



THE IOTAN

Iota Sigma Pi National Honor Society for Women in Chemistry

Spring 2020 No. 118



TRIENNIAL CONVENTION POSTPONED TO 2021!

Dear Members of Iota Sigma Pi,

As many of you know, we were slated to host our Triennial Convention in Orange County, CA in July 2020. Due to the constantly evolving coronavirus pandemic and your safety being our top priority, the National Council has decided to propose postponing the Convention until July 15–18, 2021. We are disappointed to have to postpone the Convention, but feel confident that it is the correct decision.

At the time of the printing of the Winter issue of the Iotan, the coronavirus pandemic was an emerging threat, and thus that issue focused on the Convention as it was planned. However, I invite you to read it (<https://www.iotasigmapi.info/membership/iotan.html>) and learn more about the fantastic job the Ca chapter has done in planning the Convention and changes that we have made to the program. I know you were as excited as I am about these changes, the distinguished awards speakers, and the social events we had planned, but rest assured – they will happen in 2021.

According to our Constitution, postponing the Convention requires a **two-thirds approval of the voting members**. In the near future, we will be holding a vote via Google Forms on postponing the Convention. **Please be on the lookout for an email with directions on how to vote.**

Please feel free to contact me (meganbourg@gmail.com) if you have any questions or concerns about postponing the Triennial Convention or if I or Iota Sigma Pi can be of assistance to you professionally or personally during this time.

Megan Sassín, National President

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Election for National Council

The Nominating Committee presents the following slate of candidates for the 2020-2023 Iota Sigma Pi National Council. In accordance with Iota Sigma Pi's Constitution and Bylaws, write-in candidates are permitted as long as the nominee is a member in good standing and has consented to the nomination in writing. Potential convention delegates will vote on the nominees in the near future. Many thanks to Immediate Past President, QuynhGiao Nguyen, for leading the Nominating Committee.

2020–2023 National Council Candidates	
National President	Dr. Anne K. Taylor (H)
National Vice President	Dr. Patty Wiley (MAL)
National Secretary	Dr. Kelsey Bohn (F)
National Treasurer	Dr. Anna Ratliff (MAL)
National Editor	Dr. Margaret Workman (Aul)
Records Chair	Dr. Danielle Vellucci (MAL)
Coordinator of Members-at-Large	Dr. Rose Kennedy (MAL)
National Director for Professional Awards	Dr. Julia Vaynberg (F)
National Director for Student Awards	Dr. Reiko Simmons (F)
National Webmaster	Dr. Julia Wiester (Aul)
Coordinator of Initiates & Supplies	Ms. Tanya Hunter (Aul)
National Historian	Dr. Lily Ng (Hg)

SHOP AND SUPPORT Iota Sigma Pi!

Iota Sigma Pi is now a participant in the Amazon Smile program. You can shop and support women in chemistry at the same time. To join Amazon Smile, go to: <https://smile.amazon.com/> and login using your regular Amazon password. Choose your charity as "Iota Sigma Pi National Council". For current subscribers to Amazon Smile, use the direct link: <https://smile.amazon.com/ch/94-6093887> to change charity to Iota Sigma Pi. Then keep shopping, and Amazon will donate 0.5% of eligible purchases to us at NO cost to you. **Try it out today!**

Meet the Candidates!

Candidate for National President: Anne K. Taylor (H) is pleased to be nominated as National President. She is excited to see that a new Chapter, Meitnerium, has formed and looks forward to more expansion. The new chapter can serve as an honorary society for undergraduates, as well as a support group for grad students and working scientists. Chapter membership is a great way for young women to meet working chemists and learn about their lives. She first joined Iota Sigma Pi after moving to Baton Rouge, Louisiana, where she met past National President Janet Clark when she volunteered for American Chemical Society. She served as Chlorine Chapter President for four years and then became Historian. With encouragement from Sharon Vercellotti, she became National Secretary for two terms from 2011 to 2017. After a one year break, she returned to National Council as Director of Professional Awards. Twice during her service on NC, Lily Ng and she became Interim Editors (in addition to their current roles on NC) to fill a much needed gap in this office. During the last year she initiated the *Mini-Iotan* to keep members informed in between issues of the newsletter, *The Iotan*. Her career and volunteer life has followed parallel tracks. She is now fully retired and living in Petaluma, CA, where she volunteers with the women's group AAUW, the Petaluma Wetlands Alliance, and her church. She likes to say that she had four careers:

1. While living in Baton Rouge, Louisiana, she was a consultant specializing in writing and editing documentation for pharmaceutical companies. In addition to being an officer of the Chlorine Chapter, she volunteered for the American Chemical Society local section, co-chairing the National Chemistry Week event and serving as Chair, then Councilor. She also had leadership roles in AAUW, serving as Secretary and Branch President. Later she served as AAUW State President for 5 years.
2. While living in Morris Plains, NJ, she spent 14 years working in pharmaceutical analytical chemistry. She also became involved in AAUW and served as Branch President and Secretary.
3. While living in Norwich in Upstate New York, she taught at several colleges (adjunct teaching).
4. Just before she completed her PhD, she had a baby. A second child followed, and she was a

full-time Mom for several years. She also started her volunteer life at that time.

Those are her four careers! Each was fulfilling in a different way. She has a Ph.D. in organic chemistry from Cornell University (NY) and a BA degree in chemistry from Gettysburg College (PA).

Candidate for National Vice President: Patricia Wiley (MAL) received her B.S. in Forensic Chemistry from Western Illinois University in 2009. She continued her education at Purdue University where she earned her Ph.D. in Chemistry (Biochemistry Division) in 2015. Following graduate school, she moved to Washington D.C. and completed a postdoctoral fellowship at the National Cancer Institute (NCI). Currently, Dr. Wiley is leveraging her technical expertise as an AAAS Science and Technology Policy Fellow at the National Institute of Biomedical Imaging and Bioengineering in the Office of Science Policy and Communications. Her responsibilities range from science writing, developing new policies, legislative affairs, and government reporting. She plans to continue a career path in science policy. During her time at Purdue, she was an active member in Iota Sigma Pi serving on the Plutonium executive board as Co-Outreach Coordinator (2012-2013) and President (2013-2014). She is serving as the National Vice President for this current triennium.

Candidate for National Secretary: Kelsey Bohn (F) joined the Plutonium Chapter of Iota Sigma Pi at Purdue University in the spring of 2010. She was elected as the Plutonium Chapter Secretary in 2013 and served as a chapter delegate in the 2014 Triennial Meeting. Kelsey received her Ph.D. in Chemistry from Purdue University in the summer of 2015 with her thesis focusing on the development and characterization of inhibitors of membrane proteins associated with schizophrenia and pancreatic cancer. She then completed a postdoc at the Cleveland Clinic Lerner Research Institute (LRI) studying androgen metabolism in castration-resistant prostate cancer. She now works as the Manager of Postdoctoral Training and Programs at the Cleveland Clinic LRI's Research Education and Training Center. She currently serves as an active member of the Fluorine Chapter's council, the LRI Diversity Council, and the Board of Directors for the Northeastern Ohio Science and Engineering Fair.

Meet the Candidates!

Candidate for National Treasurer: Anna Ratliff (MAL)

received her B.A. in Chemistry and Biochemistry from Lawrence University in 2014 and subsequently earned her Ph.D. in chemistry (within the division of biochemistry) from Purdue University in 2019 under the guidance of Dr. Christine Hrycyna. In the spring of 2015, Anna joined the Plutonium Chapter of Iota Sigma Pi at Purdue University where she participated in many of their events including National Chemistry Week and working with local Girl Scout troops. Currently, she is a Postdoctoral Fellow at the National Institute of Health (NIH) in the National Institute of Diabetes and Digestion and Kidney Diseases (NIDDK). Her research focuses on determining the structure and function of membrane proteins in antibiotic resistant gram-negative bacteria to design drugs against these pathogens.

Candidate for National Editor: Margaret Workman

(Aul) completed her undergraduate degree with honors in Chemistry from the Ohio State University in December 1991 and was also inducted into Phi Beta Kappa while there. She received her graduate degree at Purdue University where she studied Chemistry Education and Atmospheric Chemistry. She studied various oxides of chlorine and bromine and their possible role in ozone depletion cycles in the stratosphere. While at Purdue she was initiated into the Plutonium Chapter of Iota Sigma Pi and served as Outreach Coordinator (planning outreach activities with children in the community) and President of the chapter. She is currently an Instructor at DePaul University in the Department of Environmental Science and Studies. She teaches many Liberal Studies classes for the Environmental Science Program including Introduction to Environmental Science; Resources, Population and the Environment; Cities and Environment; Energy and the Environment; Chemistry for Environmental Science and Discover Chicago. Her research at DePaul focuses on science education including student learning of Environmental Science, on-line learning, and teacher training along with chemical alteration of ecosystems due to urbanization and restoration. She is currently a member of the Aurum Iodide Chapter of Iota Sigma Pi, where she has served as President and Treasurer. She is currently on the National Council of Iota Sigma Pi and has served as National President (2011–2014), Immediate Past President (2014–2017), National Treasurer (2005–2008 and 2008–2011), and Coordinator of Initiates and

Supplies (2017–2020). Her first experience at an Iota Sigma Pi Convention was the 25th Convention in New Orleans (1996) when she was in graduate school.

