



The Crucible

www.pittsburghacs.org

Volume: CIII No.3

November 2017



CONGRATULATIONS TO THE 2017 ACS PITTSBURGH SECTION AWARD RECIPIENTS!

PITTSBURGH AWARD - DR. DEBRA SINGER

Debra Singer is an Associate Fellow in the Polymer Synthesis Group at PPG industries. Originally from Denver, Colorado, she earned a BA in Chemistry at Colorado College and MS and PhD degrees at Northwestern University. After joining PPG Industries in Allison Park as a Senior Research Chemist, she advanced through technical assignments, achieving the level of Associate Fellow in 2016.



Along with increasing supervisory responsibilities in polymer synthesis as a group leader, she has maintained an active research presence at the bench. Her synthesis work has resulted in commercial products for industrial and automotive customers, including direct to metal primers and polyurea truck bed liners. Her synthesis work also led to commercialization of three types of acid etch-resistant

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DISTINGUISHED SERVICE AWARD DR. FU-TYAN LIN

Fu-Tyan received his bachelor degree of science in 1963 in Physics/Chemistry and Teaching from the National Taiwan Normal University, Taipei, Taiwan. He enjoyed seven years of teaching in high schools and colleges in Taiwan. He came to the United States for his graduate study in August, 1969. Fu-Tyan received his MS in Physics in 1971 and Ph.D. in Polymer Science in 1979 from the University of Akron, Akron, OH. During his graduate study, he worked as a technician for the Physics Department from 1971 to 1973 and as an NMR (Nuclear Magnetic Resonance) Spectroscopist for the Institute of Polymer Science from 1973 to 1978 at the University of Akron. He was the Chemistry Instrumentation Manager at the University of Louisville, Louisville, KY in 1978-1980. He was the Director of the NMR Lab and a Research Assistant Professor in the Chemistry Department.



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2018 Pittsburgh Section of the ACS Executive Board Elections

The 2017 Nominating Committee of the Pittsburgh Section of the American Chemical Society submits the following slate of candidates for Section office for 2018.

All persons nominated are members of the society and have agreed to serve if elected. Only members of the Pittsburgh Section of the American Chemical Society are eligible to vote.

Please note that all ballots must be received by November 14, 2017. Unless you receive a paper copy of The Crucible, and assuming you are a member in good standing, you will receive your ballot electronically via an email notification and code from www.vote-now.com. The polls will open on November 4th and close November 14th at Midnight EST. For ballot questions, please contact: Pittsburgh Section Secretary, Chad Keyes, at ckeyes@waynesburg.edu. For those receiving a printed copy, please follow instructions printed on the ballot. Ballots received in any other manner than what is stated in the instructions will not be accepted.

Chair-Elect

The Chair-elect is responsible for performing the duties of Chair when the Chair is unable to serve. The Chair-elect is also responsible for the Program Committee as well as the awarding of the Pittsburgh and Distinguished Service Awards. (Serves one year as Chair-elect and serves as Chair the following year.)

Bradley Davis

Bradley Davis earned his B.S. in Forensic Chemistry at Waynesburg University in 2009 followed by his Ph.D. in Chemistry from Penn State in 2014, which focused on bioanalytical research. He currently is an Assistant Professor of Chemistry at Waynesburg University where his central courses include Analytical, Instrumental, and Environmental Chemistry. During his time as both an undergraduate and graduate student, Brad focused heavily on science outreach as an active member of Waynesburg's ACS student chapter as well as through Penn State's Materials Research Science and Engineering Center (MRSEC). This dedication to local service continues as he is currently an active member in the Society for Analytical Chemists of Pittsburgh (SACP) and Spectroscopy Society of Pittsburgh (SSP). Brad participates on various committees including serving as this year's Chair of the SACP Student Affiliates and Co-Chair of the committee responsible for conducting outreach at the Carnegie Science Center for National Chemistry Week. He also enjoys volunteering yearly to serve as a judge for the Pennsylvania Regional Science & Engineering Fair (PRSEF). Brad and his wife, Erin, currently reside in the Canonsburg area with their dog, Molly.

Michelle Morgan

Michelle Morgan is currently an instructor in the Chemistry Department at the University of Pittsburgh. Prior to lecturing at Pitt, she was an instructor at Montana State University and a Pharma Services analyst at Almac in Craigavon, Northern Ireland. She completed her B.S. at the University of Pittsburgh where she held several officer positions with the ACS-SA, her M.S. at Colorado State University, and her Ph.D. at Queen's University Belfast.

David Yaron

David Yaron is a Professor in the Department of Chemistry at Carnegie Mellon University. He received a B.S. in Chemistry from Wilkes College and a Ph.D. in Chemical Physics from Harvard University. He does research in both computational chemistry and chemical education. In his computational work, he uses electronic structure theory to model organic materials and, more recently, is finding ways to use machine learning to improve semiempirical models. In his education work, he is the founder of the ChemCollective, a free digital library of virtual labs, tutorials, and scenario-based learning activities for introductory chemistry. He also recently co-chaired the College Board Committee that undertook a major redesign of the Advanced Placement (AP) Chemistry course and exam. His latest hobby is riding a tandem mountain bike with his partner, although so far, the mountains have been limited to hills on the GAP trail and the MS 150 bike ride in the middle of PA.

