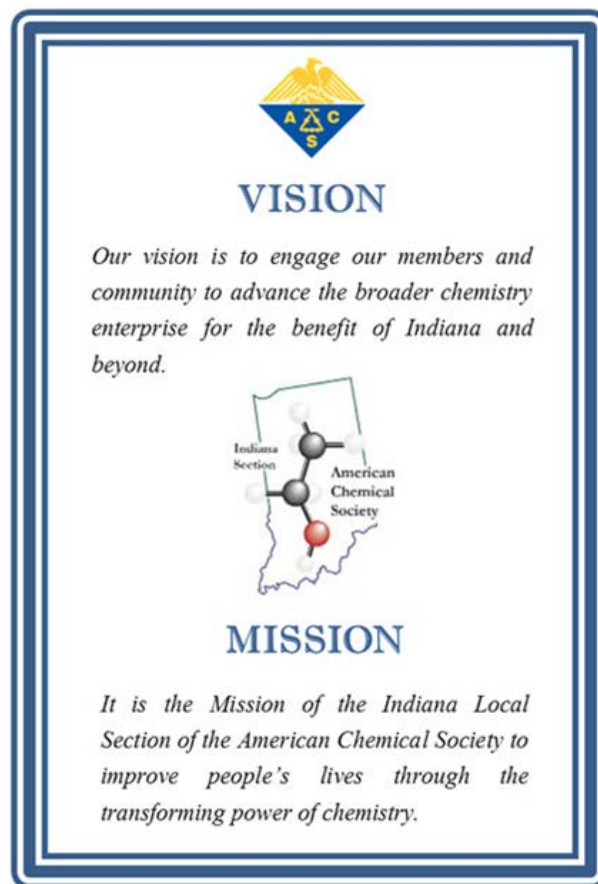
(or didn't). I even designed and created an automatic titrator using a spare computer, peristaltic pump, and pH meter.

When I entered graduate school at The Ohio State University, my interests shifted more towards organic chemistry. The joy of synthesizing new molecules contrasted with the difficulty of getting there was immensely enjoyable. My dissertation focused on the preparation of a new class of supramolecular hosts that we called "molecular baskets."

As my time in graduate school came to an end, I decided that I did not wish to do a traditional post-doc. In my opinion, post-docs have begun to stretch too long, from a single year in the '70s to the current three to five years. Instead, I decided to go to law school to become a patent and trademark attorney as my own kind of three year post-doc.

After law school, I moved to Indianapolis to work at the law firm of Woodard, Emhardt, Moriarty, McNett & Henry, a boutique intellectual property law firm. Last year I was elected Chairman of the Indiana Local Section. I could not have been luckier to end up at such a wonderful workplace, and I have truly enjoyed my time here in Indiana as a young professional.

I'm sure that all of our members have a unique story to tell about the path they've taken to arrive here in the Indiana Local Section. I hope that you'll be willing to share your experiences and wisdom with others in the section at our meetings this year.

2015 Executive Committee**Chair- Matthew Gardlik****Past Chair- Erin Dotlich****Chair Elect-Linda Osborn****Secretary-Tamiko Porter****Treasurer-Paul Ridenour****Councilors-Robert Pribush, Dawn Brooks, Brian Mathes****Alternate Councilors- Sibel Selcuk, Amy Debaillie, Robert Sammelson****Members at Large-, Ling Shi (Tom) Xiao, Shamus Driver, Maria Alvim-Gaston**2015 Committee Chair**Education-Bob Pribush****Events- Sibel Selcuk, Amy Debaillie, Robert Sammelson****Fundraising Committee-David Mitchell****Public Relations-Andrea Lindsay Frederick****National Chemistry Week-Viola Kimbowa****Awards-Kathy Stickney****Science Day-Jason Dunham****Women Chemists-Amy Debaillie****Grants-Amy Debaillie, LuAnne McNulty****Accelerator Editor-Julie Holland****Project Seed-Elmer Sanders, Josh Taylor****Young Chemists-NEED VOLUNTEER!****High School-Erica Posthuma-Adams****Webmaster-Matthew Gardlik****IN THIS EDITION**

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Letter from the Editor

BY JULIE HOLLAND

Greetings Colleagues,

In my second year of volunteering as the editor of the Accelerator, I've gotten a better feel for what the Accelerator is and what it can be for the members of the Local Section.

As you may have noticed, the Accelerator is no longer published in paper format due to the rising costs of printing and postage. The money previously allocated to the print version has been re-distributed so that the Local Section can continue to sponsor events such as National Chemistry Week, symposium and member activities, and youth travel awards. Although this may sadden some readers who liked the hard copy newsletter, the benefit of digital copy is that there is no limit to the number of articles which can now be added for each issue without additional cost.

