



# The Accelerator



INDIANA SECTION OF THE AMERICAN CHEMICAL SOCIETY



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## PROJECT SEED'S IMPACT

Empowering Disadvantaged Youth through STEM Education



## JIGGLE JELLY IS BACK!

The Indiana Section is back the Children's Museum of Indianapolis (CMI) with its famed experiment "Jiggle Jelly." After a long hiatus, the Section started back at the Museum on June 20th with three sessions of the STEM experiment. We had approximately 75 folks ranging from 1 to 67 years old. It is always great to hear the first "oooh" after the reagents are poured together to give the surprising jiggle jelly. The Section plans to continue throughout the summer and into the fall. We hope to do it at least twice a month to help with the CHI's STEM programing. If you are interested in volunteering an afternoon at the museum and helping run the experiment, please email Brian Mathes at [bmathes@elanco.com](mailto:bmathes@elanco.com) for more details. It is a fun time!

## Celebrate Science Indiana 2023

### Date and Location Change

- Oct 14<sup>th</sup> at Indiana State Fairgrounds Expo Hall
- Time: 9:30 am – 5 pm



# Celebrate Science Indiana 2023

Author: Linda Osborn

Sights and sounds of discovery will fill the Exposition Hall, where over 1600 participants will enjoy hands-on Science, Technology, Engineering, and Math (STEM) activities on Saturday, October 14, 2023. This annual event has been hosted by the Science Education Foundation of Indiana (SEFI) since 2010 and is focused on inspiring children to pursue STEM studies.

Watch balloons explode into fireballs while Guy Hansen talks about the properties of various gases during his popular “Chemistry is a Blast” show. Kids will gather around to watch “Science is FUNdamental” with Rick Crosslin and Keith Ramsey. Kids that want to learn about computer game development can join a session with Andy Harris. We thank our many sponsors and exhibitors who allow scientific discovery through fun and age-appropriate activities, setting the foundation for a lifelong love of learning.

Join us as a sponsor or exhibitor at our event to showcase your brand, connect with a diverse audience, and make a lasting impact. We eagerly await your partnership and unique contributions. Register as a sponsor or exhibitor here: <https://celebratescienceindiana.org/become-an-exhibitor/>.

If you would like to volunteer and contribute to the event, we welcome your assistance. Find out more about volunteering here: <https://celebratescienceindiana.org/volunteer/>.

To attend, simply scan the QR code above or use this link to [Sign Up for Celebrate Science Indiana](#). While registration is optional, it helps us plan for the event. Admission is free, providing an inclusive and accessible experience for all attendees. Please note that there is a \$10 parking fee at the fairgrounds.

We are thrilled to recognize the exceptional accomplishments of Kymeri Davis, who has been serving as a distinguished awards judge at the Hoosier Science and Engineering Fair for several years. Kymeri plays a crucial role in determining the winners of the ACS Indiana section awards for Best Use of Chemistry. Her expertise and dedication have made her an invaluable asset to the event.

Kymeri's journey in the field of science began at Sam Houston State University, where she earned her bachelor's degree in forensic chemistry, along with minors in biology and criminal justice. She further honed her skills by obtaining a master's degree in forensic science with a concentration in Chemistry from Purdue University Indianapolis. Currently, Kymeri is pursuing her Doctorate degree in Analytical Chemistry, also at Purdue University Indianapolis.



## Celebrating Outstanding Achievements in STEM at the Hoosier Science and Engineering Fair

Author: Linda Osborn

On Friday, March 24, 2023, the Hoosier Science and Engineering Fair took place at IUPUI in Indianapolis, showcasing remarkable talent from aspiring young scientists. Kymeri had the honor of selecting the first, second, and third-place winners, who all exhibited exceptional skills and promise.

From West Lafayette Jr/Sr High School, Raunak Dani claimed the first-place award for his outstanding work. In addition to the prestigious recognition, Raunak was awarded a cash prize of \$300 for his remarkable achievement. Following closely behind, Zheng-Shi Li, also from West Lafayette Jr/Sr High School, secured the second-place award and received a cash prize of \$150. Finally, Jonathan Yang from Carmel High School earned the well-deserved third-place recognition and received a cash prize of \$50. All three winners were 11th graders, ready to embark on their senior year in high school.



