

the Catalyst



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Edgar Fahs Smith Memorial Lecture
Dr. Barbara Imperiali
Massachusetts Institute of Technology

HIGHLIGHTS

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ADVANCE NOTICE

APRIL MEETING
Tuesday, April 21, 2020
(Note this is a Tuesday)

6:00—9:00 PM

<https://acsphilly2020awardsbanquet.eventbrite.com/>

**2020 Student Scholastic Achievement, Pre-College Teaching
and Undergraduate Teaching Awards Banquet**

Dr. Jinglin Fu

Associate Professor of Chemistry, Rutgers University-Camden

Multipurpose Room B, Campus Center
Rutgers University-Camden Campus
Camden, NJ

See the APRIL issue of *the Catalyst* for details,
call the Section Office at (215) 382-1589 or email PhilaACS@gmail.com.

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Comments From the Chair



Joe Martino III

Adams. Urey. Marvel. Pauling. Debye. Seaborg. Brown. Corey. Stork. Danishefsky. Bergman. Karplus. Grubbs. Sharpless. Nicolaou. Breslow. Bertozzi. Hartwig. Roszensweig.

These names are all well-known in the chemical profession. All of them are great chemists. And all of them delivered the annual Edgar Fahs Smith Memorial Lecture that we celebrate this month.

There are many more great chemists who, throughout the years, have presented this prestigious talk, too. In the space I'm allotted for my monthly column, my hope is that this incomplete list above gives you an idea of the great chemists who have delivered this outstanding series of talks over the years.

Since 1929, the Chemistry Department of the University of Pennsylvania and the ACS Philadelphia Section has co-sponsored the Edgar Fahs Smith Memorial Lecture. This lecture, named after the late Professor of Chemistry and Provost of the University of Pennsylvania as well as a three-time ACS Past President, is the oldest lecture in the United States that is co-sponsored by a university and an ACS Local Section. On behalf of the ACS Philadelphia Section Board of Directors, we are proud to continue this almost-100-year-old joint effort with the University of Pennsylvania and are pleased to bring this to you.

This year's Edgar Fahs Smith Memorial Lecturer is Professor Barbara Imperiali of MIT. On March 12th, Professor Imperiali will be presenting a talk about her current research involving N-linked protein glycosylation pathways. You will find the abstract of her lecture in this edition of *the Catalyst*. As always, the Edgar Fahs Smith Memorial Lecture is preceded by a reception in honor of our speaker and followed by a dinner to be held immediately after the talk. More information on the schedule for this year's lecture can also be found here in this edition of *the Catalyst*.

Next month, the ACS Philadelphia Section hosts our combined Student Scholastic Achievement Awards, the Excellence in Pre-College Teaching and the Excellence in Undergraduate Teaching in the Chemical Sciences Awards Ceremony on the campus of Rutgers-Camden. During our April event, Rutgers-Camden Associate Professor Jinglin Fu will present a talk about his research. In May, our Career Services Committee will be hosting a presentation about the use of LinkedIn. In June, we honor the anniversaries of our 50-, 60- and 70-year members. And the year isn't over yet!

As I mentioned in my column in January, our Section Expo and YCC Poster Session – which was very successful – served as a forum to network with our leadership to find out what you – our membership – want the ACS Philadelphia Section to be. In the upcoming months, you will be receiving a survey which will assess the needs of our membership so that the Board of Directors can make the Section as relevant for our members as possible. When you receive this sur-

vey, please take the time to complete it and let us know what is important to you! We can only know best how to serve you if we hear your ideas and your opinions.

As always, you are more than welcome to come to one of our meetings, stop by and say hello! Know that you are welcome and always at home in the ACS Philadelphia Section. If you should ever have a question or concern, please reach out to me at PhilaACS@gmail.com. Also, for the most up-to-the minute Section news, check out the ACS Philadelphia Section LinkedIn Group. Here you can find postings about our events, news in the Section and can interact with your fellow ACS members, too. The ACS Philadelphia Section has something for everyone!

