

the Catalyst



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March 2023
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Edgar Fahs Smith Memorial Lecture

Dr. Squire J. Booker

Evan Pugh University Professor of Chemistry and of Biochemistry and
Molecular Biology
The Pennsylvania State University

HIGHLIGHTS

Comments From the Chair	41
News Atoms	41
Philadelphia Area Chemistry Competition	46

ADVANCE NOTICE

APRIL MEETING
Thursday, April 20, 2023

Awards Ceremony for Student Scholastic Achievement, Excellence in Pre-College Teaching and Excellence in Undergraduate Teaching

Awardees to be featured in the April issue of *the Catalyst*
Grey Towers Castle, Arcadia University, Glenside, PA
Registration is now open at <https://pacs-tssaa2023.eventbrite.com/>

See the APRIL issue of *the Catalyst* for details,
call the Section Office at (267) 485-1792 or email PhilaACS@gmail.com.

the Catalyst

ACS Philadelphia Section

Founded April 15, 1899

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CONTENTS

Comments From the Chair	41
News Atoms	41
Opportunities to Volunteer	42
Edgar Fahs Smith Memorial Lecture	43
Speaker's Abstract	44
ACS Career Consultants	44
March Board of Directors Call for Agenda	45
Philadelphia Area Chemistry Competition	46
January Board of Directors Meeting Minutes	47
Directory of Services	49

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Advertising: Victor Tortorelli, vtortorelli@ursinus.edu

Comments From the Chair



Graham Dobereiner

March is going to be an exciting month for the Section! This year's Edgar Fahs Smith lecture will be presented by **Dr. Squire J. Booker**, Evan Pugh University Professor of Chemistry and of Biochemistry and Molecular Biology at The Pennsylvania State University. I look forward to seeing many of you at this lecture on March 16th. You can find more information about the lecture in this month's issue of *the Catalyst*.

Also this month, the Senior, Younger, Disabilities, Women's and Career Chemist Committees will be offering a tour of the Science History Institute for undergraduate students. This event will be held Saturday, March 4th. If your school or students are interested, please email Michael Castaldi: castaldimj@gmail.com

After last month's Strategic Planning Retreat, the Executive Committee now has a strategic plan for the future of the Philadelphia Section. Our goals for the next three years include reaching out more often to our membership to better understand your priorities and values; bolstering the Section's communication to membership, other institutions, and the community; and making our organization more inclusive and our events more accessible. Thanks to all of those who participated, as well as our facilitators, Martha Lester and Wayne Jones – and of course, all Section members who offered their input on our survey. Immediate Past Chair Ivona Sasimovich will champion the strategic plan's implementation in the coming months.

April marks the presentation of our Scholastic Achievement Awards, as well as our Awards for Excellence in Pre-College Teaching and Undergraduate Teaching. My thanks to Chair-elect and Awards Committee Chair Matt Irwin for his planning and organizing efforts.

As always, please reach out with any suggestions, ideas for programming, or questions about getting involved in our work. Thanks, and looking forward to seeing you at our events!

NEWS ATOMS—*Alan Warren*

Two members of the University of Pennsylvania faculty have been elected 2022 American Association for the Advancement of Science Fellows. Department of chemistry professor **Eric J. Schelter** conducts research in synthetic inorganic and organometallic chemistry. In the department of chemical and biomolecular engineering, professor **Warren D. Seider** has made contributions to computer-aided process analysis, simulation, design and control.

DEATHS

Hugh P. "Pat" Toner, retired chemical engineer, May 10, 2022 at 84. He was vice president of technical and regulatory affairs at the Society of the Plastics Industries.

Charles "Chic" M. Paulson, Jr., retired research chemist, July 9, 2022 at 85. He spent his entire career at DuPont's Experimental Station in their engineering physics laboratory.