**Raunak Dani**  
Grade 11  
West Lafayette Jr/Sr HS



**Zheng-Chi Lee**  
Grade 11  
West Lafayette Jr/Sr HS



**Jonathan Yang**  
Grade 11  
Carmel High School

We are delighted to share that Raunak, Zheng-Shi, and Jonathan further advanced to participate in the prestigious Regeneron International Science and Engineering Fair held in Dallas, TX. Their achievements are a testament to their passion and dedication to the field of science. We eagerly anticipate their return next year for ISEF 2024 in Los Angeles, CA!

Our heartfelt appreciation is also extended to the many ACS members who generously served as judges at the Hoosier Science and Engineering Fair. The role of judges in these events is pivotal, as their decisions impact the students' accomplishments. Not only do they play a crucial role in the evaluation process, but they also provide valuable encouragement and support to young minds, fostering their enthusiasm for STEM disciplines.



# 2023 Senior Chemists Committee Event to Inspire Sustainability



Author: Linda Osborn

- Who: **You!**
- What: **Once Upon a Green Classroom: Inspiring Sustainability through Elementary School Storytelling**
- Start: **Participate at your convenience**
- Where: **Any Elementary School in Indiana - any grade**
- Finish: **Complete before the Christmas Holiday**



ACS members, join us in engaging young minds to care for the environment through storytelling and a hands-on experiment! Imagine reading at your child's or grandchild's school. This outreach is unique as you have the freedom to choose the time and the school, and we will be here to support and guide you in your efforts.

We invite you to embark on an engaging journey that combines storytelling, hands-on experimentation, and a meaningful connection with elementary-grade students. Take part in our initiative to promote sustainability education in classrooms across Indiana. Together, we can make a lasting impact and inspire young minds to care for our planet.

We hope to enlist at least 100 dedicated ACS members from all corners of Indiana to participate; potentially reaching hundreds, even thousands of students across the state.

#### Storytelling: Igniting Imaginations and Fostering Awareness

Imagine the excitement and wonder that will fill the room as you bring a storybook to life with your storytelling prowess. By choosing an age-appropriate book focused on sustainability, you will introduce children to the importance of protecting our environment, conserving resources, and living harmoniously with nature.

#### Hands-On Experiment: Unleashing Scientific Inquiry and Exploration

Enhance the learning experience by conducting a captivating hands-on experiment related to sustainability. From exploring renewable energy to understanding the concept of recycling and waste reduction, these experiments will ignite the student's passion for science while reinforcing the lessons conveyed in the story.

#### Share Your Experience: The Power of Reflective Reports

After completing your storytelling and experiment session, we kindly ask you to provide a short 1-page report, detailing your experience, observations, and the students' reactions. This report will help us understand the impact of our program and improve future initiatives.

#### Together, We Can Create Sustainable Change!

By participating in this initiative, you are not only sharing knowledge but also shaping the minds of future stewards of our planet. Join hands with fellow ACS members across Indiana, and together, let's foster a love for sustainability, inspire action, and create a brighter, greener future.

To receive more information about this initiative, please see the FAQ on the registration page or reach out to [linda.osborn@hrglab.com](mailto:linda.osborn@hrglab.com). We will provide you with the necessary resources, including a list of recommended storybooks and experiment ideas if needed.

Thank you for your dedication and commitment to nurturing young minds. Let's make a difference, one story, one experiment at a time!

# Night at the Museum

Authors: Greg Smith and Andrea Moberly



On March 29<sup>th</sup>, many Indiana Local Section members participated in the Night at the Museum Event at [Newfields](#) as a part of the ACS National meeting that was occurring in downtown Indianapolis. The event, coordinated by Newfields' Sr. [Conservation Scientist, Greg Smith](#), was a rousing success. The social event featured food and drink - including a periodic table themed signature cocktail - and access to the many exhibitions and galleries at Newfields including *The LUME Indianapolis Monet and Friends Alive* and the special textile exhibition *Stephen Sprouse: Rock, Art, Fashion*. Guests of the event also participated in a rainbow of color scavenger hunt, and learned about the technology that is used in art conservation at the museum in various pop-up lab spaces.

