

# Industrial & Engineering Chemistry

Making Chemistry Work!

# **2019 Spring Newsletter**

# **Chair's Report**

The Division is undergoing some changes in 2019 that we hope will enhance the value to you, our members. An updated, enhanced website will be rolled out within a few months that should have more updated information to keep everyone aware of current and future activities. We are also focusing on increasing our social media presence on LinkedIn and Facebook. Additionally, we are working on a variety of tools to support career development and volunteer opportunities at the national and local levels. For example, our Awards Program is going to become more active and increase our recognition of volunteers and achievements. These career enhancing programs



Glenn Fugate I&EC Chair

will only benefit you if you are active, so we strongly encourage you to become active within the I&EC Division and your Division officers. We are always receptive to new ideas!

The Division will be holding its open business meeting on Saturday, March 30th from 7 to 9 PM at The Pub Orlando (within the Point Orlando complex at 9101 International Dr #1003, Orlando, FL 32819). Please join us for a networking opportunity with appetizers and drinks. This is a great way to see how the Division is organized and managed. It's a great venue to become more engaged and discuss current plans and new ideas. We would also like any members to join us for the final vote on adoption of the revised Bylaws.

## **I&EC Division Bylaws Update**

After extensive review, the Division's bylaws, which were last amended in 2007, have been reorganized and rewritten to conform to current ACS and legal requirements. The format of the Society's model bylaws has been largely followed, while retaining parts of the governance structure unique to the I&EC

Division's role as an applied Division.

The current bylaws requirement is that "At the Business Meeting of the Division, after notice of the proposed amendment(s) is given, the amendment(s) will be adopted if an affirmative vote is received from two-thirds of the members present."

Bill Flank Parliamentarian & Historian

The implementation process requires that the new version of our bylaws, after approval by the Society's Constitution and Bylaws Committee and the I&EC Division's Executive Committee, be disseminated to the

I&EC Executive Board

Chair: Glenn Fugate fugatega@ornl.gov Chair-Elect: Samuel Morton mortonsa@jmu.edu Past-Chair: George Stanley gstanley@lsu.edu Treasurer 2018-2020: Janet Smith anotherjanetsmith@yahoo.com Secretary 2019-2020: Joe Saviano javiano3@gmail.com Councilor 2017-2019: Spiro Alexandratos alexsd@hunter.cuny.edu Councilor 2018-2020: Pete Smith smithpm@westminster.edu Councilor 2019-2021: Leigh Martin martinlr@ornl.gov Program Chair: Carter Abnev abneycw@ornl.gov Asst. Program Chair: Richard Mayes mayesrt@ornl.gov Program Secretary: Anna Ivashko anna.c.ivashko@gmail.com Public Relations Chair: Samina Azad samina.azad@gmail.com Newsletter: Maria Kriz Maria.Kriz@srnl.doe.gov Web: Kevin Charette charetk@gmail.com Awards: Leigh Martin martinlr@ornl.gov Membership: John Engelman jhengelman@gmail.com Parliamentarian & Historian: Bill Flank wflank2@gmail.com ACT Subdivision Chair: Kevin Charette charetk@gmail.com ACT Chair-elect: David Birdsall dbirdsall1@gmail.com SST Subdivision Chair: Mark Dietz dietzm@uwm.edu SST Vice Chair: Kathryn Taylor-Pashow Kathryn.Taylor-Pashow@srnl.doe.gov

SST Secretary: Maria Kriz maria.kriz@srnl.doe.gov Division membership and then ratified by a two-thirds approval vote of the members present at an Annual Business Meeting held at a National Meeting of the Society.

The Division's Annual Business Meeting in Orlando will be held at The Pub Orlando, 9101 International Drive, Suite 1003, as a part of the I&EC Division Open Meeting/Reception from 7 to 9 PM on Saturday, March 30, 2019. Division members are invited to participate in the Division's governance process by attending and voting.

### **Councilor' Report**

It has been a pleasure and an honor to represent you on the Council for the past 12 years and, though, I'm up for doing it for another 12, I thought it best to open the position to an election with two new faces. Every organization benefits from the changing perspectives of new leadership.