Soon Man Han, pharmaceutical chemist, October 17th at 68. Born in the Republic of Korea, she taught briefly at the Chungnam National University in Daejeon. She then moved to the United States, obtained advanced degrees, and worked at Syntex Agribusiness, and then joined Glaxo-SmithKline Pharmaceuticals. She served as director in GSK's pharmaceutical development department and retired in 2014.

Donald Charles Ruddy, retired chemical engineer, October 19th at 89. He first worked for Rohm and Haas in batch processing and scaling products into commercial production. He then engaged in research and development in the American Meter Division of Singer where he obtained patents in the design of gas meters.

Frederick (Simon) Anthony Golec, Jr., pharmaceutical chemist, December 21st at 74. He was employed in the pharmaceutical industry including global regulatory affairs at DuPont, Bristol Myers Squibb, and Pfizer. He obtained numerous patents and FDA approvals.

Jeffrey R. Peterson, professor of cell biology, January 2, 2023 at 53. He joined Fox Chase Cancer Center where he was assigned his own independent laboratory. He was a pioneer researcher in chemical biology and an innovator in combining pharmacology and cancer cell biology in the treatment of cancer.

James Van Dyck Fear, Sr., retired chemical engineer, January 2nd at 97. He joined Sun Oil Company's research and development department in 1948. Fear moved to several positions at Sun Oil during his career and retired in 1988 as vice president of refining and marketing.

John G. Harron, retired chemical engineer, January 8th at 85. He spent his 34-year career with Sun Oil Company.

William A. Kriner, retired research chemist and professor, January 26th at 91. After working at Rohm and Haas he taught at the University of Pennsylvania and then at St. Joseph's University for nearly 40 years. His research interests focused on organometallic polymers, organosilicon compounds, silicon hydrides, boron cyanides, and siloxy aluminum compounds.

OPPORTUNITIES TO VOLUNTEER

Younger Chemists Committee Program and Event Planning Volunteers: The Younger Chemists Committee (YCC) is a committee of the Philadelphia Local Section focusing on the needs of undergraduate, graduate, postdoc, and early career chemists under 35 years old. The committee is looking for volunteers to help with program planning for the annual poster session to be held this Fall. Many hands make light work, so several volunteers are needed in this capacity! This is an excellent opportunity for students and early career chemists to assume leadership roles and network with likeminded scientists within the ACS community. The estimated time commitment would be less than 1 hour per week.

Contact Isabella Goodenough for more details at: igoodenough.acs@gmail.com

THE EIGHTY-SEVENTH EDGAR FAHS SMITH MEMORIAL LECTURE

University of Pennsylvania

Squire J. Booker

EVAN PUGH UNIVERSITY PROFESSOR OF CHEMISTRY
AND OF BIOCHEMISTRY AND MOLECULAR BIOLOGY

PENN STATE UNIVERSITY

A Radical Solution for
C(sp³)-C(sp³) Bond
Formation during the
Biosynthesis of
Macrocyclic
Membrane Lipids



Thursday 03/16/23

Register online:
<https://pacs-efs2023.eventbrite.com/>

6:00 PM

CAROLYN HOFF LYNCH LECTURE HALL
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THE PHILADELPHIA SECTION, AMERICAN CHEMICAL SOCIETY AND THE DEPARTMENT OF CHEMISTRY, UNIVERSITY OF PENNSYLVANIA PRESENT THE
2023 EDGAR FAHS SMITH MEMORIAL LECTURE

Dr. Squire J. Booker

Evan Pugh University Professor of Chemistry and of Biochemistry and
Molecular Biology