## *Rainbow of Color Scavenger Hunt*

The chemistry themed tour of the collection focused on the spectral colors of pigments (ROYGBIV) and artworks that featured these colorants. Event attendees were given a scavenger hunt card and told to look for volunteers decked out in lab coats representing the colors of the rainbow. Each volunteer was stationed near artwork that utilized pigments or dyes that reflected the color they were representing (red hematite, blaze orange, yellow ochre, emerald green, ultramarine blue, indigo, and acid violet), and were armed with an iPad, donated by Butler University's science department, loaded with a PowerPoint presentation on their color. When the attendees found the volunteers and listened to their presentation, the volunteer would color in their scavenger hunt sheets. Once the visitors visited all seven stations, they could turn in their completed sheets for a chance to win one of three door prizes!



(left) Jessica Kisunzu, winner of one of the door prizes. (middle) Greg Smith wowing the crowd at the pop-up labs (right) Erinn Bessler sharing about Emerald Green on the Rainbow of Color Scavenger Hunt

## *Museum "Pop-up lab"*

The "pop-up lab" in the museum galleries was co-sponsored by Bruker Instruments and included instrumentation from the museums laboratory as well as equipment brought in by Bruker. Techniques being demonstrated included large format microfocus x-ray fluorescence spectroscopy of a wooden panel painting by Impressionist artist Adolphe Monticelli (Fr., 1824-1886) who was a considerable influence on Vincent van Gogh, a handheld XRF demonstration of corrosion analysis on coins, and portable FTIR spectroscopy for the characterization of coatings on photographs. Also featured was one of Newfields' Project MUSE sabbatical scholars, [Dr. Hilary Becker](#), demonstrating some of her work in the high temperature synthesis of Egyptian blue, one of the oldest manmade materials we are aware of, dating back to 3250 BCE.

This event was one of several well-received events put on by the Indiana Local Section of ACS. It gained many compliments from attendees, including ACS President, Dr. Judith Giordan. Thanks to all who contributed through hard work and hours of your volunteer time!

## Chemistry of Beer Expands!

Author: Brian Mathes



Our famous Chemistry of Beer presentation has found a new audience. The Indiana Section was asked by the Indianapolis Chapter of "Girl's Pint Night Out" to present at Centerpoint Brewing in May of 2023. We had a nice crowd of folks show up. Brian Mathes and Christine Skaggs gave the Chemistry of Beer presentation. It was fun to give it to non-science-based folks and see how they react to some of the information in the presentation. We focused on the process and flavors and how it relates back to chemistry. The Indiana Section is open to giving this presentation to other outside groups, so if you have any groups that might be interested let Brian Mathes know at [bmathes@elanco.com](mailto:bmathes@elanco.com).

## White River Clean Up

Author: Kymeri Davis

As scientists, we are intimately aware of the volume of single use plastic and other consumables that are used within our own labs. Unfortunately, this is not a problem that is isolated to the laboratory and is a far-reaching and widespread issue. The White River is a major river in the Indianapolis area that flows through most of Central and Southern Indiana. Regretfully, the aquatic environment is plagued by ecosystem degradation and pollution from illegal dumping of waste. The ACS Indiana Local Section wants to help mitigate some of this pollution.



The Environmental Health and Safety Committees are planning a half day river clean up event in late summer or early fall of 2023. We are in the process of reaching out to local organizations with whom we may partner with for this event.

Last spring, we partnered with Friends of the White River for a river clean-up event. Sixteen volunteers from Lilly, IUPUI, Corteva, ACS, Dow, and IU picked up trash and debris along the White River near the Virginia B. Fairbanks Art & Nature Park. Volunteers picked up an entire trailer full! Additionally, the Indiana Local Section was able to donate \$1000 to the Friends of the White River to aid them in future conservation efforts.



