



THE IOTAN

Iota Sigma Pi National Honor Society for Women in Chemistry *October 2022 No. 123*

Iota Sigma Pi Gives 2022 Centennial Award to Dr. Sandra Helquist of Loyola University Chicago **By Julia Vaynberg, Director of Professional Awards**



Iota Sigma Pi, the National Organization for Women in Chemistry, has selected Dr. Sandra Helquist, Senior Lecturer, Loyola University Chicago, to receive the 2022 Centennial Award for Excellence in Undergraduate Teaching. Dr. Helquist obtained her B.A. in Chemistry and Mathematics from Carleton College and PhD in Organic Chemistry from Stanford University. She is currently a Senior Lecturer at Loyola University Chicago. She has been invited to participate in the organization's Triennial Convention in 2023. Dr. Helquist is an accomplished and passionate educator with over 16 years of experience of teaching both General and Organic Chemistry courses. She approaches her work innovatively and creatively, always striving to improve more and more aspects of undergraduate chemistry teaching. Dr. Helquist attends a variety of workshops and conferences, consults with educators from other local Universities, and then incorporates the new methodology in her classes. Her expertise is highly valued. She is a member of several Faculty Learning Communities (FLC) and serves on the

Undergraduate Curriculum Committee in the Department of Chemistry and Biochemistry. She has been a repeated invited speaker at Loyola's Focus on Teaching and Learning Conference. She is currently appointed as the Undergraduate Program Director and is overseeing a major reform of the first two years of the Department's chemistry curriculum. She has also introduced a new mastery-based, specification grading system in her courses which is considered a promising alternative to the traditional point-based grading and has shown significant benefit to students and professors alike. Dr. Helquist has also worked with the Pre-Health Professions programs for the past 12 years, including several years as a member of the Advisory Committee, the Pre-Health Award Committee, and the Early Assurance Program Committee. Dr. Helquist's students feel she cares deeply not only that they receive highest level education but also for their personal wellbeing. The letters of support describe how she spends countless extra office and meeting hours not only with her current students but even with the former ones, designs individual exercises to ensure each student grasped what they needed to, sits down for personalized discussion on how to improve performance in her classes, and even brings food to exams and explains benefits of sufficient sleep. All that undoubtedly creates compassionate, nurturing environment for the students to strive. One of her nominating letters from faculty states "Sandy is the single most important and influential member of the department with regards to the undergraduate curriculum and is essential in transforming how we achieve our education mission". *The Centennial award is given for excellence in teaching chemistry, biochemistry, or a chemistry-related field by a women scientist whose primary duties are teaching undergraduates. This is awarded annually.*

Iota Sigma Pi, the National Honor Society for Women in Chemistry, Recognizes Outstanding Female High School Chemistry Students
by Tanya Hunter, Coordinator of Initiates and Supplies

In an effort to promote interest in chemistry among young women, Iota Sigma Pi has presented 47 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.

The following students received the 2022 Outstanding Young Women in Chemistry Award:

Student Name	School Name	City	State
Abigail Aileen Moravek	Woodlands Academy of the Sacred Heart	Lake Forest	IL
Alanna Edgecomb	Central High School	Camp Point	IL
Allyson Powell	Walter Payton College Prep	Chicago	IL
Anna Reese	Triad High School	Troy	IL
Anna Connolly Bakker	Conestoga High School	Berwyn	PA
Arden Rose Welsh	Plainfield East High School	Plainfield	IL
Ava Balfour	Grosse Pointe South High School	Grosse Pointe Farms	MI
Avery Ward	O'Fallon Township High School	O'Fallon	IL
Avery Haynes	Vanguard College Preparatory School	Waco	TX
Avery Danielle Wright	Montezuma-Cortez High School	Cortez	CO
Beth Alma Stacey	Sangamon Valley High School	Niantic	IL
Breanna Cheyene Kurtz	Central Davidson High School	Lexington	NC
Brianna Edenburn	Wheaton Warrenville South HS	Wheaton	IL
Bridget Grace Wieland	Central Catholic High School	Bloomington	IL
Casey Lynn Grant	Armstrong Township High School	Armstrong	IL
Catelyn Carter	Marple Newtown High School	Newtown Square	PA
Charlotte Angermeier	Ashland High School	Ashland	OR
Daisy Freeman	Centaurus High School	Lafayette	CO
Eden Rose Caplan	Fairport High School	Fairport	NY
Elizabeth Hastert	D'Evelyn Junior/Senior High School	Denver	CO
Emma Baker	University of Chicago Laboratory Schools	Chicago	IL
Emma Eisen	St Edward Central Catholic High School	Elgin	IL
Gillian Faith Krughoff	Downers Grove South High School	Downers Grove	IL
Gracie Rose Nelson	Okawville High School	Okawville	IL
Havya Peddineni	Algonquin Regional High School	Northborough	MA
Isabella Warner	Unity High School	Tolono	IL
Isabella Faith Dossett	Pleasant Plains High School	Pleasant Plains	IL
Julia Louise Drake	Pleasant Plains High School	Pleasant Plains	IL
Julienne Sanchez	Rich Township HS - FAC Campus	Richton Park	IL
Kaylee Shaw	Pekin Community High School	Pekin	IL
Kaylie Eckhoff	Central Catholic High School	Bloomington	IL
Kelly Wen Wang	William Fremd High School	Palatine	IL
Lucia Urbain	Maine South High School	Park Ridge	IL
Mackenzie Rogers	Woodstock North High School	Woodstock	IL
Mary Jean Kitch	Columbine High School	Littleton	CO

Melissa Delgado	Coffee High School	Douglas	GA
Mia Garza	All Saints Episcopal School	Lubbock	TX
Mia Tetelman	Lynbrook High School	Lynbrook	NY
Morgan Drozs	Blue Ridge High School	Farmer City	IL
Mya Petersen	Central DeWitt High School	DeWitt	IA
Naomi Nicole Ortiz	Castle Park High School	Chula Vista	CA
Samantha Reising	Denver School of the Arts High School	Denver	CO
Savannah Leanne Delzell	Peoria Christian High School	Peoria	IL
Shin-Hsien Lin	Berthoud High School	Berthoud	CO
Sofia Krytsun	Elmwood Park High School	Elmwood Park	IL
Sophie Howe	Eisenhower High School	Decatur	IL
Taylor Seaton	Kaneland High School	Maple Park	IL

Membership Dues and Commonly Asked Questions by Anna Ratliff, National Treasurer

Don't forget that Iota Sigma Pi Dues for 2022-2023 are due (if you are not a Lifetime member). We recommend paying due via our webpage at <https://www.iotasigmapi.org/> and use a credit card to pay your dues and/or make a donation. This is a secure transaction through PayPal. Once on the website, hover over "Membership" and click on "Update Info/Pay Dues". You will be required to update your current contact information before being able to pay your dues. This helps us keep up to date with your current personal information. If you don't have a sign-in for the new website, you will have to establish one first. Below are links to two videos to help you through this process.

Create a Login: <https://youtu.be/PYqnoTILDC4>

Pay Dues: <https://youtu.be/wN0H109rH8o>

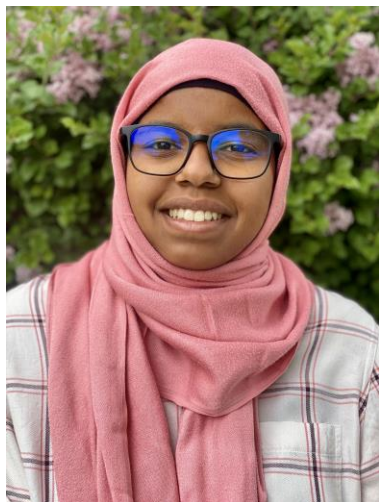
If you paid dues through the website last year, you should have received a reminder email from nationalcouncil@iotasigmapi.org. Please make sure this email address does not go to your Trash/Spam folder. If you pay dues before your one or two years of membership is finished, you will still receive this reminder email. You do not need to pay dues again, the website just sends this email automatically.