Candidate for Director for Professional Awards: Julia

Vaynberg (F) received her MS degree in Physical Chemistry from Sankt-Petersburg State University (Sankt-Petersburg, Russia) in 1996 and PhD in Bioanalytical Chemistry from Cleveland State University in 2004. While in Cleveland State University she was initiated into Fluorine Chapter. After graduation she joined Cleveland Clinic Lerner Research Institute as a postdoctoral fellow and now continues on as a research associate. She uses NMR and other biochemical and biophysical techniques to solve protein structures, investigate protein-protein interactions, as well as modulating them with small compounds, focusing on integrin receptor signaling pathway. She has been active in science outreach, regularly participating in institute community science events, serving as a judge at local and regional science fairs, and mentoring high school and college students.

Candidate for Director for Student Awards: Reiko

Simmons (F). Soon after she entered Graduate School, she became a Fluorine Chapter member and was selected to attend a Triennial National Convention. The impression of the working sessions at the convention stayed on her my mind for approximately two decades! About the same time, as a lecturer in Education and Chemistry, she came to fully recognize the existence of “a glass ceiling” at many institutions. Since then, she has continued to work as a member of the local Fluorine Chapter as well as a member of the National Council. Her responsibilities with National were; twelve years as a Coordinator of Initiates and Supplies, one year as the Director of the Professional Awards, and one-plus years as the Director of Student Awards. She has thoroughly enjoyed her working relationships with many National Council Members and the Iota Sigma Pi Members in general. She cannot begin to spell out all that she has experienced and learned from the interactions. Currently, she is a lecturer at John Carroll University, Cleveland, Ohio. Her educational background includes Doctor of Philosophy in Physical Chemistry and Bio-analytical Chemistry at Cleveland State University and a Master of Education at Kent State University. With a passion for science and education, she was an instructor of Chemistry for over ten years at Cleveland State University. Since the fall of 2010, she decided to continue to teach as an instructor at

Candidate for Director for Student Awards (continued):

John Carroll University. She enjoys teaching Organic and Analytical Laboratories as well as the Lecture Course in “Chemistry of Energy” for non-science majors. Prior to becoming an instructor of Chemistry, she had the privilege of spending 30 years as a teacher, supervisor, and a consultant for the Special Education Department of the Cleveland Municipal School System. As Director of Student Awards in the next three years, she looks forward to discovering and honoring many more students with amazing academic endeavors and achievements.

Candidate for Coordinator of Members-at-Large

(MAL): C. Rose Kennedy (MAL) graduated *summa cum laude* from the University of Rochester in 2011 with a B.S. in Chemistry, where she earned the *Gladys Anderson Emerson Scholarship* from Iota Sigma Pi as well as the *Catherine Block* and *Janet Howell Clark Memorial Awards* for women in science. Rose completed her doctoral studies as an *NSF Graduate Research Fellow* with Professor Eric Jacobsen at Harvard University. At Harvard, Rose also earned the *Dudley R. Herschbach Teaching Award* (2015) for unusual dedication and success in teaching, served on the Academic Integrity Committee (2013–2016) and the organizing committee for the Boston Women in Chemistry Symposium (2011), and participated in the Women in STEM (WiSTEM) and Harvard Graduate Women in Science and Engineering (HG-WISE) Mentorship Programs. After defending in December 2016, Rose undertook postdoctoral research with Professor Paul Chirik at Princeton University, earning *NIH NRSA Postdoctoral Research Fellowship* support. At Princeton, she became involved in the Chemistry Women Mentorship Network (ChemWMN) through which she continues to serve as a mentor. Rose returned to the University of Rochester in January 2020 to launch her independent career as an Assistant Professor in the Department of Chemistry. There, the Kennedy Research Group combines mechanistic elucidation and the development of synthetic methodology to modulate and control reactivity utilizing the complementary strengths of organocatalysis and organometallic chemistry. Rose is passionate about advancing diversity and inclusion in STEM and hopes to contribute to the reach of Iota Sigma Pi in serving this mission both within the Rochester community and beyond!

