I have visited Middle Creek, Pennsylvania to observe the snow geese migration for many years. During this timeframe—usually the end of February or beginning of March—large numbers of migrating waterfowl appear. In recent years, more than 100,000 snow geese, tundra swans, Canada geese and a wide variety of ducks have stopped at Middle Creek while pushing north to their breeding grounds. Because of the warmer weather this year, the peak migration period was at the end of January.

With the changing of the seasons, the Delaware Section plans to continue its current activities, while increasing our visibility within local industry and academics. We hope to welcome more members to our Section and encourage younger generations to explore and study chemistry.

Chemistry and art are often thought of as polar opposites. While art is seen as being creative, expressive and fluid, chemistry is often viewed as analytical, precise and staid. But there is, in fact, a significant crossover between the two subjects. While visiting a museum or art gallery we can easily forget that a lot of science lies behind the exhibits. When it comes to cleaning, conserving and restoring a piece of art, for example, science is invaluable.

When we introduce others to the broad reaches of chemistry behind so many aspects of our daily life, we can help teachers, students and the general public appreciate the vast application of chemistry in our world. The Delaware Section has developed a wide
You are always welcome to provide feedback to any of the Delaware Section executive committee members throughout the year. Our contact information is available in this issue and online at http://www.delawareacs.org/

— Zhen

“The science of chemistry is not just about discovery. It is also, and especially, about creation. It is an art of the complexification of matter. To understand the logic of the latest discoveries in nanochemistry, we have to take a 4-billion year leap back in time.”

— Jean-Marie Lehn

2022 Carothers Award
“There and Back Again: Therapies for the Treatment of Obesity and Diabetes”

Dr. Ann E. Weber (Kallyope Inc.)

Tuesday, April 18, 2023
DuPont Country Club, Wilmington, DE

Reception 5:30-6:30 pm
Served dinner 6:30 pm
Choice of Pan-seared Chicken Breast with Roasted Mushrooms and Lemon Caper Pan Sauce or Vegetarian Lasagna Roulades
Abstract:
The incidence of obesity continues grow world-wide, and according to the World Health Organization, at least 2.8 million people die each year from co-morbidities associated with being overweight or obese, including cardiovascular disease and diabetes. My own work to address metabolic disorders began at Merck over 30 years ago with the development of agonists for the beta3 adrenergic receptor, a target that ultimately failed in obesity, but later proved highly effective in the treatment of overactive bladder (OAB). This work led to GEMTESA® (vibegron), which was approved by the FDA in 2020 for the treatment of patients with OAB. The demise of the obesity program in 2000 provided the opportunity to initiate a new medicinal chemistry effort on dipeptidyl peptidase IV (DPP-4) inhibitors for the treatment of patients with type 2 diabetes. This research, which spanned over 10 years, led to two marketed products, JANUVIA® (sitagliptin) and MARIZEV® (omarigliptin). More recently, moving from big pharma to the biotech Kallyope has allowed me to take a fundamentally new approach to the treatment of diseases including obesity by targeting the gut-brain axis. This talk will feature vignettes from all these efforts.

Biography:
Ann E. Weber, Ph.D., is Senior Vice President – Preclinical Development at Kallyope Inc., a New York City-based biotechnology company focused on harnessing the potential of the gut and gut-brain axis to improve human health. She joined Kallyope in October 2016 as Head of Drug Discovery and moved to her current role in January 2020. She was formerly Vice President – Lead Optimization Chemistry at Merck.
Dr. Weber's research interests include the design and synthesis of ligands for G-protein coupled receptors, ion channels and enzymes. Her work has led to several marketed medications including JANUVIA® (sitagliptin), a treatment for patients with Type 2 diabetes. She is the author or co-author of over 90 publications and co-inventor on over 35 issued US patents. Her awards include the Heroes of Chemistry Award (ACS), the Gift of Mentoring Award from the Metro Women Chemists Committee, and the Perkin Medal (Society of Chemical Industry American Section).

Dr. Weber is passionate about advancing women in science and is a past member of the ACS Women Chemists Committee. She also serves on the University of Notre Dame College of Science Advisory Council and Berthiaume Institute for Precision Health Advisory Board. Before joining Merck, Dr. Weber obtained her B.S. degree in chemistry summa cum laude from the University of Notre Dame. She earned her PhD degree from Harvard University, studying synthetic organic chemistry in the laboratories of Professor David A. Evans.

More Opportunities to Get Involved!

Call for Nominations for Treasurer
The Delaware Section of the American Chemical Society is looking for a candidate for local Section Treasurer for the remainder of 2023 to replace Joe Izzo, who has moved away. The successful candidate will take office immediately after the election. Ideally, the candidate would be interested in running for a full two-year term for 2024-2026 in our spring 2023 election cycle. If you or someone you know is interested in running for the position, please contact Zhen Yang at 302-257-1537 or by email at ztyang@ymamerican.com. Please provide a short biographical sketch and a photo.