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BALLOT
For Offices of the
2018
Pittsburgh Section, American Chemical Society

Chair-Elect

Bradley Davis

Michelle Morgan

David Yaron

Secretary

Matt Baker

Aswin Garimalla

Secretary -Elect

Haitao Liu

Director (3)

Toby Chapman

Heather Juzwa

Logan Miller

Councilor
(1 Regular, 2 Alternate)

Michael Mautino

Ali Sezer

Edward Zovinka

INSTRUCTIONS

Instructions are for Pittsburgh Members who receive a paper copy of The Crucible. Those receiving electronic copies will receive their ballot electronically via an email notification and code from www.vote-now. Ballot must be placed and sealed in a blank envelope. Do not write on the blank envelope. Place the blank envelope in an envelope addressed to Pittsburgh Section Secretary, Chad Keyes, 70 Virginia Avenue, Uniontown, PA 15401. **Print your return address in the upper left hand corner and sign your name under your return address. Ballots received in any other manner will be disqualified. Ballots must be received by November 14, 2017.**

Candidate Bios Continued from Page 2

Secretary

The secretary is responsible for keeping a record of the proceedings of Section and of the Executive Committee, maintaining a list of members and affiliates, distributing to members and affiliates such notices as the business of the Section may require and to submit a report to the Section at its annual business meeting.

Matt Baker

Matt Baker received his B.S. in Chemistry from the University of Pittsburgh in 2013, where he studied peptide and peptoid synthesis under Dr. W. Seth Horne. He is currently in the fifth year of his PhD in Chemistry under Dr. Kevin Noonan at Carnegie Mellon University, where he is studying phosphine chemistry, conjugated polymer reaction kinetics, and nickel catalysis for applications in Catalyst Transfer Polycondensation. He has served the Pittsburgh ACS as the chair of the Younger Chemists Committee for the past four years, and was the vice president of Pitt's ACS Student association for the senior year of his undergraduate studies. He is currently interested in pursuing a career in science policy.

Aswin Garimalla

Aswin Garimalla earned his PhD in Synthetic Organic Chemistry from University of Missouri-Columbia, and have worked in multiple post-doctoral positions at Las Cruces, New Mexico, Chicago, and in New York City. Aswin is involved in community service and volunteering. He was a Scientist-Volunteer for the "Magic of Chemistry" Workshop (2006, 2007, and 2008). (Program has received national recognition by the White House, National Science Foundation, American Chemical Society and Girl Scouts of the USA). He has been an American chemical society (ACS) member since 2006. He has participated in several ACS national meetings to present his work. During his stay in Chicago, he has actively participated in the meetings of Chicago ACS local section. He has volunteered to edit and organize the Wikipedia pages of Willard Gibbs Award recipients hosted by the Chicago ACS section. He is grateful to ACS for providing a platform to network with chemists, help during unemployment, and for the career guidance.

Secretary-Elect

The Secretary-elect is responsible for performing the duties of Secretary when the Secretary is unable to serve. The Secretary-elect is also to be available to assist the Secretary when necessary. (Serves one year as Secretary-elect and serves as Secretary the following year.)

Haitao Liu

Haitao Liu received his B.S in Chemistry from the University of Science and Technology of China (2001) and his Ph.D. from the University of California, Berkeley (2007). From 2007 to 2010, he was a postdoctoral scientist at Columbia University. He joined the chemistry department of the University of Pittsburgh as an assistant professor in 2010 and was promoted to associate professor with tenure in 2016. At Pitt, his research has focused on DNA nanotechnology and surface properties of carbon materials. He has published over 50 peer reviewed journal papers. He has been an ACS member since 2005 and regularly attends and presents at ACS national and regional meetings. In addition, he also organized symposiums for the 2014 ACS National meeting and the 2014 ACS CERM meeting. In his spare time he enjoys target shooting and building electronic circuits.

Director (2)

The Director is responsible for attending all Executive Committee Meetings and act on all matters brought before the Executive Committee. (Serves a three year term.)

Toby Chapman

No bio submitted

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Candidate Bios Continued from Page 4

Heather Juzwa

Heather Juzwa is a Senior Field Sales Engineer at Shimadzu Scientific Instruments and has been since October of 2006. She graduated from the University of Pittsburgh in 2000 with an honors bachelors' degree in Chemistry. While performing undergraduate research with Dr. Paul Rasmussen, she created alternative experiments for the undergraduate Instrumental Analysis laboratory. Having a passion for instrumentation, she was hired by Hitachi Instruments upon graduation. Heather has also held a position at Digilab, a division of Bio-Rad, which was subsequently purchased by Varian. Heather's service to the field of chemistry began as an undergraduate and has continued throughout her career. She served as the Secretary of the American Chemical Society – Student Affiliates while a senior at the University of Pittsburgh and has remained in the ACS since then. In 2008, she was Treasurer of the newly formed Younger Chemists Committee. She served as Chair of the Pittsburgh Section in 2011 and currently serves as Webmaster for the Pittsburgh Section website. As webmaster, Heather worked with the Executive Committee to implement more uniform reporting for ACS National, paving the way for the section to tout their hard work and thus receive an esteemed ChemLuminary for being an Outstanding Large Local Section for 2012. It was by Heather's efforts that The Crucible newsletter was made electronic, saving the section thousands of dollars in printing costs. Heather also served as Chair of the Society for Analytical Chemists of Pittsburgh in 2013-2014. For many years, she has happily served on and chaired many committees of the Society for Analytical Chemists of Pittsburgh, the Spectroscopy Society of Pittsburgh, and the Pittcon committee and looks forward to playing key roles in these organizations for years to come. These committees include including the Mass Spec Discussion Group, Technology Forum, Technical Program, Membership and Directory, Student Affiliates, Employment, Continuing Education, Tripartite Symposium, Carnegie Science Fair, Marketing, Short Courses and Faraday Lecture Series. Heather and her team won an ACS ChemLuminary Award for the best regional meeting for CERM 2014 hosted in Pittsburgh. She also received both the Pittsburgh Local Section Distinguished Service Award in 2014 and the 2015 E. Ann Nalley Regional Award for Volunteer Service to the American Chemical Society for the Central Region. Heather Juzwa is interested in continuing her service to the section as a Director of the ACS to continue and expand her service to the field of chemistry and to foster a collegial community for Pittsburgh's scientists.

