

# Department of Chemistry and Physics

## Newsletter

Summer 2021

### Highlights from the Past Year

- Dr. Ryan Van Hovel was awarded tenure and will be promoted to Associate Professor in August.
- In Memory of Professors Marlowe Owen and Donald Reuland—see page 2.
- After being canceled in 2020, the SURE Program is underway again this summer—see page 3.
- Students presented their research at the virtual ACS meeting this spring—see page 3.
- Fall and Spring classes were adapted to maintain safety during the coronavirus pandemic—see page 3.



**Students continued to participate in research with faculty during the past academic year while taking precautions against the coronavirus.**

### Stay Connected with the Department

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### Eric Glendening Receives President's Medal

This spring Professor Eric Glendening was selected to receive the annual ISU President's Medal, the University's highest award for faculty. Dr. Glendening joined the Chemistry faculty in 1995 and has since taught a variety of courses, ranging from General Chemistry to Physical and Computational Chemistry. He maintains an active research program involving the application of computational chemistry to physical organic chemistry, and he is active in the ongoing development of the NBO (Natural Bond Order) Software. He created ISU's Summer Undergraduate Research Experiences (SURE) Program which is now in its 15<sup>th</sup> year. Interim Provost Dr. Christopher Olsen said, "He is such an outstanding faculty member, he was a tremendous chairperson for more than a decade, and his work on behalf of the Timmy Global Health initiative speaks to his character and dedication to people around the world." Dr. Glendening was honored, along with other faculty receiving annual awards, at a virtual Faculty Recognition Ceremony in April.



**Dr. Eric Glendening**

### Donor Support is Key to Student Success!

March 3, 2021, was Indiana State's third annual **Give to Blue Day**, a one-day fund-raising event for the University. A total of \$1,022,945 was contributed by 2620 donors. The funds will support a variety of student-centered programs across campus, including scholarships and undergraduate research, and donors can choose the programs to which they wish to contribute. If you would like to make a donation specifically to Departmental scholarships or the SURE program, you may use the insert provided with this newsletter. Look for announcements about the March 2022 Give to Blue Day for another opportunity to support our students. Your donation is important and is much appreciated!

### Chemistry Major Mallory Wilson tells her "Sycamore Story"

Listen to Mallory describe how undergraduate research enriched her experience at ISU:

[https://www.youtube.com/watch?v=Eh\\_ZwQVvqKk](https://www.youtube.com/watch?v=Eh_ZwQVvqKk)



"The Sycamore Undergraduate Research Fellowship is actually what helped me get into undergraduate research, so it has also completely changed the way my entire college experience has gone."—*Mallory Wilson, Class of '22, Chemistry Major, Physics Minor*

## Outstanding Chemistry Graduate of 2021

**Matthew Pavelka** is this year's outstanding graduating senior Chemistry major.



Matthew graduated from West Plains High School in Missouri in 2017 and entered ISU that fall with a Rural Health Scholarship. As part of the Rural Health Scholars Program, he completed an internship at the Lugar Center for Rural Health and participated in a research project with the Research in Community Health (RiCoH) Program. On campus Matthew has been involved in the American Chemical Society Student Affiliates, the Honors Council, Tobacco-Free Blue, and the Timmy Global Health Initiative. He served as a grant assistant to Tobacco-Free Blue and participated in two medical service trips to Ecuador through Timmy Global Health. He has been active in the Department as a chemistry lab assistant, teaching assistant, and tutor. Matthew graduated in May 2021 with honors with a Chemistry major and Economics minor. In August he will enter Indiana University School of Medicine (Terre Haute) to pursue an M.D. degree with the goal of becoming a clinical and forensic pathologist.

