

Department of Chemistry and Physics Newsletter

Summer 2019

Highlights from the Past Year

- After 14 years of service, Eric Glendening passes the Chairperson position to Jennifer Inlow—see page 2.
- SURE program continues to thrive—see page 3.
- Department welcomes three new faculty members— see page 3.

Stay Connected with the Department

- Facebook: [@isuchemphys](#)
- Join the [Indiana State Physics](#) group on Facebook.
- Twitter: [@sycamorephysics](#)
[@indstateSURE](#)
- Instagram: [@acsindstate](#)
[@sycamore_physics](#)

Physics Alumni: We Need Your Input!

To help attract new students to the physics program, we're looking for quotes and information from alumni. These will be used in promotional material displayed in the halls of the Science Building.

What is your current position?

How did majoring in physics at ISU prepare you for your career?

What did you love about physics at ISU?

What advice do you have for current physics majors?

Send your information by email to jinlow@indstate.edu, or use the enclosed sheet to respond. **We would also appreciate a current photo**, especially if it can showcase your work environment.

Corridor and Reception Area Renovations Completed in Basement of Science Building

Corridor renovation in the Science Building has been ongoing for several years, with one floor renovated each summer. The basement corridors, where chemistry is located, were renovated during the summer of 2018 and finished just in time for the start of the fall 2018 semester.

Flooring and lighting were replaced and bulletin boards were added for display of research posters, but the main attraction is new seating and study spaces for students. For instance, booth seating in the west corridor near the stockroom provides a cozy place for small groups of students to gather. Included in the project were updates to a small student study lounge in the inner corridor where faculty offices are located, as well as changes to the chemistry main office where Mitzi Nichols and Patti Archer work. The reception area was expanded to provide more seating for visitors to the Department, and the adjacent kitchenette was updated.

The final stage of the renovation project, anticipated for the summer of 2020, will involve the entryway, stairwell, and outdoor plaza at the southwest corner of the building.

New study booths in the basement of the Science Building.



Students and Faculty Produce Safety Video for Use in Lab Courses

Kendra Dewese, with help from several other chemistry faculty, headed up the production of a custom instructional lab safety video in which all the starring roles are played by ISU chemistry majors! The video is now being used in all introductory chemistry lab courses on the first day of class as part of mandatory safety training. The video can be viewed on the ISU website at:

<https://statevids.indstate.edu/Play/13627>



Chemistry students star in lab safety video on ISU website.

Outstanding Graduating Seniors

Juan Nysschen is the outstanding graduating senior **Chemistry** major. He is originally from South Africa, but grew up in Terre Haute. He participated in the SURE program for three consecutive summers and presented his computational chemistry research at National ACS meetings in San Francisco, New Orleans, and Orlando. Juan has served as a supplemental instructor (SI) for the chemistry program, and has been an executive committee member of the Lemon Club and Timmy Global Health student organizations. He will begin pursuing a medical degree at the University of Texas Southwestern Medical School in Dallas, Texas in the fall.

Tyler Jenkins is the outstanding graduating senior **Physics** major. Tyler was born and raised in Brazil, Indiana. He participated in the SURE program under the mentorship of Dr. Zhang for three years and presented his research at the National APS March Meetings in 2018 and 2019. He worked in the Department as a physics lab assistant for four years and as a physics tutor in the Science Help Center for three years. He served as the vice president, and subsequently the president, of the ISU chapter of the Society of Physics Students. He will pursue a Master's Degree in Computer Science at ISU starting this fall.

Annual Student Awards

Outstanding Senior Organic Chemistry Student—

Trent Carpenter;

John McCarthy Outstanding Junior Physics Major Award—

Anthony Froehlich;

Undergraduate Award in Physical Chemistry—**Courtney Nuyen;**

Outstanding Achievement in Organic Chemistry—

Cynthia Ramazani;

Outstanding Achievement in General Chemistry—

Evelyn McGuire;

Outstanding Physics Teaching Assistant—**Tyler Jenkins.**

Department Undergoes Change in Leadership

Eric Glendening became Department Chairperson in 2005, shortly before the merger of the chemistry and physics programs into a single department in 2008. After 14 years of service in this role, he is ready for a change and wants to devote more time to teaching General Chemistry, expanding his computational chemistry research program, and improving the NBO software package. Jennifer Inlow was elected with the full support of the faculty as the new Chairperson and started the position June 1st. Her teaching responsibilities will be reduced, but she is glad that she will continue to teach biochemistry and bioinformatics.