The Pennsylvania State University

***A Radical Solution for C(sp³)-C(sp³) Bond Formation during the Biosynthesis of
Macrocyclic Membrane Lipids***

Archaea synthesize isoprenoid-based ether-linked membrane lipids, which enable them to withstand extreme environmental conditions, such as high temperatures, high salinity, and low or high pH values. In some archaea, such as *Methanocaldococcus jannaschii*, these lipids are further modified by forming carbon-carbon bonds between the termini of two lipid tails within one glycerophospholipid to generate the macrocyclic archaeol or forming two carbon-carbon bonds between the termini of two lipid tails from two glycerophospholipids to generate the macrocycle glycerol dibiphytanyl glycerol tetraether (GDGT). GDGT contains two 40-carbon lipid chains (biphytanyl chains) that span both leaflets of the membrane, providing enhanced stability to extreme conditions. How these specialized lipids are formed has puzzled scientists for decades. The reaction necessitates coupling two completely inert sp³-hybridized carbon centers, which has not been observed in nature. Here we use X-ray crystallography, high-resolution mass spectrometry, chemical synthesis, and biochemical analyses to show that the gene product of mj0619 from *M. jannaschii*, which encodes a radical S-adenosylmethionine enzyme, is responsible for biphytanyl chain formation during synthesis of both the macrocyclic archaeol and GDGT membrane lipids.

For details and registration, please visit <https://pacs-fs2023.eventbrite.com/>

ACS CAREER CONSULTANTS

Would you like to speak to a local ACS Career Consultant? The Philadelphia Section career consultants can provide one-on-one career advice, resume reviews, or mock interviews. Please send an email request to acsphillycareerservices@gmail.com to set up an appointment.



ACS Local Section
Philadelphia

748th ACS Philadelphia Section Board of Directors Meeting

Call for Agenda

The 747th Meeting of the Board of Directors of the ACS Philadelphia Section will be held from **7:00 PM to 8:00 PM on Thursday, March 9, 2023** by teleconference.

- Those interested in being added to the agenda are kindly asked to send a request to the Chair (dob@temple.edu) by **Wednesday, March 8, 2023** for inclusion in the agenda.
- All Officers will be included on the agenda to verbally report by default.
- **Please Note:** If a written report or notice of a verbal report is not submitted to the Chair by the specified deadline, then all such reports will be relegated for discussion as "Other Business." Please note that the Chair cannot guarantee sufficient time for discussion in these cases.
- **All Board of Directors meetings will be open to the public.** Public access information for this teleconference will be released through the Section's website and by the Section's email blast.

Tentative Agenda

- I. Roll Call
- II. Approval of Meeting Minutes
- III. Officers' Reports
- IV. Committee Reports
- V. Other Business

For those participating by teleconference: All Officers and Directors should have received a Google Calendar invitation with a Zoom Link. For those who have not received this information as well as for your convenience, please use the following information to access the teleconference:

By Internet: register by following this link:

<https://american-chemical-society.zoom.com/meeting/register/tZEKce6urTgqGdwsNIaLSUOwH5YoR2ovE8JI>
Zoom Meeting ID: 859 6763 3038

By Phone:

Phone Number: +1 646 558 8656 or +1 301 715 8592

Access Code: 859 6763 3038

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Cc: Officers & Directors
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to register, enter...

- university name
- team name
 - teams of 3-5 students
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<https://tinyurl.com/pacc2023>



746th ACS Philadelphia Section Board of Directors Meeting

Thursday, January 12, 2023

Teleconference Meeting

Present: Catherine Bentzley, Amy Brown, Michael Castaldi, David J. Cichowicz, Melissa Cichowicz, Deborah H. Cook, Anne DeMasi, Graham Dobereiner, Rick Ewing, Wei Gao, Isabella Goodenough, Sharon Haynie, Matthew Irwin, Christine McInnis, Sr. Rose Mulligan, James K. Murray, Ivona Sasimovich, Kathleen Shaginaw, Victor Tortorelli, Ann Valentine, and Wei Wang

Excused: David Salas-de la Cruz

The 746th Board Meeting of the Philadelphia Section, ACS, was called to order at 7:01 PM and the ACS Code of Conduct was read.

I. Roll Call

Roll was taken, a quorum was present, and the meeting began.

II. Approval of Meeting Minutes

The December 8, 2022, 745th BoD meeting minutes were approved with amendments.
One abstention was noted.