Some of the things you can look forward to with each issue are Chair's Corner, Member Spotlights, Technical Corner, advertisements for upcoming events, and articles written about past events.

Something you may not know is that the Accelerator is open for sharing relevant information. This means that both individual members and companies who employ chemists may:

- Nominate colleagues (or themselves) for a Member Spotlight
- Submit science-related information that they would like to share with the community
- Use the Accelerator to promote an upcoming event
- Post job listings
- Share human interest stories
 - Why you became a chemist
 - How chemistry has influence your life

- Advertise your chemistry related company

The Local Section of the ACS encourages members to participate in scheduled activities. We are always looking for volunteers to help with events. Not only are participation and volunteering good ways to network with others in your field, they support chemistry in the community.

Another thing you may not know is that the Local Section board meetings are open to all ACS members. If you would like to attend a meeting, please RSVP with our Chair, Matt Gardlik at matt@mattgardick.com. Meetings are held from 5:30-8 pm on the second Tuesday of the month at Heritage Research Center in the Kurek building located at 7901 West Morris Street.

If you are interested in submitting to the Accelerator, please contact ACSaccelerator@gmail.com

Thanks to Erica Posthuma-Adams, we now have a Facebook page. Please follow us!
<https://www.facebook.com/ACSINLocal>

We hope to hear from you in the near future!

Celebrate Science Indiana 2014

BY LINDA V. OSBORN

We want to thank all ACS members who attended Celebrate Science Indiana 2014 and we hope you had a great time. ACS President Diane Grob Schmidt certainly did. Amidst her action-packed schedule, she took time out to address the crowd and spent the day celebrating science with us.





David Mitchell poses with
Diane Grob Schmidt

David Mitchell and Christina Bodurow accompanied her during her visit to Indianapolis. Intense and insatiable describe Diane's passion for science as she visited many of the booths. Many local chemists enjoyed this

tremendous opportunity to meet with her, while a few were able to talk with her at length. Introduced to the crowd by Christina Bodurow, she gave an inspiring speech aimed at the youth, supporting this event that received such high praise at the ACS National meeting in 2013. Even though overshadowed by WFYI's Sid the Science Kid for the young attendees, many of the organizers and adults in the crowd were honored to meet Diane and enjoyed having her attend this event. Our Local Section was certainly grateful for this national support. Past President, Marinda Wu took the time to make a vimeo to promote Celebrate Science Indiana since she had such a wonderful experience in 2013.



We also set up communications with Indy Style for a spot featuring Tom Turpin and Rick Crosslin who talk about our annual event that encourages young Hoosiers to get involved in science. Celebrate Science Indiana steering committee members Tom Turpin, Professor of Entomology at Purdue University, West Lafayette, Indiana, and Rick Crosslin, MSD Wayne Township District Science Coach and Host-Executive Producer Indiana Expeditions, visited Indy Style to talk about this annual science festival. Indy Style co-hosts Andi Hauser and Tracy Forner participated in cricket spitting and Andi Hauser rode Rick's homemade hovercraft, both popular events at the 2014 festival!



Top. Channel 8 Indy Style hosts Tracy Forner and Andi Hauser talk with Tom Turpin and Rick Crosslin about Celebrate Science Indiana. Middle. Rick Crosslin demonstrates his hovercraft to Andi Hauser who enjoyed the ride. Bottom. Tom Turpin is holding a spider at Purdue's Celebrate Science Indiana booth for the smiling participants to enjoy.



In the background, Erica Adams and Diane Grob Schmidt converse about AACT, while Sarah Burris and other volunteers are teaching the participants about the experiments.

Finally, the ACS Local Section organized a booth at the event. Aided with a \$500 donation from Vasey Commercial Heating & AC Inc., Erica Adams, ACS Local Section Chair of the High School Chemistry Teacher Committee, determined the two activities for our booth.

The first one was colorful lather printing; students marbled paper with shaving cream and food color while exploring water, polarity, and hydrophilic and hydrophobic materials. In the second activity, participants experimented with ultraviolet (UV) light by making bracelets with white plastic beads that turned colors when exposed to UV light.

Mark your calendars now, Celebrate Science Indiana 2015 will be on Saturday, October 3, at the Indiana State Fairgrounds. Hope to see you there!



Left. Two retired chemists and ACS members enjoyed talking with Diane Grob Schmidt at Celebrate Science Indiana 2014. Right. Christina Bodurow, who introduced Diane at the event poses with our 2014 local section chair Erin Dotlich, holding a future chemist, her son!



Kids discover that celebrating science can be a real blast! Guy Hansen's activities at the Eli Lilly booth draw a big crowd every year.



Tamiko Porter thrills the young children around the table with helium balloons and other hands-on activities at the NOBCChE booth.