Logan Miller

Logan Miller received his B.S. in Chemistry with a major in biochemistry and forensic chemistry from Slippery Rock University of Pennsylvania (SRU). While at SRU Logan conducted a multi-year, independent research project focusing on intracellular protein analysis for apoptotic response in human myelogenous leukemia cells. In addition, he attended two academic meetings at Experimental Biology as a first author presenter. Logan also successfully wrote and received three independent grants to fund his research while at SRU. Currently, he is a sixth year chemistry Ph.D. student at Duquesne University. He is working in Dr. H.M. "Skip" Kingston's research group, which focuses on analytical techniques for the betterment of environmental human health measurements. His research interests range from developing separation methods for the quantification of human biomarkers using LC/MS/MS technology to dried blood spot analysis for forensics and clinical markers. He has attended and presented oral and poster presentations at both PittCon as well as American Society for Mass Spectrometry conferences. Logan is actively involved (Chair/Co-Chair positions) in numerous committees with both SACP and SSP and has been a member since 2013. In addition, he is currently the Immediate Former President for Duquesne University's Department of Chemistry and Biochemistry Phi Lambda Upsilon chemistry honor society. Logan is a founding member of Duquesne University's graduate student mass spectrometry committee that helps in overseeing operation of the mass spectrometry facility. In addition to the mass spectrometry committee he is also a founding member of the chemistry department's safety committee. He is currently serving as the editor of the Pittsburgh Section of the ACS Crucible newsletter and has been an ACS member since 2009. Additional roles within the ACS involve being chair of publicity/marketing committee for Pittsburgh ACS and Vice-Chair of Pittsburgh ACS's Women Chemist's Committee. Logan has also been awarded the ACS Younger Chemist Committee Younger Chemist Leadership Development Award in 2016. In 2017 Logan was awarded the Graduate Student Leader of the Year award from Duquesne University as well as a Bayer Research Fellowship for the fall academic semester. He currently serves as an associate member on the national ACS Younger Chemist Committee as well as on the Graduate Education Advisory Board (GEAB). Additional responsibilities include Fundraising Co-Chair for the 2018 Fall ACS National Meeting Graduate Student Symposium entitled, "Frontiers in Computation Chemistry: Bridging the Gap Between Theory and Experiment," a symposium in memory of the late Dr. Jeffry D. Madura. He champions for the Pittsburgh ACS section and looks forward to the future growth and expansion of the section and continued success of programming.

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Councilor (1 Regular, 2 Alternate)

As a Councilor, you have a vital role in ACS governance. You act on issues of importance to all chemical scientists. As the elected representative of your local section or division, it is your duty to represent your constituency. It is also your duty to report back to your constituency all important actions and votes taken by the Council. (Serves a three year term.)

Michael Mautino

Michael Mautino has worked for Covestro LLC (formerly Bayer MaterialScience, Bayer, Miles, and originally Mobay!) for the past twenty seven years. He began his career as a chemical laboratory technician, later progressing to a chemist position, formulating polyurethane foam systems for a variety of applications. He developed a number of polyurethane systems that have been successfully commercialized and currently holds two patents in the area of polyurethane rigid foam insulation. After obtaining a Bachelor of Science in Business Management from the University of Phoenix in 2004, Michael became a Marketing Representative at Covestro, and for the past five years has been a Product Line Manager in Covestro's Polyurethanes Regional Product Management Group. Michael is an active member of the ACS at both the local and national levels. For the past 19 years he has developed and managed the Pittsburgh ACS's community outreach activities into national ACS award winning programming, recognized for reaching out to the public to promote education and careers in the STEM areas. Under Michael's guidance the Pittsburgh ACS has won sixteen national ACS ChemLuminary awards for its National Chemistry Week (NCW) and Chemists Celebrate Earth Day (CCED) programs. Michael has served as a Pittsburgh ACS Councilor since 2003. In 2014 Michael was named the Pittsburgh ACS's "Outreach Volunteer of the Year" and in 2011 the Pittsburgh ACS presented Michael with the Section's "Distinguished Service Award." Nationally, Michael is a recognized leader in ACS community outreach initiatives and promoting the applied chemical technology profession. He was chair of the ACS's Division of Chemical Technicians (2001-02), chair of the Committee on Community Activities (2004-06), chair of the Committee on Technician Affairs (2007-09), served as an elected member of the ACS's Committee on Committees (2011-16), and is currently serving as a member of the Local Section Activities Committee. He is proud of the ACS's Chemists Celebrate Earth Day program, which celebrated its 14th anniversary in 2017...a program that was developed under his leadership as chair of the oversight committee. Due to his community outreach efforts and promotion of the applied chemical technology profession on a national level, Michael was named an ACS Fellow in 2010.