Candidate for National Webmaster: Julia (Bingham)

Wiester (Aul) received her B.S. in Chemistry and B.Phil specialized in Linguistics and Language Studies from The Pennsylvania State University in 2005. She earned her Ph.D. in Chemistry in 2010 under the guidance of Prof. Richard P. Van Duyne at Northwestern University. Her thesis work investigated the relationship among the optical, structural, and sensing properties of silver plasmonic nanoparticles. In 2011, she started teaching chemistry as a lecturer at Saint Xavier University (Chicago) in 2011 and joined Iota Sigma Pi Aurum Iodide Chapter in 2013 as a professional member. She has been the secretary for the Iota Sigma Pi Aurum Iodide chapter since 2013. Julia began a tenure-track assistant professor physical chemistry position in 2014. Working with undergraduates, she has a variety of research projects, which include heavy-metal detection in makeup, incorporation of silver nanoparticles into biofilms for antimicrobial effects, and dye-sensitized solar cell optimization using plasmonic particles. In addition to her full-time chemistry professor position she has been Director of the Saint Xavier University Honors Program since 2018. Currently, she is a board member of the Chicago section of ACS and works on ACS Project SEED, which funds research opportunities for high school students.

Candidate for Records Chair: Danielle Vellucci (MAL)

is currently an instructor of science laboratories at Wellesley College. She tremendously enjoys working with aspiring female scientists in a unique environment, which empowers them with the skills and confidence to pursue meaningful opportunities beyond the classroom. She joined Iota Sigma Pi as a founding member of the Calcium chapter while in graduate school at the University of California, Irvine and helped re-establish the Vanadium chapter in NYC while teaching at NYU. She is currently serving on National Council as the Records Chair and has enjoyed the opportunity to become acquainted with Iota Sigma Pi members outside of her chapter. Her primary responsibility as Records Chair is to maintain an up-to-date and accurate database of the membership.



Meet More Candidates!

Candidate for Coordinator of Initiates & Supplies:

Tanya Hunter (Aul) graduated with a B.S. in Chemistry from Saint Xavier University (Chicago, IL) in 2004. While attending Saint Xavier, she was initiated into the Aurum Iodide Chapter of Iota Sigma Pi. From 2004 until 2018, she held formulations chemist positions for several global coatings corporations such as Ace Hardware Paint Division, Valspar and Sherwin Williams. During this time, she developed and maintained water-borne and solvent-borne formulations for the interior and exterior architectural, light industrial and pro markets. In 2018, she switched to the coatings additives market by taking on the role of Project Chemist within ICL's Phosphate Specialty Division. In this role, she provides technical support to an array of global companies in various architectural and industrial fields who are trying to meet corrosion resistance or other coatings performance goals. She also acts as an R&D chemist for ICL, searching out and characterizing potential new value-added additives to satisfy the unmet needs in the coatings market. To do this, she studies and evaluates potential defoamers, surfactants and other specialty additives within formulated coating products. During this time, she has remained an active member of the Aurum Iodide Chapter. She acted as the Aurum Iodide Chapter President (2013 – 2019) and has most recently taken on the role of Chapter Treasurer (2019). Outside of the office, she enjoys spending time reading, attending concerts and playing with her dog, Brom.

Candidate for National Historian: Lily Ng (Hg) received her Ph.D. in Physical Chemistry from the University of Pittsburgh. Early in her career, she did postdoctoral research at the Pittsburgh Surface Science Center and taught as an assistant professor at Seton Hill University. She was a professor at Cleveland State University (CSU) for 18 years. Currently, she is Professor and Chair Emerita of Cleveland State University (since 2009) after serving as Chair of the Chemistry Department (2005-2009) and the Founding Director of the CSU-Cleveland Clinic Joint Molecular Medicine Program (1999-2003). In IΣΠ, Lily has served as National President (2002-2005), National Past President (2005-2008) and National Director of Student Awards (1996-2002) and President of Fluorine Chapter (1996-1998). In 2014 to 2017, Lily served as the Director for Professional Awards and National Editor pro-tem. In 2017 to 2020, she

served as National Historian and National Editor pro-tem. She continues to be a National Award Judge annually. She was Registration Chair for the 2011 IΣΠ Triennial National Convention in Cleveland, Ohio. In other professional organizations, Lily was active for 20 years in the American Chemical Society Cleveland Section. She was Section Chair (2007), Past Chair and Chair of the Nominating Committee (2008), Chair-elect and Program Chair (2006). She was also on the jury for the Morley Award and served as Chair. For the community, Lily has provided tutoring for college and high school students, been a regional science fair judge for 20 years, taught chemistry at Shaker Heights Middle School for one day a year, did National Chemistry Week demonstrations in libraries and schools. Currently, she is a life member in Hg chapter.