Dow AgroSciences Healthy Oils activity is always a hit at Science Outreach events like Celebrate Science Indiana. As shown in the photo, the participants take part in a popcorn taste panel which includes popcorn made with Dow AgroSciences healthy Omega-9 canola oil. They learn about healthy versus unhealthy fats and oils and visualize how much fat is in foods as reported on Nutrition Facts labels. At Celebrate Science Indiana 2014, Dow AgroSciences Science Ambassadors also engaged participants in Polymer Chemistry, Insect Resistant Corn/Corn Breeding and Entomology activities as well as a new Robotics activity. Dow AgroSciences views Celebrate Science Indiana as a premier event for our Science Outreach efforts and has been a primary sponsor for the event since its inception in 2011.



Captain James Cash with the Indiana National Guard shows the curious onlookers 3 white powders. Just looking at the powders, you cannot tell that two of them are harmless, but one is an explosive compound. Using a hand-held instrument, Capt. Cash can identify each of the white substances within seconds. This is part of the array of instrumentation that they demonstrated to the crowd as part of their homeland security mobile unit that others toured with Officer Master Sgt. Jim Stranahan. The team deploys with a suite of equipment that provides rapid confirmatory analysis of chemical or radiological hazards and presumptive identification for biological agents at a WMD incidents as well as chemical and biological agent analysis in other situations.



What do gum drops, slime and polyols have in common? They all provided hands on chemistry fun for the eager crowd at the Monument Chemical booth manned by Dakota Huckaby (right) and Kayla Hiatt (left).



OK, they weren't really there, but the IUPUI booth enjoyed displaying The Big Bang Theory gang in their Chemistry club booth!



Chemistry and Art: Indianapolis Museum of Art paintings conservator Fiona Beckett discusses the science behind near-infrared imaging of artwork as she demonstrates this non-destructive technique for visualizing the underdrawings in paintings.



NASA has been a prominent participant in Celebrate Science Indiana since its 1st year in 2010.



Hands on activities at the Roche Diagnostics booth generate excitement for these two engaged future scientists.



At the Agilent booth, Larry Anderson (Analytical Sciences, Inc.) shows interested spectators the 4300 Handheld FTIR. Light weight enough for the children to hold, Larry scans someone's hand and shows results to the curious crowd.



At the Covance booth, two volunteers show kids how to extract DNA from strawberries along with other experiments.



Hands-on learning about SCIENCE is fun and that is what Celebrate Science Indiana is all about! Many volunteers are involved in this tremendous community outreach event. We thank all of you who continue to make this an annual event that many have grown to look forward to attending. Thanks to Andrea Moberly and David Mitchell for some of the photography.



Sponsor Spotlight on Monument Chemical

BY BLAKE SAFFER, ANDY ALLEN, AND ERIN DOTLICH

In 2013, the Local Section of the ACS benefited from several platinum level sponsors; Eli Lilly, Dow AgroSciences, Ice Miller/Lucas Oil, and Monument Chemical. Because of their very generous donations, the ACS - Celebrate Science Indiana Public Outreach Event, Sunday, September 8th, 2013 at the Indianapolis Motor Speedway was a huge success and a big reason for landing another National ACS meeting in Indianapolis in 2023.

In this edition, we highlight Monument Chemical to show our appreciation for their large donation in 2013, and their continued financial support for the Indiana Local Section. They were also helpful by providing Indresh Mathur as a guest speaker for the popular Chemistry of Racing Symposium at the National ACS meeting on *“Characteristics of Racing Fuels”*.

Monument Chemical is a privately held, family-owned chemical manufacturer headquartered in Indianapolis, Indiana. Monument has production facilities in Antwerp Belgium, Brandenburg Kentucky, Houston Texas and Baytown Texas. The company was founded in 2008 with the acquisition of the Houston, Texas manufacturing plant. Within 4 years, Monument Chemical had more than tripled in size and capabilities.

Monument Chemical is a dynamic and adaptable organization whose growth is centered on seeking out global, long term opportunities, to leverage the strengths of all of their operations in order to build bridges between themselves,

strategic partners, and the markets and customers their partners serve. To achieve this objective Monument's approach is to present their current products and solutions of today while at the same time focusing on their partner's needs, wants, and solutions for tomorrow. Monument is driven by safety first, commitment to quality, operational excellence, flexible assets, and the speed with which they can bring products and solutions to the market.

Monument Chemical produces a wide range of solvents and specialty products to the broader chemical industry. These products include:

- Oxygenated Solvents, including alcohols, glycols, esters, ketones and glycol ethers. These products are used in many different applications including: chemical intermediates, paints and coatings, cleaners, electronics, cosmetics, industrial solvents, agriculture, pharmaceuticals, and food applications

- Aromatic Solvents, including naphthalene, tetrahydronaphthalene, decahydronaphthalene. These products are used in compressor wash oil, oil field solvents, paints and coatings, degreasers, pesticides, agricultural chemicals, chemical intermediates, and a wide variety of heavy aromatic solvent applications and unique chemical reactions.