I began my ACS affiliation with a talk in the Separations Science Subdivision long ago and stayed with the Division throughout the years. I will continue with a talk in Orlando and plan to continue giving talks at I&EC symposia for years to come. (We began new research on inorganic polymers over the past year and the NMR spectra have been fascinating.) It was wonderful for me to eventually move into the Division's Executive Committee and it is a path that I encourage all of our members to take. One of the most important tasks undertaken by this (and any) Division is programming and it is great thrill to organize a symposium. Our programming chair Carter Abney would welcome your

involvement and he will be a great resource to show you how it is done, if you've never done it before.

For leadership to thrive, it needs to stay in touch with the membership and reflect its finest attributes. For me, doing what I can to recognize the research of our members has been a great part of my time on the EC. If there are initiatives you think your Division should be undertaking, by all means send an e-mail to the Chair - begin a dialogue, begin a conversation, begin a movement.

I'll write again for the Fall newsletter but, for now, thank you.

#### **Membership Chair Report**

First my name is John Engelman and I am the new Membership Committee Chair. We want to welcome all to the Industrial & Engineering Chemistry Division (I&EC). We are here for and want to hear from you. What can the division do to enhance your membership? Are you interested in volunteering? If so, we always have room for people interested in working with the division and learning leadership skills. Contact any of the executive committee if interested.

The division has had 118 new members and 15 reinstated during the first two months of

2019.

On another note I&EC has a journal Industrial & Engineering News. It is celebrating 100 years of existence this year.



Spiro Alexandratos **I&EC** Councilor



#### **Communications Chair's Report**

Greetings, I&EC members!

I am pleased to announce that I have been officially appointed by I&EC Division as the chair of the Public Relations Committee this year, which includes an appointment to the Executive Committee. This is a 3-year appointment.

My immediate focus will be on the following -

1. Decide on a path forward for the Division website – the goal is to outsource the website to external third party firm. ACS no longer supports the current Webs platform.

Status update – contacted a third-party firm that has helped construct a number of ACS sites, including the <u>National YCC site</u> and the PROF site and WCC.

2. Re-vamp the strategies for social media presence – recruit committee members to take the lead on specific media presence.

*Status update – Bagri Prashant agreed to be the twitter media lead. A twitter account has been created. Pease follow us @ACS\_IEC* 

https://twitter.com/ACS\_IEC?lang=en

3. Setup a Media Training for key people on the Executive Committee – specifically, "sparkle" training offered by ACS was targeted as a useful training.

Status – Jennifer Maclachlan, chair of CPRC has agreed to conduct the training at the San Diego meeting tentatively on Friday before the meeting. Details TBD.

4. Succession plan – identify and start training a successor to take over the role before my term ends in 3 years.

Status – TBD

We look forward to seeing you all at the Spring Meeting in Orlando!

#### **Communications Committee Update**

Twitter account @ACS\_IEC was created on September 2018. Initially we had little traction. However, continuous tweeting out of messages and interesting articles that are of interest to the wider chemistry community started to pay dividends. Starting November 2018, we began to gain traction on Twitter.

#### **Current Followers:** 50

**Future:** We plan to continue to share interesting news, articles, opportunities on the twitter feed to gain a wider following for both the division and ACS.



Samina Azad Public Relations Chair @ACS\_IEC Metrics:

Month	Total Impression
November 2018	189
December 2018	120
January 2019	1,300
February 2019	3,100
March 2019	7,400
Last 28 Days	7,700

An impression is an individual who has either liked, re-tweeted or interacted with our messages online. As is visible, we have made significant progress in engaging with the online community and currently drawing engagement from large number of people. At the ACS meeting in Orlando, we should disseminate our twitter handle and ask attendees to follow us so that we can engage with them more going forward.

#### **I&EC Treasurer Report**

2018 books were closed, and the annual financial report was filed with ACS National. Expenses came in at 2% over budget and income fell short by 21%. This resulted in a net shortage of \$17.9K. The income shortage was in three areas; grants, awards co-sponsorship, and meeting co-sponsorship. Billing for the 2017 Fall Meeting, the 2017 Leadership Conference, and the 2017 Industrial Chemist Award (national) did not occur until 2018, also negatively affecting the final balance for 2018. Investments also fell in Q4 (they have since recovered), adding to the deficit for the year. Long term, the Division shows a gain of \$20K over the last 5 years when investments are included.