The Key Duties for the Treasurer from the Procedures Manual:

- Keeps a ledger showing income, expenses and assets of the Section according to ACS guidelines. The receipts and checks are organized for future retrieval. These records are given to the incoming Treasurer at the end of the two-year term. Outdated records from past Treasurers are given to the Archives Committee for filing.
• Pays bills after they are received within the timeframe of the payment terms.
• Reports on the financial status of the Section at each meeting of the Executive Committee.
• Reviews topics that come before the Executive Committee with a focus on their impact on the finances and tax-exempt status of the Section.
• Serves as a member of the Budget Committee and Investment Committee.
• Files a request for the Section's annual allotment with the ACS in November of each year.
• Files forms with the ACS for reimbursement of Councilor travel to National ACS meetings.
• Prepares the annual financial statement for the Section in January. One copy is submitted to the ACS Office of Local Section Activities, and one copy is submitted to the immediate past chairman for inclusion in the Section's Annual Report.
• Files the appropriate income tax form(s) each year.
• Serves as Section Auditor for the following two years.
• Serves as a member of the Executive Committee.
• Updates this section of the procedures manual annually.

Call for Nominations for the Secretary
The Delaware Section of the American Chemical Society is looking for a candidate for local section secretary for the remainder of 2023. The successful candidate will take office immediately after the ACS DE section executive committee decided. If you or someone you know is interested in running for the position, please contact Zhen Yang at 302-257-1537 or by email at ztyang@ymamer.com. Please provide a short biographical sketch and a photo.
Secretary (one-year term), maintains all current files and records of the section.

The Key Duties for the secretary from the Procedures Manual:

• Reserves site for Executive Committee meeting consisting of small banquet room in restaurant. Sends out announcement at least 10 days in advance for Executive Committee meeting. Takes minutes at Executive Committee meetings. A copy of the minutes is sent to the Chair and Executive Committee 7-10 days after the meeting. The minutes are corrected as directed by the Executive Committee.
• Promptly certifies to the Executive Director of the ACS all section officers elected by the section and all changes of section officers.
• Certifies to the Executive Director of the ACS no later than December 15 the names, addresses, and terms of elected Councilors and Alternate Councilors. If a Councilor is unable to attend a National Council meeting, the substitute
Maintains as a policy manual a list of motions approved by the Executive Committee which have an on-going effect on the activities of the section. This list should be continually updated, and it should be distributed annually to all Executive Committee members.

Maintains an organized and updated file of section records. These records include corrected minutes of Executive Committee meetings, correspondence with offices of the National ACS and other agencies, National ACS and section bylaws, updated membership lists, and copies of past issues of the Del-Chem Bulletin. Outdated records are given to the Archives Committee for filing.

Assists the outgoing Chair and the Treasurer or past Treasurer, as appropriate, in the preparation of the section's annual report for each of the two years of office.

Updates this section of the Procedures Manual before leaving office.

Serves as a member of the Executive Committee.

Receives membership roster, mailing labels, and other items from the National ACS office and either forwards them to the suitable Section contacts or files them as needed.

Maintains current email, mailing, FAX, and phone listings of the Executive Committee members, committee leaders, and other key persons in the Section that need to receive minutes for the Executive Committee meetings and other key information.

Update (or compile) a list of Delaware “Section Facilitators” – the current and immediate section officers, committee chairs, and other people active in the Delaware Section. There are about 30 listings. The list contains the postal and email addresses, work, and home (optional) phones numbers and current section function. This list is circulated to people on the list.

**Seeking an Awards Chair Volunteer**

Andrea Martin, the current Awards Chair, will be stepping down this summer. To learn more about the duties of the Awards Chair, please contact Andi at aemartin1@widener.edu. If interested in the position, please contact the Section Chair, Zhen Yang, at ztyang@ymamerican.com
2022 Delaware Section Award Banquet
Tuesday, March 14

7PM Award Address
(6PM Dinner, 5PM Social)
Deerfield Country Club, Newark, Delaware

Event Details Here

Dr. McCann is a recipient of the ACS Award for Team Innovation for the discovery of indoxacarb. He is also a recipient of the first DuPont Bolton-Carothers Innovative Science Award for the discovery of indoxacarb.

Dr. Stephen McCann, FMC Crop Protection

“The discovery and commercialization of the novel mode-of-action, environmentally friendly, safe insect control compound, indoxacarb”

Abstract
To help feed the world’s growing population, farmers must battle the effects of insects, weeds, and plant diseases that reduce crop yields. Farmers in production agriculture typically use insecticides, herbicides, and fungicides to help maximize crop yields. However, with time the use of a particular crop protection agent will become less effective due to the emergence of resistant strains of insects, weeds, or diseases that the farmer is trying to control. Therefore, the invention of new crop protection agents with novel modes of action is of high importance. In addition, new crop protection agents need to be safe to people, non-target organisms, and the environment. These requirements make it highly challenging to invent and
commercialize new compounds for crop protection. Today's talk will describe the story of the invention and commercialization of the novel mode-of-action, environmentally friendly, safe insect control compound, indoxacarb. The focus will be on the synthesis chemistry efforts directed towards the discovery of this structurally interesting oxadiazine molecule.