Alumni Mentors Program Continues

A year ago the College of Arts and Sciences launched an **Alumni Mentors Program** in which alumni serve as mentors for current and future ISU students by providing career and degree advice. Short biographies of the alumni mentors and email links for contacting them are provided on the program's website:

www.indstate.edu/cas/mentors

Check out the bios of the Chemistry and Physics alumni mentors on the site. Our alumni mentors are:

George Fritch
Chemistry, 2013

Kevin Waters
Physics, 2013

Samantha Henry
Physics, 2010

Amanda (Melberg) Layson
Chemistry, 2008

Sara (Poehlein) Pliskin
Chemistry, 1994

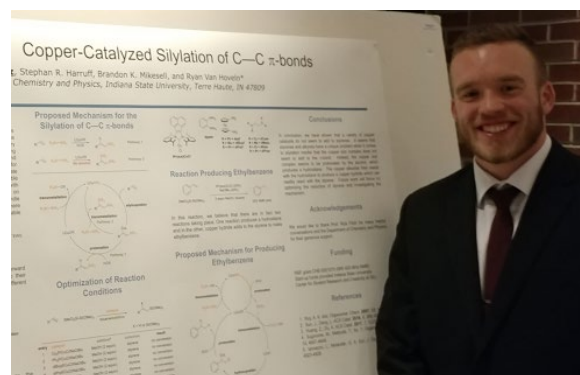
This Year's Graduates

Twenty-one students graduated in Dec. 2018 or May 2019. The chemistry graduates were Liam Brown, Trent Carpenter, Alexandra Davis, Kathryn Gilbert, Hunter Gill, Kimberly Gleason, Beloved Godson, Stephan Harruff, Lyndsey Hixon, Chandler Hoskins, Arika Kemp, Juan Nysschen, Chinonye Olumba, Megan Reid, Jacqueline Smith, Danae Vest, Bryan Walker, Jade Weeks, Megan Whitham, and Lacey Williams. Tyler Jenkins was the sole graduating physics major.

Students Present Research at National and Regional Meetings

Chemistry and physics research students made presentations at a number of regional and national meetings this year:

- **Ohio Inorganic Weekend** (4 students presented posters; Jarett Posz won the Dalton Transactions Poster Prize— see photo below.)
- **National American Chemical Society Meeting** (Ryan Van Hovel and Jared Hancock traveled to Orlando with 13 students who presented posters at the meeting.)
- **National American Physical Society Meeting** (Guoping Zhang traveled to Boston with 2 students, Tyler Jenkins and Anthony Froehlich, who gave talks at the meeting.)



Jarett Posz won the Dalton Transactions Prize for his poster, "Copper-Catalyzed Silylation of C—C π -bonds," at the Ohio Inorganic Weekend.

Three New Faculty Join Chemistry and Physics

Jared Hancock, who grew up Tooele, Utah, attended Brigham Young University and graduated with a bachelor's degree in chemistry education. After teaching AP chemistry for a few years, he returned to BYU for graduate studies in inorganic chemistry with a focus on green methods of producing zinc oxide nanoparticles and magnetic doping. Jared completed his Ph.D. in 2013 and subsequently taught at BYU, Utah Valley University, and BYU–Idaho before taking a position as a **Chemistry Instructor** at Indiana State in August 2018. During his first year at ISU, Jared taught Foundational Studies Chemistry (CHEM 100), General Chemistry (CHEM 105 and 106), and a variety of 100-level lab courses. This summer he is teaching Organic I Lab. Jared reports that he has “enjoyed meeting the wonderful faculty and students in the Department” and is getting used to his first time living in the Midwest!

Fan Zuo was born in Hubei Province, a central inland area of China. He earned B.S. and M.S. degrees in chemistry from the University of Science & Technology of China and a Ph.D. from the University of California at Riverside. His doctoral research, under the mentorship of Prof. Pingyun Feng, focused on inorganic materials for visible-light-driven photocatalysis. Fan completed several years of postdoctoral training at the University of Washington and Purdue University before beginning a **Tenure-Track Inorganic Chemist** position at ISU in the fall of 2018. Fan taught General Chemistry (CHEM 105 and 106) and Inorganic Chemistry (CHEM 341) during his first year. This summer he is mentoring two students in the Summer Undergraduate Research Experiences (SURE) program, doing research in inorganic materials synthesis with applications in electrocatalysis.