Ali O. Sezer

Ali O. Sezer born and educated through college in Turkey, is a professor of physical chemistry at California University of Pennsylvania. After graduating from Yildiz Technical University in Istanbul, Turkey, Sezer went to the U.S. to pursue an advanced degree in chemical and materials engineering. In 2002, he received a Ph.D. degree from the University of Nebraska-Lincoln. He worked as a visiting professor at Bucknell University and Haverford College, and as a postdoctoral scholar at Seton Hall University before moving to California University of Pennsylvania, where he currently teaches. Dr. Sezer's research interests are in the area of conducting polymers; particularly nano composites of these polymers with transition metal oxides for electronics, optical, medical, bio-sensing, and corrosion protection applications. He is committed to undergraduate chemistry education, especially to involving students in cutting edge research activities. Dr. Sezer supervises undergraduates in research activities and provides opportunities for them to present at national and international meetings and conferences. Dr. Sezer is also involved in text book preparations in general and physical chemistry. He has team-published "Know It All Chemistry: The 50 Most Elemental Concepts in Chemistry, Each Explained in Under a Minute" book in June 2017. The book, edited by Niva Tro, provides the public with a unique opportunity to learn about chemistry. The European edition of the book comes out in September 2017. Dr. Sezer is involved in activities promoting student and faculty diversity at the local, regional, and national level. He enjoys deep-water diving in his free times.

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Candidate Bios Continued from Page 6

Edward Zovinka

Edward Zovinka graduated from Roanoke College with a BS in chemistry in 1987 and earned a PhD in Chemistry from the University at California – Davis in 1992. After postdoctoral research at NC State University, he joined the chemistry department at Saint Francis University (SFU). He has been a member of ACS for 30 years with membership in local sections and Divisions of Chemical Education and Inorganic Chemistry. He regularly brings students to the regional and national ACS meetings while also volunteering for the ACS Exams Institute. Edward has advised the SFU Chemistry club to “Outstanding” and “Commendable” awards from the ACS for 15 straight years. His research focuses on bioinorganic and environmental chemistry, publishing on a range of projects including the breakdown of red blood cells, the use of vanadium in biological systems, β -Lactamase resistance, the expansion of green chemistry in the inorganic laboratory, to studying water quality in Central Pennsylvania. Since coming to SFU in 1994, he has advised over 35 undergraduate students leading to over 40 presentations at local, regional, and national scientific meetings. Edward and his students have authored 31 publications spanning journals from the Journal of the American Chemical Society to The Chemical Educator. Many of his students have gone on to earn their Ph.D., M.D., Pharm.D., D.O., O.D., as well as careers in industry and education. During his career at Saint Francis University, he has been the Principal Investigator (PI) or co-PI on successful proposals to NSF, ACS, SSP, and the PA Department of Education for research, equipment, and community outreach program grants. Edward also served as the “Building Shepherd” during the construction of the 70,000+ sq. ft science facility, coordinating with the architects, contractors, advancement office, students, & faculty to bring the building to completion on schedule and under budget. He is strongly committed to improving science education. For over 22 years, he has directed the Rural Outreach Chemistry for Kids (R.O.C.K.) program that annually reaches over 5,000 K-12 students in the Central/Western PA region through over 230+ different events. In cooperation with teachers and student leaders, a hands-on event is planned from a menu of activities. During an event, SFU R.O.C.K. leaders with the help of SFU students lead the K-12 students through an activity designed to enhance the scientific method of discovery. As a member of the Hollidaysburg “Save the Planetarium” committee, he helped raise \$94,000 solely through community events to ensure the long term viability of the Hollidaysburg Planetarium. Edward’s awards include being named a Pennsylvania Professor the Year by the Council for Advancement and Support of Education, and the J. Kevin Scanlon Award for the Promotion of Science by the Spectroscopy Society of Pittsburgh. He was honored by the Carnegie Science Center Awards for Excellence in the University/Post-secondary Educator category, awarded the Saint Francis University Student Government Association Outstanding Educator Award from SFU students and SFU Swatsworth Award winner by the faculty. He has been an active member of SSP serving as chair of numerous committees, serves on the Hollidaysburg Area School District Parent Leadership Committee, and is the Troop Committee Chairman for BSA Troop 3032.

Dr. Debra Singer Bio Continued from Page 1

clear coats for automobiles that have become industry standards for excellent appearance and exterior durability. The team was awarded the PPG President’s Award in 2008 for this work. She was also a member of the team that commercialized the first automotive powder clear coat, a product that was awarded an R&D 100 Award in 1998 as one of the 100 most significant breakthrough technologies for that year. Other areas of interest include new methods for synthesizing branched polyesters and development of robust commercial synthesis of latex resins.

Her recent assignments have been directed toward identifying new business opportunities, improving technical communication on a global level, and developing joint projects with PPG colleagues and teams in the UK and Europe. She is a co-inventor on 42 US patents and was elected to the PPG Collegium in 2011. Dr. Singer is an avid cyclist and runner and coordinates the Adopt A Highway program at PPG Allison Park.

