



## Alumni & Friends-

We are excited to share with you some highlights from the last year here in the department.

As you read through, if you would like more information on any of the stories in this newsletter, please click the links that will take you to full articles on the [departmental website](#),

and if you have news or feedback, we would love to [hear from you](#). You can also find this newsletter and past editions on our website under [Alumni](#).

If you would like to include Notre Dame in your giving, undergraduate alumni can follow [this link](#), and graduate alumni can follow [this link](#). Thank you for supporting the efforts of the department!

## Research News

The Serrano group discovered the [first evidence of protein folding](#) driven by liquid-liquid phase separation (LLPS). Using infrared spectroscopy, they measured folding of the dipeptide repeat PR20, which has been implicated in Amyotrophic Lateral Sclerosis (ALS), and they showed that LLPS may initiate an early stage of the process leading to disease.

The Whelan group's research on the [isolation and study of CA125](#), a biomarker for ovarian cancer, was featured on the cover of *Analyst*. Also, their use [fluorescence anisotropy assays](#) for more efficient aptamer-protein binding measurements was featured on the cover of *Analytical Methods*.

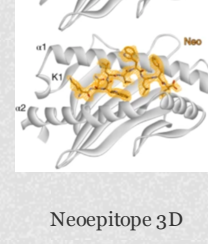
Research from the Peaslee group has shown that per- and polyfluoroalkyl substances (PFAS) are [highly prevalent in cosmetics](#). As these chemicals are persistent, remaining in the bloodstream and environment, this highlights a serious concern for a multi-billion dollar industry.

The Baker group reported the importance of [determining neopeptide 3D structure](#) in developing T-cell based cancer vaccines. Since cancer cells often have similar structural components to healthy cells, targeting the 3D structure provides a potentially more effective pathway for therapy development.

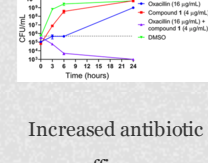
The Melander group reported that an extract from the American beautyberry plant [increases the efficacy of certain antibiotics](#) in the treatment of methicillin-resistant *Staphylococcus aureus* (MRSA). Combining antibiotic therapy with additional compounds that alter the mechanisms of resistance in the bacteria can make the bacteria once again susceptible to attack.



CA125 Detection



Neopeptide 3D Structural Changes



Increased antibiotic efficacy

## Faculty & Staff News

We are very glad to welcome Julie Kessler, Brittany Morgan, and Hsing-Ta (Theta) Chen to the faculty.

Dr. Kessler joins us this fall as an assistant teaching professor. She returns to Notre Dame, where she received her Ph.D., after working at Carroll College as an assistant professor. She received her B.S. in chemistry from Hartwick College.

Dr. Morgan will be the John V. O'Connor Assistant Professor in Cancer Drug Discovery beginning summer 2022. She is currently completing her post-doc at the University of Michigan after receiving her Ph.D. from Duke University and B.S. from Western Kentucky University.

Dr. Chen will be an assistant professor arriving in summer 2022. He is currently completing his post-doc at the University of Pennsylvania after receiving his Ph.D. from Columbia University and B.S. and M.S. from National Taiwan University.

[Paul Bohn](#) has been named the 2022 recipient of the Charles N. Reilly Award from the Society of Electroanalytical Chemistry (SEAC).

[Gregory Hartland](#) is the 2021 recipient of the American Chemical Society Division of Physical Chemistry Award in Experimental Physical Chemistry.

We [congratulate](#) Alex Kandel on his promotion to Professor, and Brian Baker on his appointment as the Coleman Professor of Life Sciences.

[Patricia Clark](#) has been named an Associate Vice President for Research.

[Kelley Young](#) is the new director of the Mary E. Galvin Science & Engineering Scholars program.

[Seth Brown](#) and [Slavi Sevov](#) were winners of the 2021 Joyce Awards for Excellence in Undergraduate Teaching.

[Jim Parise](#) is the winner of the 2021 College of Science Shilts/Leonard Teaching Award for excellence in teaching.

[Emily Tsui](#) was chosen to receive a National Science Foundation CAREER Award to study the "Formation and Redox Chemistry of Metal Polysulfanido Complexes for Sulfur Transfer Reactions."

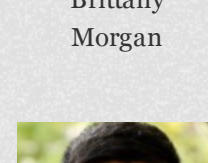
[Katharine White](#) was granted a highly competitive National Institutes of Health Director's New Innovator Award to study how pH dynamics drive cancer cell behaviors and how those mechanisms can be exploited for more effective and safer cancer therapies.



Julie Kessler



Brittany Morgan



Theta Chen

## Student & Alumni News

[Ansley Nemeth](#) was selected as one of only four recipients of the 2021 American Chemical Society Division of Medicinal Chemistry Predoctoral Fellowship.

[McKenze Moss](#) was chosen to receive a National Science Foundation Graduate Research Fellowship.

[Teagan Sweet](#) received a graduate fellowship from the US Department of Energy Office of Nuclear Energy.