I&EC has shown a steady decline in allocation and dues, which is our funding from ACS National. Travel costs have also risen significantly, which are reflected in the travel reimbursements to councilors and board members (partial reimbursement). The Division spends approximately a third of its budget on national and regional programming and meeting expenses.

	2015	2016	2017		2018		Average	
Income								
grants/awards	\$ 14,607	\$ 14,325	\$	8,000	\$	-	\$	9,233
councilor								
reimbursement	\$ 8,690	\$ 9,842	\$	10,256	\$	11,472	\$	10,065
dues	\$ 22,966	\$ 21,317	\$	21,960	\$	21,065	\$	21,827
allotment	\$ 29,474	\$ 28,310	\$	25,808	\$	24,108	\$	26,925
interest	\$ 66	\$ 37	\$	0	\$	-	\$	26
dividends	\$ 2,154	\$ 2,656	\$	2,754	\$	3,264	\$	2,707
royalties	\$ 1,370	\$ -	\$	53	\$	399	\$	455
misc.	\$ 90	\$ 260	\$	90	\$	-	\$	110
sub total	\$ 79,416	\$ 76,747	\$	68,921	\$	60,308	\$	71,348

Table 1. Long-term Income/Expense Chart

		2015		2016	2017		2018		Average	
Expenses										
grants/awards	\$	7,367	\$	24,653	\$	3,126	\$	15,922	\$	12,767
speaker fees & expenses	\$	4,239	\$	11,442	\$	500	\$	500	\$	4,170
registrations	\$	1,755	\$	7,115	\$	8,740	\$	3,785	\$	5,349
meeting expenses	\$	2,846	\$	3,044	\$	15	\$	1,090	\$	1,749
investment expenses	\$	1,362	\$	1,602	\$	1,845	\$	2,103	\$	1,728
Ballots, newsletter, postage	\$	4,309	\$	4,272	\$	4,425	\$	4,535	\$	4,385
conferences	\$	1,000	\$	3,500	\$	447	\$	1,500	\$	1,612
admin	\$	1,327	\$	4,328	\$	1,070	\$	4,707	\$	2,858
dinner meetings/receptions	\$	3,294	\$	3,131	\$	5,313	\$	5,999	\$	4,434
councilor travel	\$	12,100	\$	13,287	\$	14,428	\$	16,520	\$	14,084
exec travel	\$	15,364	\$	23,177	\$	17,018	\$	21,347	\$	19,226
other	\$	1,672	\$	12,974	\$	250	\$	250	\$	3,787
sub total	\$	56,637	\$	112,524	\$	57,176	\$	78,259	\$	76,149
Net	\$	22,779	\$	(35,777)	\$	11,745	\$	(17,951)	\$	(4,801)
Total meeting expenses	\$	17,207	\$	49,754	\$	12,828	\$	22,797	\$	25,647
(without travel reimbursements)										
% spend	-	30.4%		44.2%		22.4%		29.1%	-	33.7%

Despite operating at an average deficit of \$4.8K/year, our finances have grown due to modest growth in our investments, resulting in an increase of \$20K over the past 5 years.

#### **Programming Chair's Report**

There is a lot of news from I&EC Programming. Perhaps most excitingly, the Programming Committee is growing, as we welcome a new Programming Secretary, Anna Ivashko. Anna is a chemist working at ExxonMobil Research & Engineering and fills the vacancy created when Richard Mayes was elevated to Assistant Programming Chair. Anna will be in Orlando for the I&EC Programming and Executive Committee meetings, as well as the I&EC Reception. If you're attending ACS Orlando, please make a point to introduce yourself to our newest officer.

Motivated by a recent increase in emphasis on regional meetings, the I&EC Programming Committee will also be making some changes in the forthcoming weeks. Discussion and debate within the Committee resulted in a general consensus that a subcommittee should be formed which is focused specifically on developing I&EC

Programming at the regional level. This would result in the appointment of a Deputy Programming Chair, to complement the National meeting focus of the current Assistant Programming Chair. Within the current bylaws of the Division, the Programming Committee already includes a Special Symposium Programming Committee, which is tasked to "plan, organize and conduct all symposia other than the National Meeting symposia" (Bylaw V, S2c). Pending discussion from the Steering and Executive Committees, my intent is to

**Program Chair** 

re-populate this Special Symposium Programming Committee and task it with the express purpose of developing I&EC programming at the regional level. If you're interested in volunteering in this capacity, or in any other way with Programming, please let me or one of the officers know!