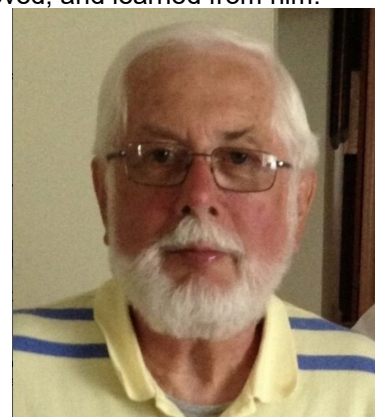
## In Memory of Professors Marlowe Owen and Donald Reuland

**Marlowe A. Owen** passed away October 14, 2020 at age 89. She was born December 15, 1930 in Milwaukee, WI. Her husband of 47 years, Donald E. Owen, preceded her in death in 2003. Survivors include her daughter, Kim Mazur (Michael) of Jim Falls, WI; her son, Eric Owen (Jennifer) of Fort Dodge, IA; a brother, Gary Gronberg (Fran) of Bismarck, ND; three grandchildren, Kayla (Jim), Garrett (Courtney) and Jordan; and 4 great-grandchildren. Prof. Owen was a graduate of Bismarck (N.D.) High School and received her bachelor's degree in Math and Chemistry from North Dakota State University. Early in her career Prof. Owen performed soil analysis for the state of North Dakota and later worked preparing taxes for H&R Block and Lyle Barr and Associates Accounting. Most recently, she taught chemistry to incoming freshmen and nursing students at Indiana State University. She loved following college sports and was thrilled when she was named "Coach of the Day" and was allowed on the sidelines with the Sycamore team for the entire game. One of Prof. Owen's biggest thrills was when she zip-lined at the age of 83. She also loved to knit, specializing in Christmas stockings for family and friends.



*Prof. Marlowe Owen*

**Donald J. Reuland** passed away peacefully with his family on August 9, 2020 at age 83. He was born on May 25, 1937 in Collingdale, PA, a town near Philadelphia. Dr. Reuland is survived by his wife of 60 years, Alice, their son and daughter-in-law, P. Gary and Susan Reuland, their daughter and son-in-law, Lynne and Tim Mackey, their grandson Brian Reuland and his wife Camila Zitelli and their granddaughter Lauren Reuland, along with several nieces and nephews. Dr. Reuland received his B.S. degree in Chemistry from St. Joseph's University in Philadelphia, and his M.S. and Ph.D. in Chemistry from Carnegie-Mellon University in Pittsburgh. After 2 years working at Thomas A. Edison research lab, he accepted a position at Indiana State University, where he worked for the next 40 years. While at ISU, Dr. Reuland was a dedicated researcher and professor. He also worked tirelessly to improve science curricula in Indiana high schools through the Alliance for Improved Education in Chemistry. He made a lasting impact on many of his students and colleagues. Dr. Reuland was a devoted husband, father, grandfather, teacher, and friend. He was known for his quick wit, his passion for Philadelphia sports (especially the Eagles), his championship bridge-playing, and his deep love for his family, both human and canine. He will be deeply missed by all who knew, loved, and learned from him.



*Dr. Donald Reuland*

## Annual Student Awards

Undergraduate Award in Physical Chemistry—**Mallory Wilson.**

Outstanding Achievement in Organic Chemistry—**Connor Tierney.**

Outstanding Achievement in General Chemistry—**Robert "Mikal" Lange.**

Outstanding Physics Student Worker—**Victoria Kelp.**

John McCarthy Outstanding Junior Physics Major Award—**Conner Walts.**

Best Student in Modern Physics Award—**Sean Galminas.**



## Graduating Seniors

Six students graduated in December 2020 or May 2021 with majors in Chemistry. There were no Physics graduates this year. The Chemistry graduates were Marcella Nonte, Deep Patel, Matthew Pavelka, Forrest Ridings, Madeline Schuck, and Elijah Wilkin.