- Polyols to the CASE market - Coatings, Adhesives, Sealants and Elastomers. Whether off-the-shelf formulations or products customized for unique customers' needs, Monument's polyether polyols for non-foam applications are proven winners in everything from coatings for gymnasium floors to urethane in-line skate wheels and bowling balls.

The company is continuously looking to expand the product portfolio to accommodate the ever changing market situations. With a flexible mindset, the back-up of a strong technical team

and multi-purpose equipment, the company provides a sustainable long-term alternative in case of single sourcing situations.

Monument Chemical's manufacturing facilities have long histories providing contract chemical manufacturing in distillation and reaction technologies, serving customers in a wide range of fine and specialty chemical markets. Custom manufacturing customers can often defer or avoid capital expenditure and increase speed of response to market changes by utilizing these services.

Monument's contract chemical manufacturing capabilities include simple and complex multistep separations via distillation and an extensive list of reaction chemistries including: esterification and trans-esterification, hydrogenation, hydrodesulfurization, hydrolysis of methyl esters using patented technology, isomerization, oligomerization reactions, aldol condensations, isobutylene reactions, alkylation, alkoxylation, and amination. Homogenous and heterogeneous reactions can be carried-out in batch or continuous modes.

Whether it is through the sale of their specialty products, solvents, custom manufacturing services and solutions, or specialty fuels, all operations are committed to being a chemical manufacturer with a "Customer First" mindset in all they do.



Amy Schumacher is the President of Monument Chemicals, Inc. and Haltermann Solutions since 2008, where she guides the strategic growth of each business. Schumacher

received her B.S. in Engineering from Purdue

University and her M.S. in Management from the Massachusetts Institute of Technology Sloan School. She currently serves as a Trustee for The Heritage Group, a director for Calumet Specialty Products Partners, and sits on a number of private subsidiary boards. Monument's investment in the Indiana Local Section of the ACS has served to brighten and enhance the lives of many children who are our future and to contribute to the enrichment of our chemical communities. We thank you, Monument Chemical!



member-get-a-member

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



Local ACS Sections Plan Activity to Recognize Chemistry Teachers

BY ERICA POSTHUMA-ADAMS AND LINDA V. OSBORN

Chemistry runs through the veins of every aspect of life. We live and breathe it as active members of the American Chemical Society. But who inspires the next generation of chemists and chemical engineers and related scientists? K-12 teachers by far have the greatest influence. We'd like to recognize these teachers of chemistry for their important contributions to our society and let them know about a newly launched organization, the American Association of Chemistry Teachers (AACT) that will offer specialized chemistry teaching resources, networking opportunities and more.

This activity includes local sections from Cincinnati, Dayton, St. Joseph Valley, Chicago and Indianapolis. Although each location will be developing their own plans, we are united in goals and are working together with K-12 teachers of chemistry to share ideas to carry out this initiative.

A teacher effects eternity; [s]he can never tell where [her] his influence stops.

-Henry Brooks Adams

In addition to these local section collaborations, the Indianapolis section of the National Organization of Black Chemists and Chemical Engineers (NOBCChE) is supporting this effort including some level of financial support. Paul Ardayfio, Midwest Region Chair, wrote an encouraging letter of support, a subset of which is shown in the quote box below.

Finally, we have three other people engaged that will be extremely valuable in guiding this activity including Bill Bayley (Science Express Director and Chemistry Outreach Coordinator, Purdue), George Bodner (Arthur Kelly Distinguished Professor—Chemical Education, Purdue) and Adam Boyd, director of AACT.

If you know of any K-12 teachers of chemistry who might be interested in this outreach event, please contact Erica Posthuma Adams at eadams@universityhighschool.org. Please include contact information with their names, so we can send them a personal invitation. We will also need volunteers to help. If you are interested in volunteering, please let Erica know.

Congratulations!
50-year members

Michael	Aronson
Michael	Chaney
Douglas	Dorman
Charles	Jones
Kenneth	Kimmerle
David	Nurok
Edward	Sowers
Bruce	Storhoff
James	Streator
Richard	Swain

"In order to continue to be able to have a strong cohort of talent at the collegiate level, we must address the pipeline. Specifically we must ensure that K-12 teachers and students are receiving the full support of organizations like ACS and NOBCChE to inspire young students, show them the fun, excitement and opportunities available in chemistry careers and finally help them build a strong foundation in scientific principles that will serve them for a life-time...."