**Biography**

Stephen F. McCann received B.S. degrees in chemistry and biological sciences from the University of California at Irvine. After graduating, he spent three years in industry working as an analytical chemist at Mutual Citrus Products in Anaheim, Calif. He then returned to U.C.I. where he got his Ph.D. in synthetic organic chemistry with Professor Larry Overman. After a postdoctoral fellowship at Indiana University with Professor Paul Grieco, he joined the Crop Protection Discovery Group at DuPont at the Stine Research Labs in Newark, Delaware in 1989. McCann has worked at the Stine labs ever since, which became part of FMC Crop Protection following its purchase of the business from DuPont.

Dr. McCann started his career in crop protection working on the discovery of new chemical entities to control insects on crops. Early in his career, he discovered insecticidal oxadiazines, a new class of crop protection chemistry that led to the discovery of the commercial product indoxacarb. Indoxacarb is the active ingredient in Avaunt, Steward, and Advion insecticides. More recently, indoxacarb was licensed by Merck Animal Health as the active ingredient in Activyl, a product for the control of fleas on dogs and cats.

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**Delaware ACS | Calendar of Events**

Check out the most current event details at

[https://delawareacs.org/events/](https://delawareacs.org/events/)

**UPCOMING EVENTS**

**March & May**

The ACS Delaware Section will continue to sponsor USNCO Chemistry Olympiad. We
April

The 2022 Carothers Award will be presented to Dr. Ann Weber at the banquet on Tuesday, April 18, 2023 at the DuPont Country Club. Details will be provided in the next DelChem Bulletin.

DE ACS Executive Committee
Meeting Minutes

Delaware Section of the American Chemical Society
Tuesday, February 21, 2023 • Zoom
Respectfully submitted, Andrea Martin, Acting Secretary

The meeting was called to order at 7:49 pm by Chair, Zhen Yang

OFFICER REPORTS
Chair's Report:

Treasurer election – Zhenzhen Dong reported that she has found no candidates yet. Erin also contacted a colleague who declined. Andi Martin will post on Facebook. We also need to find a new secretary, as Maria Romano has resigned her position as of today due a change in her job responsibilities. Martha Hollomon reported that ACS confirmed that the Executive Committee can select a person to fill the position immediately without holding another election, and then at the next election that person will be included as a candidate. Martha will reach out to DelTech; Andi will reach out to UD for prospective candidates. Zhen will share job descriptions for both positions. Acting treasurer Joe Izzo has finished the tax filing for 2022. Rob Mishur will contact Tipton Communications to see about an email blast to the full membership regarding the urgent need to fill these positions. The annual report was filed with ACS on Feb. 15.

ACS Fellows nominations – The section can nominate up to 3 candidates (same
accomplishments. A primary nominating letter and two supporting letters are required, one which should discuss ACS service and one supporting professional accomplishment. Letters from current ACS fellows carry additional weight. Nominations are due April 1st. We will nominate Martha Hollomon this year.

**Membership recruitment and retention** – Our membership has been dropping and we should be thinking about how to increase our visibility with local industry and the University of Delaware. We need some promotional materials and need to be present at local conferences. Idea – could we have an event in May with a job fair and college poster session?

**Strategic plan retreat** – Lehigh section did this. We have never had one and our Long-Range Planning Committee has been defuncted for a long time. We will discuss again next month after Martha can get some additional information. Sergio noted that it can be beneficial to invite members of other sections for their insight. Zhenzhen indicated that she had met the incoming chairs of our neighboring sections and they are interested in working with us on activities and programming.

**Section Award Chair replacement** – We are still in need of a chair. Andi intends to step down by the fall.

The February Del-Chem Bulletin did not get published so there will be a joint February/March issue. The target publication date is March 1st.

**REPORTS OF COMMITTEES & RELATED GROUPS**

**Awards (Andi Martin):**

**Upcoming Delaware Section Award for 2022** – Stephen McCann, FMC – March 14, 2023 at Deerfield Country Club, 17 have registered to date. The social hour is 5 pm, dinner is at 6 pm and the talk is at 7 pm. Andi will ask Erin to put this on our social media.

**Carothers Award for 2022** – Ann Weber will receive the award on Tuesday, April 18, 2023 at DuPont Country Club. The 2023 award will be presented in the fall.

**Education:**
UNESCO Chemistry Olympiad –
Zhen is working with Anuj Kumar and Sharon Archer at Archmere. We will have a local exam in March at Cab Calloway for 5 students from each participating school, and the top 11 students will be selected for the national exam in May at Archmere. Martha asked how we can recognize the top students in the local exam. Idea raised to acknowledge the top students with cash prizes, the same as we used to do with the competitive high school exam run by Mike Stemniski

DFSME Collaboration – can we reach out to high school teachers to promote membership?

The meeting was adjourned at 9:08 PM

Executive Committee Members & Committee Chairs Present:
Zhen Yang, Sergio Nanita, Joseph Izzo, Rob Mishur, Zhenzhen Dong, Martha Hollomon, Andrea Martin

Executive Committee Members & Committee Chairs Absent:
Anuj Kumar, Erin Kennedy, John Gavenonis, Nora Radu, Rita Vasta