## The University and Department Weathered the Pandemic!

The 2020-2021 academic year was unusual, to say the least! For the fall and spring semesters, all classes at the University operated at 50% of normal capacity. Because of this limitation, many courses had to be taught in a hybrid format where only some of the students attended class on a given day, and the remaining students were provided with online content. This model was used for some of the introductory-level chemistry and physics courses with large enrollments. Some courses—introductory as well as upper-level—were converted entirely to an online format. Other chemistry and physics courses with smaller enrollments were taught completely face-to-face by moving the class to a larger room which allowed for 6-foot physical distancing. Many laboratory courses, particularly the introductory-level chemistry and physics lab courses with high enrollments, found it necessary to use a hybrid approach as described above. Unfortunately, it was not possible to give students as much hands-on lab experience as in a normal semester. Some of the experiments were done virtually using videos which demonstrated techniques, and students were given data collected by the instructor to analyze. There were challenges to deal with and technological problems to overcome, but the Chemistry and Physics faculty rose to the challenge, and the Department was able to deliver all the usual courses and labs.

## Students Present Research Posters at Virtual ACS Meeting

Due to the pandemic, students and faculty were not able to travel to conferences last year. However, the following four chemistry students presented virtual posters at the National American Chemical Society Meeting in April: **Peyton Abbott**, **Gabrielle Brown**, **Alexander Harris**, and **Courtney Hoene**. All four conducted research with Dr. Ryan Van Hoveln during the previous academic year.

## Faculty Publications, Presentations, and Grants Received

Faculty published in the following journals over the past year:

**Eric Glendening**: *Journal of Computational Chemistry*.

**Elsun Seung**: *Journal of Science Teacher Education*.

**Ryan Van Hoveln**: *Chemical Communications*.

**Guoping Zhang**: *AIP Advances: Modern Physics Letters B; Physical Review A; Physical Review B* (2 papers); *Physical Review Letters*.

**Fan Zuo**: *ACS Sustainable Chemistry & Engineering; Chemical Engineering Journal* (2 papers).

**Eric Glendening** co-authored a book chapter in *Complementary Bonding Analysis*, S. Grabowsky, Ed., De Gruyter: Berlin, 2021.

**Guoping Zhang** co-authored the book *Introduction to Ultrafast Phenomena: From Femtosecond Magnetism to High-Harmonic Generation*, CRC Press: Boca Raton, Florida, 2021.

**Rob Noll** presented a virtual talk at the April meeting of the Wabash Valley American Chemical Society Section, titled "The IcyBall Refrigerator: A Vapor-Absorption Refrigerator from Yesteryear."

**Sean Bartz** received a grant from ISU's University Research Committee. The funds will support his research of "Extra-Dimensional Models of Hot and Dense Nuclear Matter."

## Annual SURE Program is in Progress Again!

The 2021 Summer Undergraduate Research Experiences, or SURE program, is now underway. The popular and highly successful program was canceled in 2020 due to the coronavirus pandemic, so students and faculty alike were eager for the start of this summer's program on May 19<sup>th</sup>. This summer marks the program's 15<sup>th</sup> year. There are 39 students working with 18 faculty mentors from Chemistry, Physics, Biology, Geology, the IU School of Medicine-Terre Haute, and the ISU College of Technology.

2021 SURE Fellows in Chemistry and Physics	Research Advisor
Robert Meadows	Sean Bartz
Antonio Tamayo	Sean Bartz
Callie Gernand	Rick Fitch
Brianna Nirtaut	Rick Fitch
Devin Hiatt	Eric Glendening
Peyton Abbott	Ryan Van Hoveln
Alexander Harris	Ryan Van Hoveln
Courtney Hoene	Ryan Van Hoveln
Connor Tierney	Ryan Van Hoveln
Tejas Kandharkar	Fan Zuo
Robert Mikal Lange	Fan Zuo
Josiah Pringle	Fan Zuo
Reem Zaher	Fan Zuo

To view student research posters from past SURE programs, see the SURE website:

<https://www.indstate.edu/cas/node/2355>

As noted on Page 1, the Department hopes to promote the SURE program and raise funds for student SURE fellowships on **Give to Blue Day** next March.



**SURE students (left to right) in Dr. Fan Zuo's research lab: Josiah Pringle, Robert "Mikal" Lange, and Reem Zaher.**

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Chemistry and Physics  
Newsletter**

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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  
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812-237-2239.