In carrying out these initiatives, we have built a strong network of partnerships with local teachers and students that we believe would be very enthusiastic about the opportunities outlined in AACT. Additionally, in 2014, we established the first high school associate chapter of NOBCChE in the country here in Indianapolis at Pike High School. Finally, as Midwest Region Chair, I will connect NOBCChE chapters in Ohio, Kentucky, and Illinois to the local ACS sections so that they can serve as additional resources for the efforts outside of Indiana."

-Paul Ardayfio

Park Wiseman – 70 year member!

Department of Chemistry, Ball State University
Professor, Ball State University, 1947- 1982

Information from the Ball State website

*"Dr. Wiseman joined the Ball State faculty in 1947 and became the first chairman of the chemistry department when it was formed in 1965. His undergraduate education was at DePauw (BA in chemistry), and he earned an MS and a Ph.D. in organic chemistry at Purdue. His scholastic honors include the Rector Scholarship, and various honor societies: Gold Key, Phi Beta Sigma, Phi Beta Kappa, Phi Lambda Upsilon, Sigma Xi, and Sigma Zeta. That's more Greek letters than one would see in a three dimensional Schrodinger's equation for a protein! After joining the BSU faculty in 1947, Dr. Wiseman was promoted to full professor in 1956. He was the **first** Head of the chemistry department when it was formed in 1965 and served for 4 years. He was also instrumental in setting up the 43-hour chemistry major program and getting its accreditation by the American Chemical Society. Perhaps just as important is that he set the tone in the department that remains positive and focuses on helping students learn. He became emeritus faculty in 1982. He is married to Mrs. Marjorie Wiseman who served as Director of Circulation in University Libraries at Ball State for many years."*

Technical Corner

Justin Shearer Receives Distinguished Alumni Award

BY LINDA V. OSBORN

Dr. Justin Shearer has been an ACS member since 2003, but he has been passionate about chemistry since he was a young boy. He recalls the Carnegie science center coming to school when he was in 5th grade to do a chemistry demo show, and remembers thinking he wanted to pursue science.



"I initially enrolled in undergrad as a bio/pre-Med major and during sophomore year I fell in love with the tactile nature of organic chemistry. My love for analytical chemistry came during my instrumental analysis course where we took LCs, mass specs, and FT-IR instruments apart to see the components that enabled the chemical measurement."

Originally from Connellsville, Pennsylvania, he began his research career by quantifying components in over-the-counter fat burners under the supervision of Dr. Helen Boylan at Westminster College (PA). He graduated from Westminster College (PA) in 2002 with an ACS certified Bachelor of Science in Chemistry. Continuing his education at the Ohio State

University earning a Doctorate of Philosophy in Chemistry in 2008, his focus was on Analytical Chemistry where he studied unique functionalized glassy carbon materials for use in separation science with Dr. Susan Olesik. During this time, he developed an interdisciplinary skill set by participating in a National Science Foundation funded Nano-Science and Engineering Center, the Center for Affordable Nanoscale Polymeric Devices. During his involvement with the NSEC, he made contributions to many interdisciplinary projects. He also served one year as a fellow in the NSF GK-12 program at OSU where he worked with four elementary school teachers to develop curricular ties between science and other disciplines utilizing inquiry-based education.

Upon graduation, Justin served as an assistant professor of chemistry at the University of North Alabama in Florence, AL for two years. He then moved to serve as an assistant professor of chemistry at Rose-Hulman Institute of Technology in Terre Haute, IN from 2009-2013. During his 6 years in academics, he mentored 15



students and co-authored more than 30 posters and oral presentations (17 of which feature undergraduate co-authors) at local, regional, and international conferences. His most treasured presentations were those where he was invited which

provided him the opportunity to present at different institutions of higher education.

"My pride in these is because they were filled with contributions from undergraduate students. I am most proud of this because of the role I played as a sculptor of young minds. I thoroughly enjoyed watching as students entered my lab as 18 year old freshman and developed skills that would enable them to employ the scientific method

to achieve success in whatever profession or problems life may provide them. I look forward to seeing the contributions of many of these former students as they grow and become the world's best scientists and engineers."

In 2013, he moved from academics to Dow AgroSciences, LLC, where he is a Senior Analytical Chemist in the R&D organization. In this role, he is primarily charged with developing quantitative analytical methods to enable registration of formulated products.

Justin plans to present his latest work at the Pittsburgh Conference in New Orleans on March 12.

"I will be presenting some interesting work where we were charged with analyzing a non-chromospheric species at a concentration of 0.07 ppm. Three derivatization methods were investigated that provided adequate signal for quantification with traditional LC or GC."

The difficulty in finding a needle in a haystack is something that invigorates Justin. He looks forward to more opportunities like this in the future!

Justin's transition from academia to industry has been interesting.