Alternatively, you can send a check made out to Iota Sigma PI. Please print out the attached membership dues form and fill in your personal information (name, address, etc). Send the form, along with a check, to:

Iota Sigma Pi
Anna Ratliff
PO Box 75
Brentwood, MD 20722

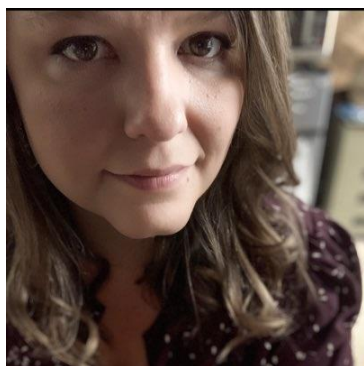
Please consider a donation to support our 2023 Triennial Convention being held near Chicago next summer, and thank you for your continuing generosity. If you have any questions, feel free to contact me, Anna Ratliff, at: ispnctreasurer@gmail.com

**Rana Bakri Mohamed Abdu, Winner of the Undergraduate Award for Excellence in Chemistry
by Reiko Simmons, Director of Student Awards**



The Undergraduate Award for Excellence in Chemistry is given to a senior woman chemistry student in an accredited college or university that grants a four year degree in chemistry. The 2022 winner is **Rana Bakri Mohamed Abdu** of Colorado College. Rana was nominated by Professor Amanda Bowman, PhD of Meitnerium Chapter of Iota Sigma Pi. Rana immigrated to United States during her Junior year in high school, soon after the death of her father. Although initially she was expected to help provide for her younger siblings, she learned of the possibility of attending college with sufficient financial aid. She took the chance to balance her multiple jobs and her studies to attend Colorado College. Due to COVID-19, Rana switched from studies of Laboratory techniques to remote computational approaches, however, she desired to go back to hands-on experimental approaches. She applied and was granted NSF REU to work with graduate students and to broaden her experience. At Boston University, Rana worked on the synthesis of monomeric and dimeric molybdenum(VI) trioxo-perfluoro pinacolate complexes, With fully developed confidence and merging of knowledge and creativity, Rana is looking forward to attending graduate school and continue her work in the area of synthesis.

**Amanda L. Smythers, Winner of Anna Louise Hoffman Award for Outstanding Achievement in
Graduate Research
by Reiko Simmons, Director of Student Awards**



The Anna Louise Hoffman Award for Outstanding Achievement in Graduate Research is given to a full-time woman graduate student who is a candidate for a graduate degree in an accredited institution. The 2022 winner is **Amanda L Smythers** who is a graduate student in the Department of Chemistry and a PhD. Candidate at the University of North Carolina at Chapel Hill. Amanda was nominated by Professor Leslie M. Hicks, PhD. Amanda is a recipient of three year Ford Foundation predoctoral fellowship and two consecutive years \$10,000 graduate fellowships from North Carolina Space Grant Consortium (2020 & 2021). Amanda has six publications for her degree, M.S. at Marshall University. In addition, the last two and a half years at University of North Carolina, Chapel Hill, she coauthored seven publications of which four were first authored by her. Currently, she is in preparation for three first author and three other collaborative projects. As an undergraduate researcher, Amanda began working with *Chlorella Vulgaris* (*C. Vulgaris*), a common alga and used it as a model system to characterize environmental pollutants. Post achieving M.S., Amanda states that her research has two focusses: 1) to characterize environmental pollutants using a common alga as a model system, and 2) to increase the feasibility of renewable algal biofuels. According to Amanda's advisor and nominator, her current initiative involves examination of algal cells treated with a chemical inhibitor of Target of Rapamycin (TOR) signaling pathway. The above pathway is of significance for: i) its application to increase lipid yields for biofuels and ii) its role in the propagation of cancer in mammalian cells.