## Local School STEM Outreach

The Indiana Section provided STEM outreach to The Legacy Learning Center in west Indianapolis on Jan 20th. We had a great day of sharing the "Jiggle Jelly" experiment with three sessions of students. It was terrific to see the curiosity and interaction with these students. We look forward to doing this event with them again and continue to expand to other schools.

Author: Brian Mathes



The Young Hoosier Chemistry Club (formed by: Daniel Chen, Joy Chen, Katherine Guo, and Sofia Ludington) won the 2023 Indiana State Champion in You Be The Chemist Challenge and is one of five National Finalist teams that competed in Huston, TX Jun 11-14. A detailed list of the YBTC 2023 state winners of this challenge can be found [here](#).



# ACS USNCO

## U.S. National Chemistry Olympiad

Author: Robert A. Pribush, PhD

The 2023 Indiana Section ACS USNCO Exam was held at Carmel High School on Saturday, March 18, 2023. A total of 76 students took the exam: 47 first year exams (average score 25/60) and 29 advanced exams (average score 34/60).

Students who scored high on the exam have been contacted and invited to participate in the second phase of the USNCO competition, which is a written exam plus a practical laboratory exam, held in the Butler University Department of Chemistry and Biochemistry on Saturday, April 22, 2023

Award winners are shown below. Schools finishing in the top 5 in the First Year Exam and in the top 5 in the Advanced Exam had the opportunity for one teacher to receive a one-year membership in the American Association of Chemistry Teachers (AACT).

Thank you for your continued support of the USNCO exam.

### FIRST YEAR EXAM

Placement	Student	School
1st	Evan Li	Park Tudor
2nd	Allen Qian	Carmel
3rd	Shawn Liu	Center Grove
Honorable Mention	Daniel Chen	Creekside Middle
Honorable Mention	Yichen Liu	Carmel
Honorable Mention	Grayson Miller	Carmel
Honorable Mention	Owen Zhang	Park Tudor
Honorable Mention	Mischa Mallbris	Park Tudor

Placement	School
1st	Park Tudor
2nd	Carmel
3rd	Creekside Middle
4th	Zionsville
5th	Center Grove

### ADVANCED EXAM

Placement	Student	School
1st	Canaan He	Carmel
2nd	Alex Lu	Park Tudor
3rd (tie)	Adam Madri	Carmel
3rd (tie)	Mortha Bhargava	Carmel
Honorable Mention	Carolyn Jia	Carmel
Honorable Mention	Eva Qiao	Carmel
Honorable Mention	Bill Fei	West Lafayette

Placement	School
1st	Carmel
2nd	Zionsville
3rd	Park Tudor
4th	Hamilton Southeastern
5th	West Lafayette

### PERPETUAL PLAQUE AWARD

Student	School
Canaan He	Carmel
Shawn Liu	Center Grove
Ranie Yang	Clay Middle
Daniel Chen	Creekside Middle
Conner Vargas	Guerin Catholic
Hannah Gao	Hamilton Southeastern
Alex Lu	Park Tudor
Alex Bramhill	Sycamore School
Rishi Paranjape	University
Bill Fei	West Lafayette
Toby Dollens	Zionsville
Jake Leckrone	Zionsville
Henry Lao	Zionsville Middle

### QUALIFIED FOR NATIONAL EXAM

Student	School
*Canaan He	Carmel
Adam Madri	Carmel
Bhargava Mortha	Carmel
Shawn Liu	Center Grove
Hannah Gao	Hamilton Southeastern
Sandi Kambhampati	Hamilton Southeastern
Evan Li	Park Tudor
Alex Lu	Park Tudor
Rishi Paranjape	University
Aaron Habecker	Zionsville
Sudhiksha Murugesan	Zionsville

\*Students automatically qualifying based on their scoring in the top 20 nationally and attending the USNCO Training Camp in 2022.