"I have gone from being the authority in the room who is supposed to know all the answers to being one person on a diverse team to solve problems. Another change is the necessary turn around on results. In academics, I was afforded the luxury to develop solutions at a pace that worked for me and the 8-10 undergrads that were doing research for 4-8 hours per week. Now there is a breakneck pace to develop

rigorous and robust methods to quantify the desired components reliably."

A well-deserved honor, in April of 2014, Justin was recognized with a distinguished alumni award from Westminster College. Justin married his college sweetheart, Kati, in 2005 and they now have a 3-year old daughter and a 1-year old son. His mentoring skills will undoubtedly come in handy for this most important role.



Congratulations Justin!

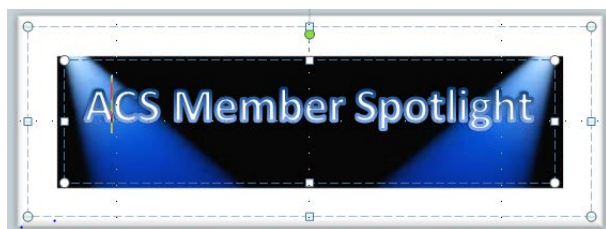
Justin was a vital part of the organizing committee for a 2014 ACS Local Section outreach activity....

The Impress for Success outreach event last year demonstrated that a few motivated people could provide opportunity to many. It was great to see the energy and effort volunteered by those on the committee. It was great to see representatives from 5 Indy organizations come together to achieve the success we did.

-Justin Shearer

"Nothing great was ever achieved without enthusiasm."
— RALPH WALDO EMERSON

Ramiah Murugan



BY JULIE HOLLAND

This year, the Accelerator is planning to do more segments like the Member Spotlight in which a Local Section ACS member is selected for a write-up on their career as a chemist. For the first 2015 edition, several members were mentioned; however, one name personally stood out for me: Dr. Ramiah Murugan. I had the honor to work for Dr. Murugan in the start of my career and have always looked back at that time with a great deal of fondness and admiration. When his name was mentioned, I jumped at the chance to reconnect with my former mentor and to delve more into his background as a chemist.

Like many of us, out of high school, Ramiah Murugan knew that his aptitude leaned more towards the sciences instead of the arts. Initially, he had his sights set on becoming a Doctor of Medicine. Fortunately for the chemical industry, once he started his undergraduate degree, *"The teachers made it so interesting that I started liking it and eventually loving it enough to make a career out of it."*

Dr. Murugan received his undergraduate degree from the American College, which is affiliated with the Madurai University in Tamil Nadu, India, in 1975. Like most of us, his undergraduate degree was non-specific general chemistry. Next,



he moved on to receive his Master's in 1977 at the Madurai University specializing in Organic Chemistry.

Following his Master's, he went to work as a Junior Scientist at the Madurai University Service and Instrument Center where he was in charge of the Analytical Division and where he also taught Organic Spectroscopy.

A major career defining event occurred while working towards his Master's and as a Junior Scientist. *"Getting a gold medal for coming first in my Master's study has been an important part of my career and I was able to publish my first paper in Canadian Journal of Chemistry as a solo author in 1980 on a stereochemistry predictive tool in the reduction of cyclohexanones by sodium borohydride."*

In 1981, he moved his career path forward and started working towards his Ph.D. specializing in Organic Chemistry at the University of Florida in Gainesville under Professor Alan R. Katritzky. In 1984, he became a member of the American Chemical Society. By 1987, Dr. Murugan had received his Ph.D. with his thesis entitled, *"Metallation, Conformation Analysis, Hydrogen Exchange and Rearrangement in Amides."*

During his Ph.D., he initially worked as a teaching assistant moving on eventually to work in the lab as a research assistant. After graduating, he continued to work for Katritzky for 2 years as a post-doc working on High Temperature Aqueous Organic Chemistry.

In 1989, Dr. Murugan began working at Vertellus Specialties (formerly Reilly Industries, Inc.) where he was initially hired as a Research Chemist. Since his hire, he has also held positions as Research Associate, a Senior Research Assistant and is currently employed as a Research Fellow.