Bartola Garcia Garcia, Winner of the Undergraduate Award for Excellence in Chemistry by a First Generation College Student

by Reiko Simmons, Director of Student Awards



The Undergraduate Award for Excellence in Chemistry by a First Generation College Student recognizes excellence in chemistry by a senior woman undergraduate who is the first generation of her family to attend college. The 2022 winner of this award is **Bartola Garcia Garcia** who attends Meredith College.

She was nominated by Professor Andrea Carter, PhD. During the first year in college, Bartola suddenly found herself balancing three jobs, attending college, and making daily visits to the hospital. Her parents' illness and medical treatments required Bartola to be at their bed sides and interpret/explain the secondary, non-specific side effects of their treatments. After studies of basic lab-methods and computational work,

Bartola found an opportunity to begin undergraduate research in synthesis of drugs to counteract infectious pathogens. Her interests soon led to "the development of pharmaceutical drugs that can aid in cell-specific targeting." Thus, this became her current area of research.

Laura Bickart, Winner of the Gladys Anderson Emerson Scholarship

by Reiko Simmons, Director of Student Awards



The Gladys Anderson Emerson Scholarship is given to a junior women chemistry student at an accredited college or university for excellence in chemistry or biochemistry. The 2022 winner is **Laura Bickart** a junior chemistry major at Smith College.

Laura was nominated by Professor Elizabeth R. Jamieson, PhD, a distinguished Member At Large (MAL) of Iota Sigma Pi. Laura states that her overall goal in chemistry is to improve science education and to make science accessible to all. Accordingly, Laura is deeply involved in the Community Outreach and encourages immersion in scientific activities at the elementary and middle school levels.

At Smith College, Laura is the Chemistry Department Liaison, a senior member of a research team and is involved in the training of new laboratory members. In January 2021, Laura was awarded the Junior McKinley Fellowship for her work. Recently, along with two of her peers, Laura founded the Smith College Pre-Health Society.

Iota Sigma Pi Gives 2022 Agnes Fay Morgan Research Award to Dr. Ellen Sletten of University of California, Los Angeles

By Julia Vaynberg, Director of Professional Awards



Iota Sigma PI, the National Organization for Women in Chemistry, has selected Dr. Ellen Sletten, Associate Professor, University of California, Los Angeles, to receive the 2022 Agnes Fay Morgan Research Award. Dr. Sletten obtained her B.S. in Chemistry from Stonehill College and PhD in Chemistry from University of California, Berkeley. She is currently an Associate Professor at the Department of Chemistry and Biochemistry at University of California, Los Angeles. She has been invited to participate in the organization's Triennial Convention in 2023.

Dr. Sletten has already established herself as one of the worldwide recognized leaders in chemical biology. She has advanced the field of *in vivo* fluorescent imaging by successfully designing a panel of fluorophores for the shortwave infrared (SWIR, 1000-2000 nm) region of electromagnetic spectrum that allows enhanced light penetration through tissues and reduction of background signal compared to visible and near-infrared regions. Together with collaborators, she demonstrated for the first time real-time, non-invasive, high resolution multicolor imaging in animals. This opened a possibility of contactless observation of biological processes in animals in their natural state, without the effects of anesthesia, which will impact areas of biology, medicine, and psychology.

Dr. Sletten's lab is also making significant advances in fields of fluoruous nanotherapeutics and biorthogonal host-guest chemistry. As one of her nominators stated: "I expect that in the next five years these two research areas will enable selective drug delivery and metabolic targeting of disease."

To date, Dr. Sletten is an author of 59 publications, 16 patents and close to 70 presentations and a recipient of multiple prestigious awards. She serves on the editorial advisory board of numerous high impact publications such as *Angew. Chem. Int. Ed.*, *Chem. Commun.*, *ChemPhotoChem*, *Macromolecules*, and *Polymer Chemistry*.