Dr. Fu-Tyan Lin Bio Continued from Page 1

ment at the University of Pittsburgh from June, 1980. He was promoted to the Research Associate Professor in November, 1986. He retired from the University of Pittsburgh in January, 2005. In 2005, Fu-Tyan founded LIST NMR, an NMR services and consulting. His current research interest is the separation and characterization of natural products. Fu-Tyan is the author and co-author for more than sixty papers, and presented more than twelve papers at the academic institutes and conferences. In October, 2005, he gave a plenary lecture for the

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Society for Analytical Chemists of Pittsburgh



NOVEMBER MEETING

**Monday, November 6, 2017
6:30 PM, Duquesne University**

“Native MS in Structural Biology”

**Vicki Hopper Wysocki, Ph.D.
Department of Chemistry and Biochemistry
Ohio State University**

Abstract: Characterization of the overall topology and inter-subunit contacts of protein complexes, and their assembly/disassembly and unfolding pathways, is critical because protein complexes regulate key biological processes, including processes important in understanding and controlling disease. Conventional structural biology methods such as X-ray crystallography and nuclear magnetic resonance provide high-resolution information on the structures of protein complexes. However, other emerging biophysical methods that provide lower resolution structural data (e.g. stoichiometry and subunit connectivity) on the structures of the protein complexes are also important. Native mass spectrometry is an approach that provides critical structural information with higher throughput on low sample amounts. The power of native MS increases when coupled to ion mobility (IM-MS), a technique that measures rotationally averaged collisional cross sections and thus direct information on conformational changes, or to high resolution mass spectrometry (HRMS). This presentation illustrates surface-induced dissociation/ion mobility SID/IM MS and SID HRMS for characterization of topology, intersubunit connectivity, and other structural features of multimeric protein complexes. Data for a number of protein-partner complexes are under investigation, where the partner can be small molecule ligand, protein, DNA, or RNA.

Biography: Vicki Wysocki received her PhD from Purdue University in 1987, under the direction of Professor Graham Cooks. Following a National Research Council postdoctoral appointment at the US Naval Research Laboratory, she became an Assistant Professor at Virginia Commonwealth University. She joined the University of Arizona in 1996 and eventually served as Chair of the Department of Chemistry and Biochemistry. In 2012 she moved to The Ohio State University where she is Ohio Eminent Scholar of Macromolecular Structure and Function and Director of the Campus Chemical Instrument Center. In 2009, she received the Distinguished Contribution to Mass Spectrometry Award from the American Society for Mass Spectrometry, jointly with Professor Simon Gaskell. She is the 2017 ACS Field and Franklin Awardee for Outstanding Contributions to Mass Spectrometry. Her laboratory is part of the Waters Center of Innovation program. She is an associate editor for the ACS journal Analytical Chemistry. She has completed two years as Vice President for Programs of the American Society for Mass Spectrometry and assumed a two-year tenure as ASMS President in July, 2016. Professor Wysocki's research interests include bioanalytical mass spectrometry, peptide fragmentation mechanisms, proteomics and metabolomics (Invasive Aspergillosis, non-small cell lung cancer, pre-eclampsia; Salmonella), ion-surface interaction chemistry, and instrument development for improved dissociation and characterization of non-covalent protein complexes.

Dinner Reservations: Please email the SACP Administrative Assistant, sacpinfo@pittcon.org, by Monday, October 30, 2017 to make dinner reservations. Should you not have email, please call 412-825-3220, ext 204. Dinner will cost \$10 (\$5 for students) and checks are to be made out to the SACP. If you have any dietary restrictions, please let Administrative Assistant know when you leave message.

Parking: Duquesne University Parking Garage entrance is on Forbes Avenue. Upon entering the garage, you will need to get a parking ticket and drive to upper floors. Bring your parking ticket to the dinner or meeting for a validation sticker. Please contact Duquesne University, if any difficulties should arise.



The Spectroscopy Society of Pittsburgh November Meeting



Monday - November 13, 2017

held at Duquesne University

- 5:30 PM Technology Forum Speaker's Presentation Power Center Ballroom Section C
5:30 PM Social Hour – Power Center Fides Shepperson Suite
6:45 PM Dinner – Power Center Ballroom Section C
8:00 PM Business Meeting – Power Center Ballroom Section C
8:15 PM Technical Program Speaker's Presentation – Power Center Ballroom Section C

<http://www.ssp-pgh.org/> and click on SSP Monthly Meeting “More Info” link

Dinner Reservations: Please register on-line at <http://www.ssp-pgh.org/> to make dinner reservations **NO LATER THAN Thursday, November 7, 2017 at noon**. Dinner will cost \$10 (\$5 for students) and checks must be made payable to the SSP. This month's Main Entrée: **Sliced Ham with Pineapple Glaze**. Vegetarian Entrée: **Creamy Polenta with Broccoli**. If you have any dietary restrictions, please indicate them when you RSVP.

Parking: The Duquesne University Parking Garage is located on Forbes Avenue. Upon entering the garage, receive parking ticket and drive to upper floors. Pick up a parking chit at the dinner or meeting.

TECHNOLOGY FORUM - 5:30 PM

Howard Fry, Pyrotechnic Artists, Inc.



“Fireworks”

Fireworks, the science behind the magic

- Anatomy of a fireworks shell
- Patterns and effects
- Methods of ignition
- Consumer and display fireworks
- Rules and regulations

Biography

Howard Fry is retired from the trucking industry and resides in the Johnstown area. He is president of the Pyrotechnic Artists Inc., a fireworks club incorporated in Pennsylvania. Dean Putt is a retired chemist living in the Lancaster area. Dean is a director in the Pyrotechnic Artists. Howard and Dean each have over 25 years' experience in professional fireworks displays. Both are members of the National Fireworks Association, Pennsylvania Pyrotechnics Association, and national fireworks safety instructors for the Pyrotechnics Guild International. Howard and Dean work closely with ATF, Homeland Security, State and Federal DOT, Pennsylvania DEP, PHEMSA, and the CPSC on issues relating to the fireworks industry.