To date, Dr. Murugan has over fifty publications including 10 patents and multiple review and journal articles, most of which involve the chemistry of pyridines. The products he has worked on include catalysts, organic intermediates, and polymers for pharmaceuticals, agriculture, personal and consumer care, and nutrition. He has been involved in projects from initial conception to commercialization. *“Such an experience of seeing a reaction going from grams in the labs, to kilos during pilot, and finally to multi-ton quantities for commerce is very rewarding.”*

When asked what he loves about being a chemist, he responded, *“It is for the ‘a-ha moments’ when you see your ideas work; when you see your team succeed; and when you see problems solved.”*

Dr. Ramiah Murugan’s thesis can be viewed in the following link:

<https://archive.org/stream/metallationconfo00muru#page/n0/mode/2up>

Regional Meetings

2015

- | | |
|---|--|
| • Central/Great Lakes
May 27-30
Grand Rapids, MI | • Northeast
June 10-13
Ithaca, NY |
| • Northwest
June 21-24
Pocatello, ID | • Midwest
Oct. 21-24
St. Joseph, MO |
| • Southeast/Southwest
Nov. 4-7
Memphis, TN | • Western
Nov. 6-8
San Marcos, CA |

“It is for the “a-ha moments” when you see your ideas work; when you see your team succeed; and when you see problems solved.”

-Ramiah Murugan

Have fun if
you go!



March 11, 2015

2015 Indiana Section ACS Scholarship/USNCO exam

Dear Chemistry Colleagues:

Thank you for nominating your students to take the 2015 Indiana Section ACS Scholarship/USNCO exam that will be held at 8:30 am Saturday, March 28, 2015 at Brebeuf Jesuit Preparatory High School in Indianapolis. Students are to report to the examination site venue by 8:15 am. Details are on the second page of this letter. **Please give each student a copy of the General Information page of this letter.**

This marks the sixth year that we are using a 110-minute standardized exam from the ACS Division of Chemical Education Examinations Institute that is written specifically for use by local ACS sections as a screening exam for the U. S. National Chemistry Olympiad Team competition. This exam is widely used throughout the United States and reflects what a veteran group of chemical educators believe is knowledge and skills that high school students should master in a college prep chemistry course. **Only this exam will be used to determine award and honorable mention winners.**

The above exam will also constitute Part I of the screening process to select 13 students (with no more than two students per high school) to sit for the National USNCO Exam in April. This year, the screening process requires students to take a Part II, 45 minute, written exam based on questions from the National and International Chemistry Olympiad exams. This will be an exceptionally difficult exam that will test student ability to apply problem-solving skills in areas of chemistry that they might not have seen in their high school courses. The 12 students who will be invited to sit for the national exam in April will be selected on the basis of their Parts I and II exam performance. **Only students who are trying to qualify to take the National USNCO Exam in April should take the optional Part II of the exam. Students who only wish to compete for Indiana Section ACS awards will be excused after Part I of the exam has been collected.**

As soon as the exam is underway, we invite teachers to join us in a discussion about the exam and future planning for the Indiana Section Scholarship and Chemistry Olympiad competition screening. We are very interested in your suggestions and help in attaining our goal. In order to be able to order a sufficient amount of coffee, tea, and pastries for our discussion, we need to know how many teachers will be in attendance. **Please RSVP by email to Bob Pribush the names of all teachers who will be present as soon as you receive this email.** We look forward to seeing you and your students at Brebeuf Jesuit Preparatory High School on Saturday, March 28, 2015.

Sincerely,

Robert A. Pribush
Co-chair, Indiana Section ACS USNCO
317-989-6799
rpribush@butler.edu

Jianping Huang
Co-chair, Indiana Section ACS USNCO
317-433-1675
Huang_jianping@lilly.com

2015 ACS Scholarship Examination and Qualification Examination for the US National Chemistry Olympiad Team Competition

BY ROBERT PRIBUSH

GENERAL INFORMATION:

- 1) Date: Saturday, March 28, 2015
Plan to arrive by 8:15 to allow time to park and find the examination site at Brebeuf Jesuit Preparatory High School. There the students will be directed to separate rooms for the First-Year Exam and Advanced Exam.
- 2) Schedule
Time: 8:30 to 10:20
Scholarship Exam Part I: 110-minute, 60 multiple choice exam (2015 USNCO Local Section Exam)
Time: 10:20 to 10:40
Break
Time: 10:45-11:30
Optional Part II: USNCO Qualification Exam: 45-minute open-ended exam based on previous National and International Chemistry Olympiad questions. The exam will test student ability to apply problem-solving skills, often in areas not covered in typical high school courses.
STUDENTS ARE REQUIRED TO BRING THEIR OWN PENCILS AND NON-PROGRAMMABLE CALCULATORS.
- 3) Location: Brebeuf Jesuit Preparatory High School, 2801 West 86th Street, Indianapolis, IN 46268.
<https://brebeuf.org/about/directions/>

Directions to Brebeuf Jesuit Preparatory High School

From the South

I-65 N to I-465 W (exit 106). I-465 W will become I-465 N. Exit at 86th Street (exit 23). Turn right off exit ramp. Take 86th Street east for about three miles. Brebeuf Jesuit will be on your right.

From the North, East or West

I-465 to Michigan Road. South on Michigan Road (right turn if coming from west; left if coming from east) to 86th Street. Left turn onto 86th Street for about 1/2 mile. Brebeuf Jesuit will be on your right.