Her nominators have also commented on her excellence as a mentor and a teacher. In her short career as an independent researcher, she has already mentored 21 graduate students, 4 postdoctoral researchers, and 22 undergraduate researchers many of which are women and from disadvantaged backgrounds. *The Agnes Fay Morgan Research Award is given for research achievement to a woman chemist or biochemist not over forty years of age.*

Chapter Rebates

By Anna Ratliff, National Treasurer

A major responsibility of an ISP chapter treasurer is determining the amount of money that should be rebated to each chapter based on their membership numbers. To receive their rebate check, the chapter treasurer needs to send a financial report of their chapter finances. Rebate checks will **NOT** be mailed to chapters that did not submit reports. Financial report forms can be found online at: <https://www.iotasigmapi.org/financial-report>. If you have any questions, please email the National Council Treasurer, Anna Ratliff, at ispnctreasurer@gmail.com.

President's Message
by Anne Taylor, National President



Happy Fall Semester!

I hope you have found a “new normal” for your life and work – activities in-person, online, or hybrid! Has your Iota Sigma Pi chapter re-started yet? If not, you could volunteer to plan an activity and/or to serve on the Board. Let us know how it is going!

Has your chapter become inactive? You can re-start it at any time. To be an active chapter, you only need to have one meeting per year and send annual reports to National, especially the Treasurer’s report.

We have many different types of chapters, and all are acceptable:

- Student chapters:
 - Undergraduates: these groups may have only one meeting per year, at which they hold their annual initiation. The students may participate in other chemistry groups on campus. They often have a dedicated faculty member who keeps the group going from year to year.
 - Graduate students: These groups have social and other activities for the women chemists and serve as a support group for them. (Pu, CA, and Mt are examples. There is a danger that the chapter will fade out when the leaders leave the campus.
- Professional Chapters: This may be a group in a metropolitan area that gets together for social or service activities. For example, AuI sponsors a poster session for undergraduates. These groups provide support and networking for their members.
- Mixed chapters provide the advantage of both types of chapters. They have both students (especially grad students) and professional people. The students are exposed to people from the “real world” and may find mentors. The professionals find support and networking, plus they keep the group going as the students come and go. Chlorine Chapter is an example of this type of chapter. I would encourage student chapters to reach out to members and former members who live in their area and invite them to an occasional activity.

I am pleased that our National Council has continued to meet by Zoom throughout the pandemic period. We have accomplished a lot but miss getting to know each other on a personal level.

We look forward to our Triennial Convention in Rosemont, IL, June 22-25, and getting to know more of you. The national organization pays most of the expenses for the Chapter delegates and awardees to attend. Members at Large also have delegates. While much of the time is devoted to business meetings, there are presentations by the awardees, plus social activities and lots of chances to network.

NATIONAL COUNCIL 2020-2023

President

Anne K. Taylor

ispncpresident@gmail.com

Vice President

Patricia A. Wiley

ispncvicepresident@gmail.com

Secretary

Kelsey Bohn

ispncsecretary@gmail.com

Treasurer

Anna Ratliff

ispnctreasurer@gmail.com

Editor

Margaret Workman

mworkman@depaul.edu

Records Chair

Danielle Vellucci

ispncrecords@gmail.com

Director for Professional Awards

Julia Vaynberg

ispncprofessionalawards@gmail.com

Coordinator of Initiates & Supplies

Tanya Hunter

trose225@aol.com

Webmaster

Julia Wiester

wiester@sxu.edu

Immediate Past President

Megan Sassin

meganbourg@gmail.com

Director for Student Awards

Reiko Simmons

rsimmons@jcu.edu

Historian

Lily Ng

Ng16646@gmail.com



THE IOTAN

Margaret Workman, Editor

DePaul University

1110 W. Belden Ave.

Room 203

Chicago, IL 60614