Let's talk next month, and let's enjoy springtime, which is right around the corner!

NEWS ATOMS—*Alan Warren*

Neil Tomson, assistant professor of chemistry at Penn, was honored with a National Science Foundation Faculty Early Career Program award. His group uses inorganic and organometallic chemistry to study new concepts in structure, bonding, catalysis, and materials chemistry.

DEATHS

John Alvin Simms, research chemist, July 12, 2017 at 86. Following service in the US Army Chemical Corps he joined DuPont, spending his career at Marshall Laboratory and the Experimental Station. His studies in polymers, coatings, and adhesives resulted in over three dozen patents and several publications. He retired as senior research fellow and received the Lavoisier medal.

Richard W. King, research chemist, March 20, 2019 at 93. In 1959 he joined Sunoco's R&D department and moved up to manager of research services, retiring in 1983.

David Wisler, industrial chemist, June 21st at 80. He was employed by Exide Batteries and then Johnson-Matthey where he retired in 2006.

Harry Fishman, retired chemical engineer, August 31st at 92. He was born in Israel and grew up in Canada. He was employed by DuPont for 31 years where he worked on market development of adhesives and sealants, and also the wire and cable industry. Following his retirement from DuPont he co-founded Delaware Marketing Services, retiring in 2007. Fishman received the Charles D. Scott award of the Wire and Cable Manufacturers Association.

Jaydee Williams Miller, chemical engineer, October 31st at 84. In 1969 he founded Pyromet, a silver refining firm, retiring in 1996. He then founded Alchemet in Wallingford, PA.

Joel G. Flaks, emeritus professor of biochemistry and biophysics, November 27th at 92. In 1957 he joined the faculty of Penn's medical school and taught biochemistry. He was promoted to assistant professor in 1962 and full professor in 1973. He took early retirement in 1994 and in 1997 received the school of medicine's basic science teaching award.

Charles Richard Smoot, retired chemist, January 12, 2020 at 91. He worked in R&D management for DuPont from 1955 until retirement in 1993. Smoot was involved with the development of Corian® surface materials.

Paul H. Mehne, retired chemical engineer, January 21st at 95. Following service in the US Army Chemical Corps, he joined DuPont at the Jackson Laboratory and then moved in 1949 to the Experimental Station. He supervised the pressure research laboratory and retired in 1985.

Jump Start Your Career

At the ACS National Meeting in Philadelphia, several opportunities are available to grow your career.

Personalized Career Advice <https://www.acs.org/content/acs/en/careers/personal-career-consulting.html> Including mock interviews and résumé reviews at Career Navigator Live! from ACS Career Consultants

Leadership Development <https://www.acs.org/content/acs/en/careers/leadership.html> Courses that give you the leadership skills necessary to excel in your career

Professional Education <https://proed.acs.org/content/proed/en.html> Stay competitive and move ahead in your career with professional development and technical training courses

Career Pathways Workshops <https://www.acs.org/content/acs/en/careers/career-services/career-pathways.html> Workshops that provide career guidance to up-and-coming and professional scientists as they navigate their futures.

To find the complete schedule of these opportunities, please visit our [National Meeting Career Development](https://www.acs.org/content/acs/en/meetings/national-meeting/events/career-development.html) site. (<https://www.acs.org/content/acs/en/meetings/national-meeting/events/career-development.html>)

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.

MARCH MEETING

THE PHILADELPHIA SECTION, AMERICAN CHEMICAL SOCIETY
AND
THE DEPARTMENT OF CHEMISTRY, UNIVERSITY OF PENNSYLVANIA

PRESENT THE

2020 EDGAR FAHS SMITH MEMORIAL LECTURE

Protein Glycosylation Pathways and Processes

Dr. Barbara Imperiali

Class of 1922 Professor of Biology and Chemistry and MacVicar Faculty Fellow
Massachusetts Institute of Technology