As always, I look forward to any thoughts or comments, and most of all ideas for the development of new and exciting symposia, now at both national and regional levels. If you have any ideas or would be interested in helping to organize a symposium, please reach out to any member of the Programming Committee.

I look forward to seeing you in Orlando!

#### **Assistant Programming Chair Report**

We have an excellent program planned for the 257<sup>th</sup> ACS National Meeting & Exposition in Orlando, FL, where a full slate of awards symposia, as well as vibrant thematic programming, are planned. We are starting a symposium series focusing on critical materials with rare earth elements being the inaugural topic. Additionally, the 2<sup>nd</sup> Joint Symposium of the Separations Science Subdivisions will highlight work from I&EC and ANYL members. We look forward to joining you in Orlando for another great meeting.



Richard Mayes Asst. Program Chair

The award symposia I&EC is hosting will highlight the work of a diverse representation of scientists. Guy Humphrey is receiving the ACS Award in Industrial Chemistry. Sheng Dai is being honored with the ACS Award in Separation Science and Technology, sponsored by Waters Corporation. In conjunction with CELL, I&EC will

present two of three ACS Sustainable Chemistry and Engineering Lectureship awards at the meeting this spring. The two Lectureships have been awarded to Paul Dauenhauer and Kevin Wu. We will also be recognizing several I&EC Fellows, Nicholas Peppas and Pete Nickias, along with Tom Baker as the I&EC International Fellow and Carter Abney as the I&EC Early Career Fellow.

Looking ahead to the Fall 2019 meeting (San Diego, CA) we have a small, yet impactful, schedule of symposia. This will include the I&EC Graduate Student Award Symposium, Molten Salt Chemistry and various others centered on the theme "Chemistry & Water." The deadline for abstract submission is March 18, 2019.

Moving forward, we encourage you to consider organizing a symposium or submitting a topic with recommended organizers. The Programming Committee will be disseminating an updated philosophy for programming at the national meetings, including a 3-year programming plan. A long-range plan for programming will enable better integration with the meeting theme, more time for speaker recruitment, and the ability to program symposia that are relevant to our members. Through this we hope to see each subdivision (ACTS, Separation Science, and Green Chemistry) promote a relevant, subdivision-specific symposium each year.

We hope that you will join us at the National Meeting this April. We also look forward to hearing about your symposium ideas for future meetings. If you have any questions or wish to organize a symposium, please do not hesitate to contact us.

#### New Programming Committee Secretary Appointment

Please welcome Anna Ivashko as the new I&EC Programming Committee Secretary. Anna graduated from Seton Hall University in May 2015 with B.S. in Chemistry and a minor in Mathematics. She began working at ExxonMobil in July 2015 in Catalyst Technology division where she worked on catalyst formulation and heavy and light feed co-processing. She later transferred into Corporate Strategic Research where she focused on zeolite synthesis, characterization, and scale up. She currently applies this knowledge to her work in MOF synthesis. Anna joined I&EC because she believes in its mission within the ACS to continually address challenges we face in the world through



**Program Secretary** 

industrial chemistry and would like to contribute to the continuingly growing community of chemists.

#### 257<sup>th</sup> ACS National Meeting- Division of Industrial and Engineering Chemistry Program

# EVENIS SCHEDUL

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I&EC Committee Meetings (Closed)	5:00 – 7:00 PM
Steering Committee	4:00 – 5:00 PM
Programming Committee	5:00 – 6:00 PM
Executive Committee	6:00 – 7:00 PM

I&EC Open Meeting/Reception 7:00 – 9:00 PM

<u>Meeting Location</u> The Pub Orlando 9101 International Dr. Suite 1003 Orlando, FL 32819

Sunday, March 31

8:00 AM – 12:00 PM I&EC A – ACS Award in Separations Science and Technology: Symposium in Honor of Sheng Dai – Oral (Technical Program), Orange County Convention Center