MEMBER NEWS

Valerie Woodward Honored by MAS

The Microanalysis Society (MAS) has selected Valerie Woodward for induction into their Inaugural Class of Fellows for her outstanding research and service to the Microanalysis community. Valerie has 35 years of service at Lubrizol and 8 years prior service at The Hubbell Corporation for a total of 43 years as an industrial microscopist. She is a currently principal scientist of microscopy and x-ray analyses in the Measurement Science function of Lubrizol Advanced Materials. She is one of 26 scientists honored in 2019 with this significant recognition.

Valerie previously received the Presidential Service Award from the Microbeam Analysis Society in 2009 for her contributions on the national level, holding several national-level offices and committee chairs. She has been a member since 1989.

Valerie has been a member of the Fluorine Chapter since 1989 and served on committees for the 1993 and 2011 Triennial Conventions in Cleveland. In addition to MAS and ISP, Valerie is a 40-year member of the American Chemical Society, holding multiple elected offices and committee chairs in the Akron Section, and winning the 1989 ACS Phoenix Award for outstanding National Chemistry Week programming; and a 24-year member the Microscopy Society of America, holding several national-level committee and program chairs, and multiple regional-level offices in the Microscopy Society of Northeastern Ohio (30-year member).

PROFESSIONAL AWARDS

Iota Sigma Pi gives two awards on a triennial basis and two annually. While the triennial awardees were chosen in 2019, two annual awardees were selected in 2020. The awardees have been invited to participate in the Triennial Convention in 2021.

2020 Centennial Award Goes to Dr. Sheila Smith of University of Michigan – Dearborn

IOTA SIGMA PI has selected Dr. Sheila R. Smith, Associate Professor in the Department of Natural Sciences at the University of Michigan – Dearborn, to receive the *Centennial Award for Excellence in Undergraduate Teaching*. The award is given for excellence in teaching chemistry, biochemistry, or a chemistry-



related field.

Dr. Smith is an outstanding teacher to her undergraduate students, but she is also known as a national leader in faculty

development. As part of the leadership of IONiC (the Interactive Online Network of Inorganic Chemists), an NSF funded Community of Practice, she helps to lead faculty development workshops and uses classroom technology to improve teaching chemistry and biochemistry. Her nominator describes her as “a master in using the primary research literature to teach basic concepts and increase student engagement.”

Within her department Dr. Smith has been active in developing courses, such as Bioinorganic Chemistry, and Biochemistry Capstone: Complex Systems in Biochemistry. In both courses, current topics are used to explore how complex systems function in biochemistry and biology, and all the reading materials are from the scientific literature. After years of being active in Women in STEM events at UMD, she taught Gender, Science & Engineering which explores the history of women in science and engineering, the current status of women in science and engineering, and feminist theory in research. This course is also based on primary literature.

Dr. Smith teaches first-year chemistry as well as more advanced courses, and her students are enthusiastic about her talents. A former student wrote, “She shared her tremendous passion for teaching, always had tons of methods to deliver a concept, and her office was always open to discuss anything, from coursework to life in general.”

Sheila Smith holds a BS in chemistry from North Carolina State University, Raleigh, NC, and a PhD in Inorganic Chemistry from the University of North Carolina, Chapel Hill, NC. She did post-doctoral research at Amherst College and at Michigan State University before attaining her position at the University of Michigan–Dearborn in 2001. UM-Dearborn, with its diverse student body of over 40% first generation students, has turned out to be a perfect fit for Smith, a first gen herself.

2020 Morgan Research Award Goes to Dr. Jillian Dempsey of University of North Carolina–Chapel Hill

IOTA SIGMA PI, the National Honorary Society for Women in Chemistry, has selected Dr. Jillian Dempsey to receive the 2020 *Agnes Fay Morgan Research Award*. The award is given for research achievement to a woman chemist or biochemist not over forty years of age.



Dr. Dempsey’s nominators described her as a “rock star”. The conversion of solar energy to chemical energy through

artificial photosynthesis will help address evolving global energy needs without detrimental environmental consequences. She applies electrochemistry and time-resolved spectroscopy to gain a detailed understanding of the charge transfer processes underpinning solar energy capture and the production of high energy density fuels from renewable energy sources.

Quoting a nominator, “Her work provides tools and insights that move her fields forward. Her papers are fundamental, thoughtful and valuable. They break new ground through detailed studies that reveal the underlying properties, rather than by developing a new research system.”