Thursday, March 12, 2020

5:00 PM—6:00 PM Reception in Nobel Laureate Hall

6:00 PM—7:00 Lecture in Carolyn Hoff Lynch Lecture Hall

University of Pennsylvania
Department of Chemistry
34th and Spruce Streets
Philadelphia, PA 19104-6323

7:30 PM to 9:30 PM—Dinner in Drafting Room 1-2, The Study at University City
(above CO-OP), 20 South 33rd Street, Philadelphia, PA

Reception and Lecture are free and open to the public. There is a cost to attend the dinner. To register for the dinner, please visit <https://edgarfahssmith2020.eventbrite.com/>

718th ACS Philadelphia Section Board of Directors Meeting

Date: March 5, 2020 -- please note that this *is not* the same date as the Edgar Fahs Smith Memorial Lecture

Time: 6:00 PM to 7:00 PM

This Board of Directors meeting will be held exclusively by teleconference and is open to the public. To access the meeting, please use the following information:

Dial-in number (US): (605) 472-5573, Access code: 714653, then press #

International dial-in numbers: <https://fccdl.in/i/philaacs>

Online meeting ID: philaacs

Join the online meeting: <https://join.freeconferencecall.com/philaacs>

SPEAKER'S ABSTRACT

Dr. Barbara Imperiali

**Department of Biology and Department of Chemistry
Massachusetts Institute of Technology**

Complex membrane-associated biosynthetic pathways that afford asparagine-linked (N-linked) glycoproteins occur in all domains of life. The extremely varied and critical functions of N-linked glycosylation in mammalian biology make this process of significant interest and importance in human health and disease and also of great relevance in medicine and biotechnology as protein therapeutics have become important elements in the modern pharmacopoeia.

With respect to N-linked glycosylation in prokaryotes, although many fascinating details remain to be explored, it is now evident that while the corresponding pathways in archaea and bacteria share common traits with the corresponding eukaryotic systems, there are intriguing differences relative to the richly studied eukaryotic processes. For example, prokaryotic N-linked glycans integrate a tremendous diversity of carbohydrate building blocks, which are not even observed in eukaryotic biology and, the glycoproteins produced in the bacterial pathways have been implicated in bacterial virulence and pathogenesis. Additionally, while all of the membrane-associated N-linked protein glycosylation pathways observed to date feature glycan assembly at the bilayer interface on linear polyprenyl phosphates, prior to the *en bloc* transfer of glycans to acceptor asparagine residues, there are intriguing differences in both the identities of the polyprenols and even the nature of glycan activation for the central amide glycosylation reaction.

This presentation will discuss themes reflected in our current research on N-linked protein glycosylation. I will present recent studies on the structural and functional analysis of early steps in the N-linked glycosylation pathway of *Campylobacter jejuni*. In addition, I will discuss our approaches towards the development and application model membrane platform for investigating the coordinated action of enzymes in a biochemically characterized bacterial N-linked glycosylation pathway.

BOSS Talk *Live*

Boss Talk Live features an interactive panel discussion with the technology and research executives of 4 leading global chemical companies. Panelists include *Alexa Dembek* of DuPont, *Peter Eckes* of BASF, *Kathleen Shelton* of FMC and *Randal King* of Chemours.

Boss Talk Live is a free event co-located with the ACS Spring 2020 National Meeting & Expo. It will take place on *Monday, March 23, from 2:30 to 3:30 PM* in the Expo Theater - Hall B/C at the Pennsylvania Convention Center in Philadelphia, PA.

If you are not already attending the National Meeting, please register for *Boss Talk Live* at the link below using the *voucher code CTO* in the very first field of the meeting registration form and select the Expo Only option:

<https://www.xpressreg.net/register/acsa0320/start.asp>



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**CALL FOR NOMINATIONS
2020 ACS PHILADELPHIA SECTION AWARD**

Notice is hereby given that the ACS Philadelphia Section invites its members as well as Regional and Topical Groups to nominate candidates for the 2020 ACS Philadelphia Section Award.