TECHNICAL PROGRAM

8:15 PM



Dr. Ellen Gawalt, Duquesne University

“Surface Modification of Biomaterials with Bioactive Molecules”

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30th Annual Faraday Lecture



Bob Becker

"Ordinary Chemistry, Extraordinary Demos"

Spectacular demonstrations will delight and enrich students, teachers, and the general public. Come learn about combustion, exploding balloons, flame tornadoes, methane mambo, thermite, breathing helium and SF₆, and other spectacular scientific phenomena. You will sit at the edge of your seat and will see science in action.

MIDDLE SCHOOL & HIGH SCHOOL STUDENTS

Tuesday, Wednesday, November 14 & 15, 2017

**Invitation letters will be sent out early in the school year
or you can go to the Society websites below.**

Tuesday, Nov. 14 - 7:30 PM

**Evening performance, free & open to the Public,
no tickets required**

Soldiers and Sailors Memorial Hall

4141 Fifth Avenue in Oakland, PA

Sponsored by

The Spectroscopy Society of Pittsburgh

The Society for Analytical Chemists of Pittsburgh

www.sacp.org or www.ssp-pgh.org





AMERICAN CHEMICAL SOCIETY PITTSBURGH SECTION AWARD BANQUET

Honoring
2017 PITTSBURGH AWARD RECIPIENT
Dr. Debra Singer

2017 DISTINGUISHED SERVICE AWARD WINNER
Dr. Fu-Tyan Lin

MONDAY, DECEMBER 11, 2017

Grand Concourse
100 West Station Square Dr.
Pittsburgh, PA 15219

Social Hour: 6:00 Cash Bar
Dinner: 6:45
Award Presentation: 7:45

DINNER REGISTRATION

Registration must be received by Thursday, November 30, 2017: \$44.00; Student or Post-Doc \$20.00

Parking is not included in the cost but is available in lots adjacent to Station Square or through valet at the Grand Concourse.

To officially register for the event, payment must be received. Please make checks payable to **ACS Pittsburgh Section** and mail to Kristi Kauffman, 213 Main Street, Pittsburgh, PA 15201. Include the following information along with your check:

NAME _____

ADDRESS _____ **STATE** _____ **ZIP** _____

EMAIL _____

AFFILIATION _____

MEAL CHOICE (Please choose one):

SIRLOIN STEAK WITH WARM BLUE CHEESE BUTTER

SALMON ROCKEFELLER WITH SPINACH, CRAB MEAT, BACON, BÉARNAISE

VEGETARIAN (TO BE ANNOUNCED)



Dear Academic ACS Pittsburgh Section Members,

The Pittsburgh Section of the American Chemical Society has budgeted funds to help encourage undergraduate/graduate student participation in national and regional ACS meetings. The awards are intended to help defray meeting registration and travel-related expenses (lodging, transportation, per diem) for eligible students. Awards will be made based on the scientific merit of the paper/poster to be presented, financial need, and preference will be given to ACS members.

To apply for the funds, applicants should complete the attached application and return it by the relevant deadline. The deadlines for receipt of applications are as follows:

- 06/01 (for travel to be completed by 12/31)
- 12/01 (for travel to be completed by 06/30)

As noted on the application, students should include an abstract and confirmation (if received) of the paper/poster being accepted for the Meeting. In addition to the application form, applicants should include a recommendation letter from the PI of the project being presented and a personal statement as to the anticipated benefits of meeting attendance.

Applications can be made electronically (preferred) by emailing the application to Heather Juzwa (hljuzwa@shimadzu.com or heather_sapko@hotmail.com) or by mailing a hard-copy application (Pittsburgh Section ACS Travel Grants / Heather Juzwa / Center / 321 Winners Circle / Canonsburg, PA 15317).

Since 2013, the Pittsburgh Section of the ACS has awarded up to four \$500 grants each year to aid our undergraduate/graduate student members in presenting papers or posters at ACS Meetings. This is an ongoing program in our Section, and details will be updated on our website, (www.pittsburghACS.org, as necessary).

Applicants will be notified via email that their application was received. All efforts will be made to announce awards within two weeks of the application deadline, and all applicants will be notified of the final committee decisions. Our Section is looking forward to helping increase the participation of local students in ACS conferences. If you have any questions, please do not hesitate to contact me.

Sincerely,

Heather Juzwa
ACS Pittsburgh Section Student Travel Grants, Chair
Senior Field Sales Engineer
Shimadzu Scientific Instruments, Inc.

The Travel Award Application can be found on pages 13-14 in this issue.

Biography: Dr. Gawalt attended Duke University as an undergraduate. There she was a member of the varsity swim team and conducted undergraduate research in bioinorganic chemistry. She moved onto Princeton University for graduate school where she earned her Ph.D. focusing on the surface chemistry of metal oxides. Dr. Gawalt completed a two-year post-doctoral fellowship at the University of Chicago working on reaction kinetics at surfaces and the cellular response to surface changes. Her research group currently focuses on the surface chemistry of biomaterials and improving the tissue-material interaction. She is a member of the McGowan Institute for Regenerative Medicine at the University of Pittsburgh and has won the University Creative Teaching Award and the BSNES Excellence in Teaching Award. She grew up in Northern Virginia and she and her family currently reside in the Shadyside section of the city.