# ACS Project SEED in Indianapolis: Empowering Disadvantaged Youth through STEM Education

Authors: Partha Basu and Matt Allen

The American Chemical Society (ACS) Project SEED is a nationally recognized initiative to provide economically disadvantaged high school students with opportunities to engage in hands-on research in chemistry-related fields and explore careers in those fields. The Indianapolis Project SEED program focuses on hands-on research experiences for high-school students and aims to inspire and equip their minds to pursue careers in chemistry and related fields.

The ACS Project SEED started in 1968, and the Indianapolis program started soon after, in 1972. Nearly 50 years later, the Project SEED program in Indianapolis is going strong. Like in previous years, the students are selected from the local schools through a rigorous process. Students are supported by a scholarship to conduct research for 10 weeks during the summer. This year we have 23 students supported by the ACS National, and 26 students are supported by the ACS local funds generated from individual donations and corporate and university stipends. The program also recruited 40 students who are a part of the project STEM program and are not supported by a stipend. This year, students came from 23 high schools in and around Indianapolis.

Demographically, we have 27 male and 62 female students in the program. The cohort is also very racially diverse, with 1 American Indian, 35 Asian, 29 Black, 15 white, and 9 unknown/did not report.

The selected students are matched with mentors who guide them through their summer program. This year, 78 mentors from diverse organizations such as IUSM, IUPUI School of Science, IUPUI School of Engineering & Technology, Indiana Bioscience Research Institute (IBRI), and Eli Lilly are training these students. As before, this year's program garnered strong support from local industries, e.g., Eli Lilly, IBRI, and educational entities such as CTSI, IUSM, and IUPUI (School of Science).

This year we welcome Vanessa Santana as the new coordinator of the program. She graduated from Purdue University with a bachelor's in engineering. She brings new energy to the program.

The program continues to have a professional development component with Friday's lecture series by faculty. The impact of Project SEED in Indianapolis has been profound. Many of the students have completed college and have gone on to careers in STEM or medicine.

## Science Day 2023 at Ball State University

Author: Ryan Jeske

For the second year in a row, the Ball State Student Affiliates of the ACS (SAACS) held their annual Science Day event on April 22, 2023, on the first floor of the new Foundational Science Building on BSU's campus. Over 20 activities and demos were presented to approximately 300 members of the public who were in attendance during the 5-hour event. Demonstrations included Elephants Toothpaste, Thermite demo with rusty iron balls, whoosh bottle, DNA extraction, fake snow and super absorbent polymers, states of matter, red cabbage acid/base indicator and gravity in space. The SAACS club invited other science clubs to participate, including the BSU physics, genetics, and wildlife biology clubs. In addition, a local high school teacher participated with a homemade demo about the transfer of force over a large surface area, which included him laying on a bed of nails and holding several cinder blocks.

In the future, we plan to hold the event earlier in April, which has been the traditional date for Science Day. There were several events held on campus for Earth Day, and these may have been competition for attendees. We also need to work more on advertising. Better communication with local schools and radio stations as well as local parent groups on Facebook will help in the future.



# Upcoming ACS Indiana LS Events

Event	Date
Baseball Night	9/7/2023
Think Like a Molecule Poster Session	9/21/2023
PREDICT etiquette dinner	9/26/2023
Exceptional Leaders Conference	9/30/2023
Promote Yourself	10/3/2023
Illustrated Poem Contest & t-shirt contest	10/10/2023
Celebrate Science Indiana	10/14/2023
National Chemistry Week	10/15-10/21/2023
PREDICT Webinar	10/27/2023
Strategic Planning for local ACS section	11/11-11/12/23
Science Claus	December
Awards Night/EOTY Celebration	December

\*Date needs verification

## Other upcoming events without set dates:

- White River Clean-up
- HS/Faculty Teacher Appreciation Night
- Kids and Chemistry
- CMA Chemistry of Fireworks

If you are interested in organizing an upcoming event or participating on the committees, please reach out to [Christine Skaggs](#).

Accelerator Newsletter Team:  
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