This Award shall be presented “to one member of the Section, or in exceptional circumstances to two members of the Section jointly, who by conspicuous scientific achievement has/have made important contributions to the field of chemistry and thereby aided the public appreciation of the profession.” (ACS Philadelphia Section Bylaw X, §1.) Any member of the ACS Philadelphia Section may be nominated. Recent awardees include Donna M. Huryn (University of Pennsylvania), Anthony W. Addison (Drexel University), Marsha I. Lester (University of Pennsylvania), and Michelle Francl (Bryn Mawr College).

INSTRUCTIONS FOR SUBMITTING NOMINATION

- 1) Nominators should provide a CV of the nominee showing education; employment and/or academic history; a list of publications, presentations and patents; and a record of other accomplishments pertinent to consideration for this award.
- 2) One or two seconding letters (at least one of which should be from a person in an organization other than that of the nominee) should be requested in support of the nomination.
- 3) Nominators and seconders should be identified with addresses, e-mail and telephone numbers so that they can be contacted, if necessary, for additional information.
- 4) Unsuccessful nominees from previous years may be renominated. In fairness to the nominee, however, renominations must be accompanied by an updating of the nominee’s biographical data and a list of accomplishments in order to make the nomination competitive. Unsuccessful nominees who have been considered three years in a row should not be renominated for the fourth year in succession without prior consultation by the nominator with the Chair of the Awards Committee

Nomination forms are available from the Section office at:

ACS Philadelphia Section
Department of Chemistry
University of Pennsylvania
Philadelphia, PA 19104-6323
(215) 382-1589; e-mail PhilaACS@gmail.com

The completed packet of nomination materials may be e-mailed to PhilaACS@gmail.com or mailed by **April 1, 2020** to the Chair of the Awards Committee at the Section Office address above.



You are invited to be a volunteer at

The Philadelphia Area Girls Enjoying Science™ Mini-Conferences for 6th Grade Girls

Help inspire girls' interest in science and mathematics.

When: Saturday, April 18, 2020
9:00 AM - 1:30 PM

Where: Chestnut Hill College
9601 Germantown Avenue
Philadelphia, PA 19118



Volunteers are needed to bring an experiment to share with three small groups of girls (4 – 7 students each). Experiment leaders must have a bachelors' degree in a science. Students are encouraged to be part of the fun and help these experiment leaders.

The Chemists Celebrate Earth Week (CCEW) 2020 theme is "**Protecting Our Planet Through Chemistry**", focusing on the chemistry of metals. It would be great if you could share an experiment exploring this topic with the girls.

As a result of PA legislation, all adult volunteers having direct contact with children will need at least two criminal background checks. There is no cost for these checks if you are a long-time PA resident.

For more information and to Register: Contact Dr. Ally Marianelli (AMarianelli@dow.com), Dr. Kathy Thrush Shaginaw (kshaginaw@ccp.edu), and visit <http://www.PAGESprogram.org>

This program is made possible through generous support from the Philadelphia Section of the American Chemical Society and its Women Chemists Committee (ACS WCC), the Philadelphia Chapter of the Association for Women in Science (AWIS), and the American Association of University Women (AAUW) Makefield Area Branch, PA, Inc., the Science History Institute, VWR Scientific, Fisher Scientific, Merck & Co, Inc., and the employers of the women scientists.



Joint Meeting - ChemPharma and Chemical Consultants Network

MARCH 11, 2020 MEETING

TAX LAW FOR CONSULTANTS

**James M. Frank, JD, LL.M - Director of Financial and Wealth Transfer Planning,
Karr Barth Associates, INC.**

DATE & TIME: Wednesday, March 11th at The Sterling Pig Brewery, Media, PA
Networking, 5:30 PM; Dinner, 6:30 PM; Talk and Business Session, 7:15 PM

[Click here to register](#)

Abstract: One central theme of the recent Tax Act is that most will be taxed at a lower rate which means they will keep more of their income. Most individual tax payers will see a reduction in their personal income tax, and from a planning perspective there will be an ongoing focus on self-reliance for retirement savings. For wealth transfer, the gift and estate exclusion amounts have been temporarily increased which provides for enormous planning and gifting options. Income Tax Rates for C Corps and exemptions for Pass Throughs Business owners have changed, leaving more of their income for planning opportunities for both the owners and key employees.