8:00 AM – 12:00 PM I&EC B – I&EC Fellow: Symposium in Honor of Nicholas Peppas – Oral (Technical Program), Orange County Convention Center

CATL: Mechano- & Tribochemistry & Catalysis A (I&EC Co-sponsor) CATL: Symposium in Honor of Chuck Peden's Research Career: Catalysis for Energy & the Environment (I&EC Co-sponsor)

1:30 PM – 5:30 PM I&EC A – ACS Award in Separations Science and Technology: Symposium in Honor of Sheng Dai – Oral (Technical Program), Orange County Convention Center

1:00 PM – 5:10 PM I&EC B – I&EC Fellow: Symposium in Honor of Nicholas Peppas – Oral (Technical Program), Orange County Convention Center

CATL: Mechano- & Tribochemistry & Catalysis B (I&EC Co-sponsor)

CATL: Symposium in Honor of Chuck Peden's Research Career: Catalysis for Energy & the Environment (I&EC Co-sponsor)

#### Monday, April 1

8:00 AM - 11:00 AM I&EC A: 2019 ACS Sustainable Chemistry and Engineering Lectureship Awards: Symposium in Honor of Paul Dauenhauer – Oral (Technical Program), Orange County Convention Center 8:00 AM – 11:30 AM I&EC B – I&EC Fellow: Symposium in Honor of Pete Nickias – Oral (Technical Program), Orange County Convention Center

CATL: Symposium in Honor of Chuck Peden's Research Career: Catalysis for Energy & the Environment (I&EC Co-sponsor)

POLY: Industrial Innovations in Polymer Science (I&EC Co-sponsor)

ENFL: Celebrating 50 Years of ExxonMobil's Corporate Strategic Research Laboratories: A View Forward from a Retrospective (I&EC Cosponsor)

1:30 PM - 5:30 PM I&EC A: 2019 ACS Sustainable Chemistry and Engineering Lectureship Awards: Symposium in Honor of Kevin Wu – Oral (Technical Program), Orange County Convention Center

1:30 AM – 5:10 PM I&EC B – I&EC Fellow: Symposium in Honor of Pete Nickias – Oral (Technical Program), Orange County Convention Center

CATL: Symposium in Honor of Chuck Peden's Research Career: Catalysis for Energy & the Environment (I&EC Co-sponsor)

POLY: Industrial Innovations in Polymer Science (I&EC Co-sponsor)

ENFL: Celebrating 50 Years of ExxonMobil's Corporate Strategic Research Laboratories: A View Forward from a Retrospective (I&EC Cosponsor)

#### **Tuesday, April 2**

8:00 AM - 12:00 PM I&EC A: Critical Materials: Rare Earth Elements – Oral (Technical Program), Orange County Convention Center

8:00 AM – 12:00 PM I&EC B – I&EC International Fellow: Symposium in Honor of Tom Baker – Oral (Technical Program),

#### **Orange County Convention Center**

COMSCI: Exploring the Frontiers of Chemistry through NASA Research: Getting There: Advanced Materials for Space Travel (I&EC Cosponsor)

CELL: ACS Sustainable Chemistry & Engineering Symposium: In Honor of Dr. Silvia Vignolini (I&EC Co-sponsor)

GSSPC: Artificial Molecular Machines and the Next Generation of Molecular Control (I&EC Cosponsor)

CATL: Light-Driven Chemistry: Photoelectrochemistry & Photocatalysis (I&EC Co-sponsor)

ORGN: Process Chemistry: New Developments in Pharmaceutical Process Development (I&EC Cosponsor)

1: 30 PM – 5:00 PM I&EC A: Critical Materials: Rare Earth Elements – Oral (Technical Program), Orange County Convention Center

1:00 PM – 4:30 PM I&EC B: ACS Award in Industrial Chemistry: Symposium in Honor of Guy R. Humphrey – Oral (Technical Program), Orange County Convention Center

## 1:30 PM – 5:30 PM I&EC C – I&EC International Fellow: Symposium in Honor of Tom Baker – Oral (Technical Program), Orange County Convention Center

COMSCI: Exploring the Frontiers of Chemistry through NASA Research: Getting There: Advanced Materials for Space Travel (I&EC Cosponsor)

GSSPC: Artificial Molecular Machines and the Next Generation of Molecular Control (I&EC Cosponsor)