III. Officers' Reports:

a. Chair – Graham Dobereiner

- January Section Meeting
 - Growing Project SEED in Philadelphia
 - Virtual Panel, Jan. 19, 2023, 7 PM, ZOOM
 - Speakers: Brandon Presley, Sharon Haynie, Jeremy Heyman
- February Section Meeting
 - Prof. Stefan Kilyanek, University of Arkansas
 - Virtual Seminar, Feb. 16, 2023, 7 PM, ZOOM
- March – Edgar Fahs Smith Lecture
- April - Awards Banquet

b. Immediate Past Chair—Ivona Sasimovich

- Any awards funded by section, reminder to involve Awards Committee. Does involve a time factor for the communications.
- Candice Pelligra won 2023 ACS Outreach Volunteer of the Year Award for her work on the multi-society networking event and mini-LDI.
- Dr. King and Dr. Salvino agreed to serve another term on the Awards Committee.
- Annual report is in progress and should be finished before February 1st to be reviewed by Anne DeMasi.
- Strategic Planning Retreat is taking place February 4-5th.

c. Chair-Elect - Matthew Irwin

- April 20, 7 PM – 9 PM, Teaching Awards, at Arcadia University
 - Will include that being able to attend the event is an important part of being nominated.
 - Matt will send high school teacher nomination forms to Christie, Deborah and Melissa.
 - Matt will include this information on the calendar events on Phila. ACS website.
- February 15th for deadline for nominations
- Meeting with Awards Committee before March 9 Board Meeting
 - Call for nominations will be in the Feb. *Catalyst*.
 - Announce winners in *April Catalyst*
- Attending Leadership Institute in Atlanta, GA from Friday, January 20th to Sunday, January 22nd.
- Preparing poster to highlight the section's MAC ChemLuminary award Industry Engagement and Outreach.

d. **Secretary** – Sister Rose Mulligan

- No report.

e. **Treasurer** – Wei Wang

- Sent report for BoD to review.
- Report was accepted with one abstention.

f. **Chair of Council Affairs** – Anne DeMasi

- Attending Council Meeting, March 29, 2023, in Indianapolis
- Rick Ewing will attend as an alternate councilor.
- Unanimously reelected as Chair of Council Affairs for 2023.

IV. **Committee Reports**

a. **Career Services** – Jim Murray

- No report.

b. **Senior Chemists** – Michael Castaldi

- Planning event at Science History Museum for Undergraduate Students
- Arrival at Museum 11 AM, small groups, museum tour, networking, lunch.
- Will reach out to other institutions.

c. **Budget Committee** – Victor Tortorelli

- Transfer balance from previous year verified by Wei Wang.
- Chem Wars amount inserted.
- Bank charge of \$0.14 was found by Wei.
- Some transfer from investment account and some funds left over from last year. Still benefiting from allotment given by National ACS during COVID.
- Budget was approved with one abstention.

V. **Other Business** -

- a. Vic ordered ACS Past Chair pins for all previous who served and did not receive.
- b. Sister Rose will send out updated email directory to the board so all can check to see if committee chairs are correct.
- c. Nomination forms for ACS teacher awards will be posted on the section website.

Next meeting, Thursday, February 9, 2023

The meeting was adjourned at 7:45 PM.

Sister Rose B. Mulligan, IHM

DIRECTORY OF SERVICES

CAREER DEVELOPMENT

Being a part of one of our teams can help you develop organizational and meeting skills as well as help you to network with people from the largest area companies. Public Relations, such as sending out meeting notices and press releases, can help you to develop a network and help you get noticed!

All committees are looking for new members and several are looking for "take charge" chairs. Some, like the Teller's Committee, involve minimal work—one night per year and pizza provided. Others, like positions on Communications or Social Committees, involve one or two hours per month.

Committee details can be found at:

www.membership.acs.org/p/philadelphia

or by calling the Philadelphia Section Office (215) 382-1589.

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ACS	49
Micron Analytical Services	49
Robertson Microlit Labs	49
Tyger Scientific Inc.	49

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