2020 Morgan Research Award (continued)

The nominators also noted her commitment to the advancement and promotion of female chemists. "In collaboration with Brandi Cossairt (University of Washington) and Elizabeth Young (Lehigh University), Jillian launched the Chemistry Women Mentoring Network. This program is designed to pair young female chemists with senior members of the community in mentor/mentee relationships."

Jillian Dempsey earned her Bachelor's degree in chemistry from the Massachusetts Institute of Technology (Cambridge, MA) and her Ph.D. in Chemistry at the California Institute of Technology (Pasadena, CA). In 2012 she began her independent career at the University of North Carolina, where she is now an Associate Professor and the Director of Undergraduate Studies. She has received many awards for her research, including most recently, the 2019 Harry Gray Award for Creative Work in Inorganic Chemistry by a Young Investigator.

STUDENT AWARDS**2020 Anna Louise Hoffman Award for Outstanding Achievement in Graduate Research: Caitlin Cornell**

Iota Sigma Pi has selected Caitlin Cornell, a graduate student in the Chemistry Department, University of Washington, to receive the 2020 **Anna Louise Hoffman Award**. The award is given for outstanding achievement in graduate research.

Ms. Cornell is in her final year of Ph.D. study in Professor Sarah Keller's laboratory in the Chemistry Department, University of Washington. Her research is in the investigation of how physical properties of lipid bilayers influence cellular behavior. She has discovered the central role of lipids in a wide range of biological phenomena, from membrane transitions that drive essential protein functions in living cells to mechanism for formation of first protocells on earth. Caitlin has published 3 first-authored papers and 2 co-authored papers in prestigious journals, with 3 more papers under review. She has also had a presented talk and 5 poster presentations in Biophysical Society Annual Meetings.

Professor Sarah Keller praised Ms. Cornell as the major intellectual driver behind several high-profile discoveries in membrane biophysical chemistry,

including imaging small membrane domains in lipids and developing two new methods of identifying submicron membrane domains by cryo electron microscopy. Professor Stephen W. Grill of the Max Planck Institute of Molecular Cell Biology and Genetics in Germany stated that Caitlin is one of the best students he has seen in his course at Woods Hole. She was also able to work effectively, energetically and in an organized manner in the interdisciplinary environment at his laboratory in Germany.

Caitlin has received the 2016 Student Research Achievement Award from the Biophysical Society, an honorable mention from the NSF Graduate Research Fellowship Program and has been funded by a Molecular Biophysics NIH training Grant at the University of Washington. After graduation, Caitlin will be a postdoc at UC Berkeley with a James S. McDonnell Foundation Postdoctoral Fellowship in Dynamic and Multiscale Systems.

2020 Gladys Anderson Emerson Scholarship:**Marva Tariq**

Iota Sigma Pi has selected Marva Tariq, a junior at Smith College, pursuing a Bachelor of Arts in Chemistry to receive the 2020 Gladys Anderson Emerson Scholarship. The award recognizes excellence in chemistry or biochemistry by a woman undergraduate student.

Ms. Tariq is very highly regarded by her academic and research adviser, Dr. Keven Shea. Starting from her first semester at Smith, she was offered a position in Dr. Shea's lab as part of a specialized program called STRIDE that aims to recruit the top 5% of applicant pool. She is described as a highly motivated, most engaged, and dedicated member of the Smith Community, and Shea Lab. At the end of her freshman year, she was granted the Arthur Ellis Hamm Prize for students who earned a 4.00 GPA in their first year of college. Although still an undergraduate student, in addition to her excellent performance in the classroom, Marva has developed into a skillful, independent researcher.

At the end of her sophomore year, Marva was invited to join a teaching team and began working as a "learning assistant" with responsibility of assisting to answer students' questions as well as helping to solve group problems. She developed and used her own techniques to personalize and make class materials interesting for the students.

2020 Emerson Scholarship (continued):

Ms. Tariq has been involved with two projects in Dr. Shea's lab: first, she collaborated with another student in obtaining a natural product from the leaves of the *Neurolaena lobate* plant as a drug against a tropical disease; second, she is focused on the development of a Diels-Alder/Pauson-Khand strategy for the synthesis of tetracycles.