Sean Bartz grew up in Indianapolis and majored in physics and math at Xavier University in Cincinnati. He studied theoretical nuclear physics at the University of Minnesota, earning his Ph.D. in 2014, with the support of a Department of Energy fellowship. He discovered his passion for undergraduate teaching while spending four years as a visiting professor at Macalester College in St. Paul. In his first year at ISU (2018–2019) as a **Tenure-Track Physicist**, Sean taught algebra-based introductory physics and modern physics. He also advised the Society of Physics Students, including a project to build and launch model rockets. He has a micro-grant to become certified in high-power rocketry which will allow for bigger student projects in the future. He uses 5-dimensional theoretical models to study the quark-gluon plasma, a phase of nuclear matter that exists at temperatures over a trillion degrees.

Publications & Grants Received by Faculty

Faculty published in the following journals over the past year:

E. Glendening: *Chemical Physics Letters; Journal of the American Chemical Society; Journal of Chemical Theory and Computation; Journal of Computational Chemistry; Journal of Physical Chemistry A; Tetrahedron.*

J. Inlow: *Biochemistry and Molecular Biology Education.*

R. Noll: *Journal of Chemical Education.*

E. Seung: *Research in Science Education.*

R. Van Hoveln: *Organometallics.*

S. Wolf: *Geochimica et Cosmochimica Acta.*

G. Zhang: *Journal of Physics B: Atomic, Molecular, and Optical Physics; Journal of Physics: Condensed Matter; Modern Physics Letters B; Nature Communications; Physical Review B.*

F. Zuo: *Nature Communications.*

Sean Bartz received the "One Tweet, One Percent" grant from the Mindlin Foundation for High-Power Rocketry for Introductory Physics.

SURE Program Enters 14th Year with 45 Student Researchers Across 8 Disciplines

The 2019 Summer Undergraduate Research Experiences, or SURE program, is now underway, running May 22 - August 2. The popular program continues to thrive and is now in its 14th year. Over the 10-week period, ISU students participate in an intensive research experience under the mentorship of a faculty member. The students receive a SURE fellowship, and spend their time in the research lab as well as doing library research and participating in service projects and social activities. They also present their progress in brief oral presentations at weekly “group meetings” and present a poster at the culminating symposium in early August. This summer 45 students are working with 21 faculty mentors from Chemistry, Physics, Biology, Computer Science, Geology, Mathematics, Psychology, and the IU School of Medicine. Twenty of the students—listed below—are working with members of the Chemistry and Physics faculty.

2019 SURE Fellows in Chemistry and Physics	Research Advisor
Beixi Hao	Sean Bartz
Madison Franks	Rick Fitch
Jessica Goodman	Rick Fitch
Marcella Nonte	Rick Fitch
Baylee Sparks	Rick Fitch
Rachel Worthington	Rick Fitch
Ahmad Ahmad	Eric Glendening
Bryan Walker	Eric Glendening
Courtney Nuyen	Ryan Van Hoveln
Cade Peratt	Ryan Van Hoveln
Jarett Posz	Ryan Van Hoveln
Ian Sherer	Ryan Van Hoveln
Collin Underwood	Ryan Van Hoveln
Kylie Wertz	Ryan Van Hoveln
Jake Wilkinson	Ryan Van Hoveln
Matt Siner	Joe West
Drew Ratliff	Guoping Zhang
Paul Wells	Guoping Zhang
Bryce Currey	Fan Zuo
Zachery Tracy	Fan Zuo

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**ISU Department of
Chemistry and Physics
Newsletter**

All our newsletters are available *electronically* at
the alumni link on the department website:

http://www.indstate.edu/cas/chem_phys/

Follow us on Facebook:

<https://www.facebook.com/isuchemphys/>

We want to hear from you!

Please inform us if you have a change of address, and keep us up-to-date
on your activities. Send an email to Jennifer Inlow (jinlow@indstate.edu) or
complete the form on the insert and mail it to the Department.

**Questions or
comments?**

Contact
Jennifer Inlow, Chairperson, at:
jinlow@indstate.edu or
812-237-2239.