- 4) Parking is available
- 5) Local Section USNCO Exams and National USNCO Exams from 2000-2014 can be downloaded from the website

<http://portal.acs.org>

Follow the path: Home > Education > Students > High School > Chemistry Olympiad > Past Exams

We now have 322 students from 19 high schools but can still accept late registrants.

ANNUAL 2015 INDIANA LOCAL SECTION ACS AWARDS BANQUET



Tuesday, May 5
University of Indianapolis Schwitzer Student Center
University of Indianapolis Hall A

At this event, we will recognize our 50- and 70-year ACS members, along with student and school awardees from the March 28 Indiana Local Section USNCO Exam.

The schedule for the evening is:

5:30 PM – Doors open
6:00 PM – Dinner
6:45 PM – Keynote speaker Seth Reasoner
7:00 PM – Awards presentation

A map of the University of Indianapolis campus and driving directions can be found at:
<http://www.uindy.edu/map-and-directions>.

The cost of the event will be \$14 per person, payable at the door (free for students, high school teachers and award winners).

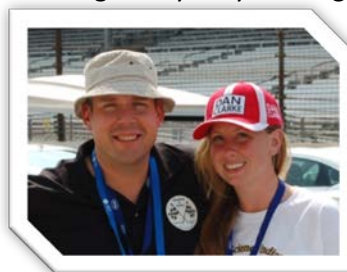
RSVP to **Kathy Stickney** by Friday, May 1, at
kstickney@uindy.edu
or 317-788-3552

Indiana Section Calendar for 2015

- April 11:** **Science Day**
10 am – 5 pm
Delaware Co. Fairgrounds, Muncie, IN
Contact: Jason Dunham jcdunham@bsu.edu
- May 5:** **Indiana Section ACS annual awards banquet**
5:30 pm – 9 pm, RSVP required
University of Indianapolis, Schwitzer Student Center
Kathy Stickney (kstickney@uindy.edu) or 317-788-3552
- July 23:** **Indianapolis Project SEED poster Session**
4 to 6 pm
VanNuys Medical Science Building atrium
IU School of Medicine Atrium
Contact: Elmer Sanders, elmer.sanders@yahoo.com
- October 3:** **Celebrate Science Indiana**
10 am – 5 pm
Indiana State Fairgrounds
Contact: Linda Osborn, linda.osborn@hrglab.com
- November 1st:** **National Chemistry Week Celebration**
10 am – 3 pm
Children's Museum of Indianapolis
Contact: Viola Kimbowa-Radlovic, kimbowavi@lilly.com



Brian and Laura welcome **Samuel Joseph Mathes** to the chemistry community. He was born February 15 at 12:11 am, weighing in at 6lbs 12oz and 20 in long. Everybody is doing well.





Gladysmae Good

Ann Hunt noticed in the local obituary that **Gladysmae Good** had passed away at the age of 92. Both Ann and Bob Pribush knew Gladysmae well and recalled her years of service as

an avid supporter of our Indiana ACS Local Section.

In 1962 she graduated from Butler University where she majored in Chemistry, graduated Cum Laude, and was a member of the Honor Society of Phi Kappa Phi. She also studied at Louisiana State University. After serving as a chemist at Mallory's, she received her credentials as a public school teacher and upon completing her Master's degree in chemistry at Butler University, she taught Chemistry at Arlington High School from 1964 until her retirement in 1990. She also taught at IUPUI for 12 years and taught 5 summers of Radioisotopes Technique at Butler University.

As a section, we are contributing \$100 in her name to honor her many years of service to our organization. If you would like to donate to one of her important causes, please use this link: http://www.acs.org/content/acs/en/about/make_donation/projectseed.html#sthash.rHAziyVM.dpuf

As an ACS Local Section, we also plan to sponsor a special award to a Teacher of High School Chemistry in her name.



Congratulations to the 2015 Local Section Outreach Volunteer of the Year, Sibel Selcuk!

Dr. Sibel Selcuk is recognized for demonstrating extraordinary outreach volunteer service within the Indiana section. She served as Chair during 2012 and 2013 which were critical years due to the national meeting in Indianapolis. We thank you for your superb leadership, dedication and hard work for our section. You've made a significant difference!

The Indiana Section of the ACS publishes the Accelerator at least three 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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2015 WCC Rising Star Beth Lorsback



The ACS Women Chemists Committee (WCC) has named the recipients of its 2015 Rising Star Awards, which recognize exceptional early to midcareer women chemists across all areas of chemistry on a national level. The awards were established in 2011 to help promote retention of women in science. The 2015 winners include **Beth Lorsback** of Dow AgroSciences! Congratulations Beth!