In addition to her research at her home institution, Marva was awarded opportunities to participate in summer research programs at New York University (NYU, 2018) and Harvard University (2019). During the summer of 2018, as a chemical biology REU student, under the tutorage of Professor Tamar Schlick, Marva developed a functional website for three-dimensional RNA structure prediction and design which is published and available for public access. Last summer, as a Harvard Amgen Scholar, she conducted research in Professor Emily Balskus's Lab focusing on the ability of microbes to make nitrogen-nitrogen bond containing natural products.

Her future plans include, attending graduate school to obtain a doctoral degree in organic chemistry with the focus on synthesis of complex and therapeutic compounds, and to teach at the university level. As a research mentor, she hopes to inspire a new generation of women students of color to pursue chemistry.

2020 Undergraduate Award for Excellence in Chemistry: Emily Ness

Iota Sigma Pi has chosen Emily Ness, an undergraduate student in the Chemistry Department at Pacific Lutheran University (PLU,) to receive the 2020 **Undergraduate Award for Excellence in Chemistry**. The award recognizes excellence in chemistry by a senior woman chemistry student in an accredited university.

According to Ms. Ness's nominator and the chair of the chemistry department, Dr. Justin Lytle, Emily is the "most incredibly gifted young researcher" of the 23 students mentored by Dr. Lytle within the past 10 years. She has maintained a 4.00 GPA throughout in all her courses while tutoring (2 years) and working as a Teacher Assistance (3 years) in various undergraduate Laboratories. She is passionate about teaching and enjoyed influencing and mentoring over 100 students. From her home university, Pacific Lutheran University, she received ACS General Chemistry Award (freshman year), ACS Analytical Chemistry award (sophomore

year), ACS Physical Chemistry Award (Junior year), as well as a scholarship for two years from PLU Chemistry Department.

Ms. Ness was awarded opportunities to participate as a researcher during the summers of 2017 and 2018 at her home institution. Under the mentorship of Dr. Justin Lytle and Dr. Debra Rolison from the Chemistry Division of the Naval Research Lab in Washington, D.C., Emily joined the collaborative group to investigate effects of adding trace amount of gold nanoparticles on the surface of carbon electrodes to boost its performance. Furthermore, in the summer of 2019, she was selected from a national pool to join the Material Research Science and Engineering Center (MRSEC), Research Experience for Undergraduates (REU) at the University of Minnesota. Mentored by Dr. Mahesh Mahanthappa, Emily was successful in synthesizing core-shell bottlebrush polymers of various sizes, with cylindrical microstructures that have low dispersity and high monomer conversion, for computer chips. Her summer teamwork results were published as a communication in ACS Macro Letters. Her academic advisor, Prof. Brian Naasz summarizes her three summers of productive research as: seven poster presentations, and three significant oral presentations, as well as the previously mentioned publication.

With her multiple talents and interests, and her passion for mentoring others, Emily plans to attend graduate school to study inorganic materials or polymer. After obtaining Ph.D., she wishes to pursue a career as a lead scientist in an industrial or governmental laboratory.

2020 Undergraduate Award for Excellence in Chemistry by a First Generation College Student: Bethany Taylor

Iota Sigma Pi, the National Honorary Society for Women in Chemistry, has selected Bethany Taylor, an undergraduate student in the Chemistry and Physics Department, Mary Baldwin University to receive the 2020 **Undergraduate Award for Excellence in Chemistry**. The award recognizes excellence in chemistry by a woman undergraduate student who is in the first generation of her family to go to college.

Ms. Taylor is highly regarded by her nominators and, according to Dr. Peter Ruiz-Haas, by faculty across the college. (*continued on page 11*)

Iota Sigma Pi Recognizes Outstanding Female High School Chemistry Students

In an effort to promote interest in chemistry among young women, Iota Sigma Pi has presented 49 female high school students with the “Outstanding Young Women in Chemistry” award. Recipients of the award show high academic achievement in chemistry. The award includes an official certificate issued by Iota Sigma Pi and recognition in the *Iotan*, the national publication of the Society.

Margaret Workman, Coordinator of Initiates and Supplies

The following students received the 2020 Outstanding Young Women in Chemistry Award:

Student Name	School	City	State
Sarah Abercrombie	Palmer High School	Colorado Springs	CO
Mikayla Acton	Grand Junction High School	Grand Junction	CO
Brianna Bender	Banning Lewis Prep Academy	Colorado Springs	CO
Isha Bhamani	Metea Valley High School	Aurora	IL
Veronika Bonifacy	Maine South High School	Park Ridge	IL
Alexa Brammer	DSU Success Academy	St. George	UT
Sarah Busse	Central Davidson High School	Lexington	NC
Samantha Buyungo	Denver School of the Arts	Denver	CO
Chloe Chiota	Algonquin Regional High School	Northborough	MA
Allison Cho	Conestoga High School	Berwyn	PA
Kayla Clineschmidt	Enterprise High School	Redding	CA
Kali Cooks	Rich South High School	Richton Park	IL
Omarly Cruz-Lovera	Vineland High School South	Vineland	NJ
Sydney Davidson	Elizabeth High School	Elizabeth	CO
Urvee Deo	Solon High School	Solon	OH
Danielle Dotson	Central High School	St. Joseph	MO
Elizabeth Dunlap	Illini West HSD 307	Carthage	IL
Sofia Flores	Chicago Hope Academy	Chicago	IL
Elena Grajales	Lynbrook High School	Lynbrook	NY
Melani Hodge	Geneseo High School	Geneseo	IL
Xinran Hu	Catholic High School	Virginia Beach	VA
Sydney Hulse	Windsor High School	Windsor	CO
Michaela Klein	East Leyden High School	Franklin Park	IL
Hayley Latta	All Saints Episcopal School	Lubbock	TX
Taylor LaValley	Arapahoe High School	Centennial	CO
Hong Liu	Marple Newton High School	Newton Square	PA
Kylie Miskovic	Glenbard South High School	Glen Ellyn	IL
Katherine Morales	St Mary’s High School	Colorado Springs	CO
Makenzie Munson	Minooka Community High School	Minooka	IL
Emma Nigrelli	Wheaton Warrenville S High School	Wheaton	IL
Brooklyn Northcross	Grosse Pointe S High School	Grosse Pointe Farms	MI
Samina Patel	Coffee High School	Douglas	GA

High School Award 2020 (continued)

Student Name	School	City	State
Sejal Prachand	U of Chicago Laboratory School	Chicago	IL
Ariana Ramirez	Castle Park High School	Chula Vista	CA
Amy Wang Ruan	Fairport High School	Fairport	NY
Isabella Santos	Walther Christian Academy HS	Melrose Park	IL
Ella Siefken	Mt Lebanon High School	Pittsburgh	PA
Cassidy Simpson	D'Evelyn Jr/Sr High School	Denver	CO
Zoe Spicer	Hoover High School	North Canton	OH
Anna Steele	Central High School	Cheyenne	WY
Kathryn Stevens	Rye High School	Rye	NY
Karen Tarman	Libertyville High School	Libertyville	IL
Maxwell Tartaglia	Orestimba High School	Newman	CA
Nguissally Thiaw	Ashland High School	Ashland	OR
Marina Thornhill	Papillion-LaVista South HS	Papillion	NE
Elizabeth Toll	The Bromfield School	Harvard	MA
Jasmine Vasquez	Arrupe Jesuit High School	Denver	CO
Florence Walsh	Payton College Prep	Chicago	IL
Olivia Yesker	Downers Grove South HS	Downers Grove	IL

2020 Undergraduate Award for Excellence in Chemistry by a First Generation College Student (continued)

She is recognized as a highly motivated, intelligent student holding an outstanding potential as a scientist. While taking a heavily challenging course load and working three jobs, Bethany can still find time to advocate for chemistry, especially for women in chemistry. She is the President of the Chemistry/Biochemistry Student Group on campus, Vice President of the Argentum Chapter of Iota Sigma Pi and has served as President of the campus chapter of the American Chemical Society. As the President of the ACS chapter, she created a lending library of STEM textbooks for students on campus. For four years, she has been a chemistry lab assistant, tutor and peer advisor, plus recently, a lead resident advisor for 150 freshman residents. According to Dr Ruiz-Hass, Bethany is an effective team leader: she trained other students in analytical techniques and essentially managed the preparation of labs for general, organic and analytical chemistry courses.

Another nominator, Dr. Maria Craig regarded Bethany so highly that she invited Bethany to work with her on a REU research project in biochemistry at James Madison University. Dr. Craig commented that Bethany always made original and insightful comments in her research group. Bethany has also received summer research grants from the Virginia Federation of Independent Colleges to work on her senior thesis. She has presented her research in a 2019 ACS National Meeting and her REU research project will be presented in a 2020 ACS meeting.

Bethany has planned her career very well. She is presently a biochemistry major with a public health minor. Upon graduation, she will be heading to Loughborough University in England for a master's degree in analytical chemistry. She is planning to be an analytical chemist working within public health. For a first generation college student who had no exposure to science courses until she was 13, Bethany is to be congratulated for her motivation, perseverance, patience, diligence, and her dedication to chemistry.

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