Biography: Jim is an innovative wealth planning strategist with over 30 years of experience in business and personal estate and gift planning, primarily for high net worth individuals and families with closely-held business interests. Jim has helped clients accumulate, manage and plan for the distribution of wealth. His wealth transfer planning expertise covers multigenerational planning, charitable giving and planning for special needs children. He has worked with clients and their legal and tax advisers to implement individual and business financial plans. He is experienced in the design and operation of qualified and non-qualified retirement plans. Jim has authored numerous articles and training programs for financial professionals regarding financial, investment and estate planning, and regularly teaches continuing education programs for lawyers and financial professionals. Prior to joining Karr Barth Associates in 1999, Jim was General Counsel of Lincoln Investment Planning, Inc. and before that he held various positions in Fidelity Mutual Life Insurance Company.

Location: The Sterling Pig Brewery, upstairs room, 609 W. State St., Media, PA 19063. [DIRECTIONS](#)

Reservation: [Click here to register to attend the event](#). Fee, including dinner and non-alcoholic beverages, is \$30 by reservation. deadline: **Monday, March 9th, 2020, noon.**

CONSULTANTS - OPPORTUNITY HERE! PLEASE VISIT <http://www.chemconsultants.org/>

Are You Getting the Benefits of CCN Membership or Event Participation?

THE CHEMICAL CONSULTANTS NETWORK PROVIDES VALUABLE TOOLS FOR MEMBERS BEYOND THE MEETINGS AND NETWORKING. CHECK OUT OUR:

- [Valuable past presentations](#) – [Consultants' Directory](#) – [Blogs](#) – [Resources](#)
- [Join!](#) Most valuable – post your consulting practice information – and have greater visibility!
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- If you'd like to speak with one of our members, come to a CCN meeting

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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Committees seeking team members

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contact the Section Office at
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Put "Volunteer" in the subject line or leave a message including contact information.



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PHILADELPHIA SECTION, ACS
CURRENT CALENDAR OF ACTIVITIES

Date and Time	Event	Location/Information
Monday, March 9 6 – 8 PM	Delaware Valley Mass Spectrometry Discussion Group: <i>Going Parallel: Mass Spectrometry-based Omics with PASEF and Trapped Ion Mobility Spectrometry</i> by Florian Meier (Max Planck Institute)	Villanova University Mendel Hall, Room 154 800 Lancaster Avenue Villanova, PA 19085 See webpage for details: https://science.widener.edu/svb/msdg/
Thursday, March 12 5 PM Reception 6 PM Talk 7:30 PM Dinner	ACS Philadelphia Local Section monthly meeting: Edgar Fahs Smith Memorial Lecture. <i>Protein Glycosylation Pathways and Processes</i> by Barbara Imperiali (MIT)	Chemistry Building - University of Pennsylvania 34 th and Spruce Streets Philadelphia, PA 19104 See this issue of <i>the Catalyst</i> for details
Thursday, March 12 5 – 7:30 PM	Joseph Priestley Society Meeting, Science History Institute: <i>Neither Fish nor Fowl: The Growth of Alternatives to Animal-Derived Food</i>	Science History Institute 315 Chestnut Street Philadelphia, PA 19106 http://bit.ly/31syTTw
March 22 - 26	American Chemical Society Spring National Meeting	Pennsylvania Convention Center Philadelphia, PA https://www.acs.org/content/acs/en/meetings/national-meeting.html
Monday, March 23 11:40 AM	Film Screening at ACS National Meeting: <i>All Things Bakelite: The Age of Plastic</i>	Pennsylvania Convention Center Room 120C Philadelphia, PA https://www.acs.org/content/acs/en/meetings/national-meeting.html
Please check the individual websites for additional updated information		
All content submissions are due on the 15 th day of the month prior to publication		