[Xiuyu Jin](#) received one of the first two graduate fellowships from the Materials Science and Engineering Doctoral Program.

[Yared Nuguse](#) (B.S. '21) was named the ACC Men's Runner of the Year and has qualified to compete in the Tokyo Olympics. He also holds the NCAA Men's record for the 1500m.

Graduate student Heather Whitehead received a 2021 ACSenvr-SETAC Travel Exchange Award to attend the Society of Environmental Toxicology & Chemistry North American annual meeting in November.

Cara Cesario (Ph.D. '10) joined Nutrition21, LLC, as Vice President of Manufacturing and Product Development.

This past year, we added 32 Ph.D. graduates, 7 M.S. graduates, and 46 B.S. graduates to our alumni. Congratulations to the following students:

### Ph.D. Recipients

Muhammad Ahmad\* (Merlin Bruening)  
 William Andrews\* (Brandon Ashfeld/Amanda Hummon)  
 William Barker\* (Christian Melander)  
 Sarah Bliese\*\* (Marya Lieberman)  
 Shelby Brantley\*\* (Steve Corcelli)  
 Michael Brennan\* (Masaru Kuno)  
 Tianyuan Cao (Paul Bohn)  
 Kyle Conner\* (Seth Brown)  
 Karlie Cox (Christian Melander)  
 Timothy Cuneo\* (Haifeng Gao)  
 Janel Dempsey (Brad Smith)  
 Kyle Dubiak\* (Paul Huber)  
 Alexander Erickson (Seth Brown)  
 Beth Fachine (Laurie Littlepage)  
 Veronica Hubble\* (Christian Melander)  
 Tracy-Lynn Lockwood (Marya Lieberman)  
 Hannah McGarraugh (Brad Smith)  
 Rachel Miller\* (Holly Goodson/Marya Lieberman)  
 Tierney Miller\* (Steve Corcelli)  
 Jacob Olson (Jon Camden)  
 Sasha Padilla-Coley (Brad Smith)  
 Jacob Peterson (Alex Kandel/Steve Corcelli)  
 Matthew Sarnowski (Juan Del Valle)  
 Catlin Schalk (Alex Kandel)  
 Jared Scripture (Holly Goodson)  
 Angela Smith (Brian Baker)  
 David Turner (Alex Kandel)  
 Jessica Wahlers (Olaf Wiest/Paul Helquist)  
 Chao Yang\* (Paul Huber)  
 Liu Yang\*\* (Merlin Bruening)  
 Canjia Zhai (Brad Smith)  
 Jessica Zinna (Marya Lieberman)

### M.S. Recipients

Emily Amenson-Lamar  
 Kayla Dempster\*  
 Carter Embry\*  
 Nicole Hudson\*\*  
 Michael Montalvo Rivera  
 Samantha O'Connor  
 Linh To

### B.S. Recipients

#### Biochemistry Majors

Savannah Anez  
 Jeffery Bettag, *summa cum laude*  
 Leah Bode, *cum laude*  
 Sara Braynard  
 Jehdah Burton  
 Emma Cahill  
 Laura Carroll  
 Hunter Cheng, *cum laude*  
 Rhea Desouza  
 Bryce Dzubara, *magna cum laude*  
 Gail Fernandes  
 Meredith Flanagan  
 Matthew Guggenbiller, *magna cum laude*  
 Clare Hartman, *cum laude*  
 Jennifer Huang  
 Thomas Kacius, *cum laude*  
 Ryan Klevens  
 Alyssa La Bella  
 Joseph Lazzara  
 Morgan McCabe  
 Joseph Mullen, *cum laude*  
 Brendan Navarro  
 Yared Nuguse  
 Patrick O'Connor  
 Olivia Perez  
 Sofia Perez  
 Melissa Pirko  
 Kathryn Purk, *cum laude*  
 Elinor Schnautz  
 Noah Springer, *summa cum laude*  
 Alexis Stensby  
 Zoe Tulauskas, *summa cum laude*  
 Trenton Winters  
 Clarissa Younkle  
 Andrew Zouss

#### Chemistry Majors

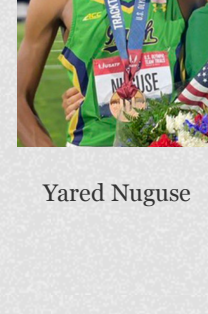
Paige Howard  
 Olivia Lanchoney, *cum laude*  
 Sydney Loudon  
 David Morris, *magna cum laude*  
 Sara Reddy, *magna cum laude*  
 Kimberly Riordan, *cum laude*  
 Andrew Smith, *magna cum laude*  
 Elias Travis  
 Renita Wilson, *magna cum laude*  
 Abigale Wood

#### Chemistry with Business Majors

Alexander Hymes

\*August 2020 Graduate

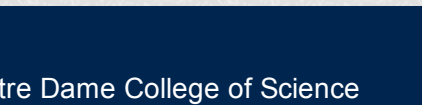
\*\* January 2021 Graduate



Yared Nuguse



2021 Undergraduate Commencement Ceremony



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