CATL: Light-Driven Chemistry: Photoelectrochemistry & Photocatalysis (I&EC Co-sponsor) 8:00 PM – 10:00 PM I&EC: I&EC General Posters – Poster Session (Technical Program), Orange County Convention Center

8:00 PM – 10:00 PM I&EC: Celebrating 50 Years of ExxonMobil's Corporate Strategic Research Laboratories – Poster Session (Technical Program), Orange County Convention Center

#### Wednesday, April 3

8:00 AM - 11:45 AM I&EC A: I&EC Early Career Fellow: Symposium in Honor of Carter Abney – Oral (Technical Program), Orange County Convention Center

8:00 AM - 11:45 AM I&EC B: I&EC International Fellow: Symposium in Honor of Tom Baker – Oral (Technical Program), Orange County Convention Center

CATL: Light-Driven Chemistry: Photoelectrochemistry & Photocatalysis (I&EC Co-sponsor)

1:30 PM - 5:25 PM I&EC A: I&EC Early Career Fellow: Symposium in Honor of Carter Abney – Oral (Technical Program), Orange County Convention Center

1:30 PM - 5:25 PM I&EC B: Second Annual Joint Symposium of the Separations Subdivisions – Oral (Technical Program), Orange County Convention Center

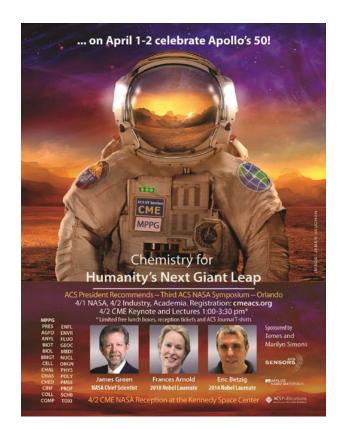
CATL: Light-Driven Chemistry: Photoelectrochemistry & Photocatalysis (I&EC Co-sponsor)

#### Thursday, April 4

8:00 AM - 12:00 PM I&EC A: I&EC General Papers – Oral (Technical Program), Orange County Convention Center

8:00 AM - 10:30 AM I&EC B: Second Annual Joint Symposium of the Separations Subdivision – Oral (Technical Program), Orange County Convention Center

#### http://iecdivision.sites.acs.org



#### SS&T Subdivision Report

As the Spring ACS National Meeting approaches, we would like to remind you of the second in a planned series of annual collaborative symposia organized by the Subdivision of Chromatography and Separations of the Analytical Division and our own SS&T Subdivision. This "Joint Symposium of the Separation Science Subdivisions", led by Mark Hayes (ANYL, ASU) and myself (I&EC, UWM), is designed to highlight overlapping areas of interest in separations and to facilitate interactions between scientists and engineers working in a variety of fields. Please join us for what promises to be a pair of interesting and informative sessions (Wednesday afternoon and Thursday morning) featuring the latest developments in such areas as ionic liquids, electrophoresis, microfluidics, and pharmaceutical analysis.



Mark Dietz SS&T Subdivision Chair

Looking farther ahead, the Subdivision continues to seek new ideas for separations-related symposia and new (or experienced) symposium organizers. If you have any interest in contributing to our future programming efforts, please reach out to me (<u>dietzm@uwm.edu</u>) or to any of the other Subdivision officers.

#### SERMACS 2018 Meeting Report

Glenn Fugate (Oak Ridge National Laboratory) and Brian Agee (Augusta University) organized a panel on Alternative Science Careers for the 2018 SERMACS in Augusta, GA. The panel was established to expose undergraduate students and other chemists to wide range of potential careers open to chemists, educating them on what the job entails as well as how the person ended up in that field. The panel had two portions with the first being several different academic positions (professors from larger university, small university and small teaching college and a lecturer) while the second session had a range of industrial positions (BS levels from SRNL and Eastman, Consultant, legal expert, and an attorney). I was told ~40 attended the first half and ~50 or more (full room) attended the second half. This activity was organized to meet one of the Goals from the Strategic Planning Retreat in 2016: Increase participation of industrial chemistry practitioners by providing activities and resources that empower individuals to pursue and enhance careers in industrial and engineering chemistry.