Get Connected!

Stay up-to-date on all the happenings of the Pittsburgh Section ACS

Section's Website:

www.pittsburghacs.org

Facebook Page:

Pittsburgh Section of the American Chemical Society

Linked In:

Pittsburgh Section of the American Chemical Society



<i>Application Deadline</i>	<i>Travel Completion Date</i>
December 1 st	June 30 th (subsequent year)
June 1 st	December 31 st (same year)

Name of Applicant: _____

Name of Institution: _____

____ Undergraduate Student / Year:

____ Graduate Student / Year:

Mailing Address to Receive Payment if Awarded: _____

Email: _____ Phone: _____

PI: _____

ACS Membership No.*: _____

**If you do not know your ACS number, please email hljuzwa@shimadzu.com to receive it by email.*

Meeting Location: _____ Meeting Date: _____

Project Title: _____

____ Paper Presentation ____ Poster Presentation

**Please attach a copy of your project abstract to the application.*

Has your project been accepted? Yes No

**Attach documentation regarding acceptance if received at point of application.*

Will this be your first presentation at an ACS national or regional meeting? Yes No

If no, please list conferences at which you have presented: _____

Purpose of grant: _____

Other funding sources (if any): _____

Personal Statement of anticipated benefits of meeting attendance _____

Has the applicant received a travel grant from the ACS Pittsburgh Section in the past? Yes No

If your application was selected, the Pittsburgh Section of the ACS would like you to write a short (one page) description of your activity upon completion of the conference for publication in our monthly newsletter, The Crucible, and on our website. The description is due within 30 days of the meeting attended. Photos are welcomed and encouraged.

I am willing to complete this report: Yes No

Signature: _____

Date: _____

Send completed hard-copy applications and supporting documentation to:

Pittsburgh Section ACS Travel Grants

Heather Juzwa

321 Winners Circle

Canonsburg, PA 15317

Electronic copies of completed applications should be sent to hljuzwa@shimadzu.com and heather_sapko@hotmail.com. Be sure to place "Pittsburgh Section ACS Travel Grants" in the subject line.

ACS Pittsburgh Travel Grant Winner, Julia Cuthbert, Summarizes ACS National Meeting Experience

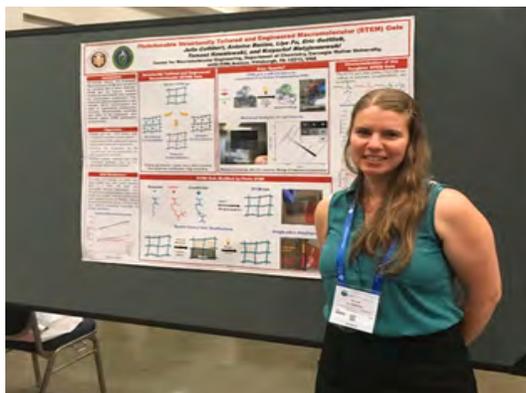
I attended my first ACS national conference in Washington, D.C. and presented a poster on my research accomplishments in polymer chemistry. More specifically, work on the controlled

radical polymerization (CRP) technique atom transfer radical polymerization (ATRP) with my advisor, Krzysztof Matyjaszewski. My project is Structurally Tailored and Engineered Macromolecular

(STEM) gels, which are part of an emerging field of smart materials. STEM gels are polymer networks containing latent initiator sites available for post-synthesis modification and introduction of new functionalities.

The entire conference was an enriching experience. I presented at the Sci-Mix and the CRP symposium poster sessions. The Sci-Mix session was an excellent opportunity to network with members from other ACS divisions and be exposed to research beyond polymer chemistry. In addition to the poster sessions, I attended as many talks as possible to broaden my knowledge. At the CRP symposium, I was impressed by Brent Sumerlin's elegant one pot synthesis method for block copolymers. It involved a three-layer liquid system with the top and bottom layers containing monomer separated by a middle frozen layer. Besides the CRP talks, I also attended lecture series on polymer networks, soft materials, and 3D printing. Jeremiah Johnson, for instance, gave a talk of particular interest to me on "controlling polymer network topology with chemistry." This talk was divided into two sections. The first was on his group's recent work on "living additive manu-

facturing" of polymer gels. The second focused on strategies on control and minimize structural defects in polymer networks.



One of my favorite talks was given by Filip Du Prez on sequence-defined polymers, which have been referred to as the "holy grail" of syn-

thetic chemistry. Du Prez focused his discussion on their potential future applications in data storage. Not only is important to develop method of making such precise polymers, but we also need a way to "read" the sequence. To this end, Du Prez presented his first efforts to design a "chemreader." Using MALDI MS data, the program can directly convert the sequence into a code. In this scenario, the monomers can act as a letters and the oligomers are words.

Finally, this fall's ACS conference took place during the solar eclipse. ACS was kind enough to supply us with the safe eclipse glasses. Everyone was very excited for the high point of the eclipse, and took a short break for the talks to go outside and observe it together. It was a unique and fun experience.

ACS Washington, D.C. gave me an opportunity to put faces to the names of scientists whose work I follow and who I admire. I have also been inspired to take some new directions in my own research endeavors. I am very grateful to ACS Pittsburgh for their generosity in helping me attend this meeting.

For more information regarding Student Travel Grants, see page 12.

Dr. Fu-Tyan Lin Bio Continued from Page 7

Beijing Conference and Exhibition on Instrumental Analysis (BCEIA) in Beijing, China. He gave another lecture of International Forum for BCEIA in 2011 in Beijing. Fu-Tyan organized PITTCON US Symposium at JASIS 2016 Exposition/Conference (Japan Analytical and Science Instruments Show) in September, 2016 in Tokyo-Makuhari.

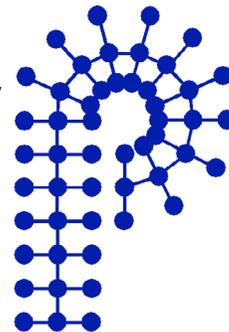
Fu-Tyan has been an active member of the American Chemical Society (ACS) since 1978, a member of the Spectroscopy Society of Pittsburgh (SSP) since 1982, a member of the Society for the Analytical Chemists of Pittsburgh (SACP) since 1999, and a member of the Pittsburgh Conference (PITTCON) since 1993. He served as various committee chairs last several years for PITTCON, SSP, SACP and ACS Pittsburgh Section. He was Chairman of the SSP in 2003-2004, and was Chairman for SACP 2011-2012. He was the Chairman for the Pittsburgh Section of ACS in 2008. He served as a Chairman for Pittsburgh ACS Polymer Group in 1985-1986. He was President of The Chinese Monte Jade Science and Technology Association, Pittsburgh Chapter, in 1999. He is Selection Committee member for Carnegie Science Awards since 2013.

Fu-Tyan enjoys sewing, cooking, reading and listening to classical music.



Pittsburgh Section

Pittsburgh American Chemical Society
and
ACS National Polymer Division
Sponsored Talk



Pittsburgh ACS Polymer Group Meeting Presents:

Macromolecular metamorphosis: Stimulus-triggered
topological transformations of polymer architecture



Dr. Brent Sumerlin

Professor, Department of
Chemistry, University of Florida

The Sumerlin Research Group investigates well-defined polymeric materials with selected functionality, composition, and molecular architecture. Our particular focus is on polymers that are water-soluble and stimuli-responsive. Such "smart" polymers have the ability to self-assemble or dissociate in solution in response to changes in their surroundings. Potential target applications include controlled and targeted drug delivery, surface modification, and the synthesis of self-healing materials. Our interests are at the interface of bio-, organic, and polymer chemistry, with particular focus on fusing the fields to prepare materials with synergistic properties.

November 13, 2017 4:00 - 7:00pm
Schenley Park Cafe and Visitor Center
101 Panther Hollow Road
Pittsburgh, PA 15213

Hors d'oeuvres and drinks will be served.

Please contact Gabrielle Pros at prosg@duq.edu if interested in attending by November 8th.

Business Directory

Services

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Services

Volunteers Needed!

There are a number of volunteer opportunities in the Pittsburgh ACS section! If you are interested in volunteering, please contact Heather Juzwa at hljuzwa@shimadzu.com!

Crucible Deadline

The deadline for items submitted to The Crucible is the 15th of the month prior to publication.

For example, all items for the December 2017 issue must be to the editor by November 15, 2017.

The Crucible

The Crucible is published monthly, August through May. Circulation, 2,500 copies per month. Subscription price, six dollars per year. All statements and opinions expressed herein are those of the editors or contributors and do not necessarily reflect the position of the Pittsburgh Section.

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The Crucible

A newsletter of the Pittsburgh Section of the American Chemical Society
124 Moffett Run Rd.
Aliquippa, PA 15001

Change of Address

If you move, notify the American Chemical Society, 1155 Sixteenth Street, N.W., Washington, D.C. 20036.

To avoid interruption in delivery of your CRUCIBLE, please send your new address to Traci Johnsen, 124 Moffett Run Rd., Aliquippa, PA 15001. Allow two months for the change to become effective.

Pittsburgh Area Calendar

Monday, November 6

Society for Analytical Chemists of Pittsburgh

“Native MS in Structural Biology”

Vicki Hopper Wysocki, Ph.D., Department of Chemistry and Biochemistry, Ohio State University

Duquesne University, Pittsburgh, PA

Monday, November 13

The Spectroscopy Society of Pittsburgh

Technology Forum

“Fireworks”

Howard Fry, Pyrotechnic Artists, Inc.

Duquesne University, Pittsburgh, PA

Technical Program

“Surface Modification of Biomaterials with Bioactive Molecules”

Dr. Ellen Gawalt, Duquesne University

Duquesne University, Pittsburgh, PA

Monday, November 13

Pittsburgh Section ACS and ACS National Polymer Division

Pittsburgh Section ACS Polymer Group

“Macromolecular Metamorphosis: Stimulus-Triggered Topological Transformations Of Polymer Architecture”

Brent Summerlin, Professor, Department of Chemistry, University of Florida

Schenley Park Cafe and Visitor Center, 101 Panther Hollow Rd., Pittsburgh, PA 15213

Tuesday, November 14

30th Annual Faraday Lecture

“Ordinary Chemistry, Extraordinary Demos”

Bob Becker

Soldiers and Sailors Memorial Hall, 4141 Fifth Ave. in Oakland, PA

Monday, December 11

ACS Pittsburgh Section Award Banquet

Honoring Pittsburgh Award Winner, Dr. Debra Singer and Distinguished Service Award Winner, Dr. Fu-Tyan Lin

Grand Concourse, 100 West Station Square Dr., Pittsburgh, PA