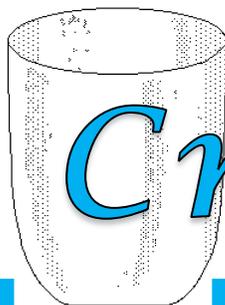


The Crucible



Volume CIV, No. 3

November 2018



Congratulations to the 2018 ACS Pittsburgh Section Award Recipients!

Pittsburgh Award – Dr. Steven R. Little

Dr. Steven Little is currently the William Kepler Whiteford Endowed Professor of Chemical and Petroleum Engineering, Bioengineering, Pharmaceutical Sciences, Immunology, Ophthalmology and The McGowan Institute for Regenerative Medicine at the University of Pittsburgh. He received his PhD in Chemical Engineering from MIT in 2005 under the mentorship of Robert Langer, with his thesis winning the American Association for Advancement of Science's Excellence in Research Award. Dr. Little's research focuses on controlled release and pharmaceutical formulation as well as biomaterial and pharmaceutical excipient interactions, materials behavior ex vivo and in situ, and biomimetic design principles. Dr. Little was the first to develop a broadly-applicable



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Distinguished Service Award – Dr. Guy C. Berry

Guy C. Berry, is University Professor Emeritus of Chemistry and Polymer Science of Carnegie Mellon University. He arrived in Pittsburgh from Ann Arbor in 1960 to accept a position as a Fellow in the Polymer Program of the Mellon Institute, having received B.S, M.S. and Ph.D. degrees from the University of Michigan. He was accompanied by his wife Marilyn, and their two young daughters, Susan and Sandra, their son Scott coming along a few years later; the Berry's now enjoy ten grandchildren, and three great-grandsons.



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AMERICAN CHEMICAL SOCIETY
PITTSBURGH SECTION
AWARD BANQUET

Honoring

2018 PITTSBURGH AWARD RECIPIENT
Dr. Steven R. Little

2018 DISTINGUISHED SERVICE AWARD WINNER
Dr. Guy C. Berry

THURSDAY, DECEMBER 6, 2018

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 submitted by Monday, November 26, 2018: \$43.00; Student or Post-Doc \$21.50

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 Bradley Davis, 51 W. College St., Waynesburg, PA 15370. 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)



ACS PITTSBURGH SECTION ELECTIONS FOR 2019 OFFICERS

The 2018 Nominating Committee of the Pittsburgh Section of the American Chemical Society submits the following slate of candidates for Section office for 2019. 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. The polls will open on November 5. Please note that all ballots must be received by November 20, 2018 at 5:00 PM EST, when polls close.

CHAIR-ELECT (vote for 1)

Marina Kovaliov
Matthew Price

SECRETARY-ELECT (vote for 1)

Sean Garrett-Roe
Sara Smith

TREASURER-ELECT (vote for 1)

Evonne Baldauff

DIRECTOR (vote for 2)

David Gallaher
Fu-Tyan Lin

COUNCILOR (vote for 1)

Rich Danchik
Edward Zovinka

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 a notification and code from www.vote-now.com. The polls can open on November 5th and close November 20th at 5:00 pm EST.

For ballot questions, please contact:

Matthew Baker
Secretary - ACS Pittsburgh Section
mbaker1@andrew.cmu.edu

Ballot

For Offices of the

2019

Pittsburgh Section, American Chemical Society

Chair-Elect (Vote for 1)

Marina Kovaliov

Matthew Price

Secretary -Elect (Vote for 1)

Sean Garrett-Roe

Sara Smith

Treasurer-Elect

Evonne Baldauff

Director (Vote for 2)

David Gallaher

Fu-Tyan Lin

Councilor (Vote for 1)

Rich Danchik

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, Matt Baker, 5626 Beacon Street, Pittsburgh, PA 15217.

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 20, 2018.

CANDIDATE BIOGRAPHIES

CHAIR-ELECT

Marina Kovaliov received her Ph.D. in chemistry in 2014 under the tutelage of Professor Bilha Fischer at Bar Ilan University in Israel. She worked on a synthesis of a series of novel nucleotide fluorescent probes to study the properties, behavior, and overall structure of nucleic acids. Dr. Kovaliov was also a key contributor to her group's synthesis of oligonucleotide probes containing a modified nucleoside for the detection of DNA/RNA.

Dr. Kovaliov, is currently a fellow researcher at the Allegheny Health Network Neuroscience Disruptive Research Lab (Allegheny General Hospital), working with Professor Saadyah Averick. Her research focuses on improving patient outcomes by utilizing advances in organic, polymer chemistry and material science to discover new treatment modalities and therapeutics. Her research lab is integrated into the neuroscience institute and works closely in collaboration with physicians to identify medical needs to focus their research efforts.

Prior to her career at Allegheny Health Network, Dr. Kovaliov was involved in a drug discovery program, as a post-doctoral research associate under Professor Peter Wipf at the University of Pittsburgh. Dr. Kovaliov is also part of a group of inventors in a patent application based on her post-doctoral research. This patent discloses the synthesis of novel p97 inhibitors as an approach for the development of chemotherapeutic agents that have the potential to treat a wide range of cancers.

Throughout her career, Marina has demonstrated enthusiasm about the sciences and enjoyed participating in science outreach programs. During her graduate studies, she was an active member of Israel Chemical Society, leading and teaching the after-school program in chemistry and biology for elementary schools. Over the last three years, she has regularly attended and presented at ACS National meetings.

Matthew Price joined the Chemistry and Physics Department at California University of PA in the fall of 2004. Matthew's main instructional load consists of Organic and Biochemistry courses and also participates in the chemistry programs integrated laboratory and research program. Matthew has participated in the department's ACS accreditation efforts, has served as Chemical Hygiene officer in the department since 2008, and has served as chair of the department since 2014. Matthew has also been actively involved in the General Education committee at CalU since 2008, serving as assessment coordinator (2009-present) and vice-chair (2012-7) and as Chair (2017-19).

Matthew received a B.S in Chemistry in 1995 from Adams State College in Alamosa, CO and a Ph.D. in Organic Chemistry from the University of Utah in 2002 under the direction of Cynthia Burrows in the area of polymeric bioconjugates in gene transfection. While at Utah, Matthew received the NIH Biological Chemistry Training Fellowship. Upon completion of his graduate studies, he conducted proprietary research into polymeric drug formulations at a biotechnology company in downtown Salt Lake City until accepting a position as a visiting assistant professor at Earlham College in 2003-4.

Matthew joined the Society for Analytical Chemists of Pittsburgh in 2009, and has been an active member serving as an advisor in the student affiliates, various committees, including National Chemistry Week committee (chaired in 2013-4), and has worked as staff and presented research with undergraduates at PittCon the past three years. Matthew has also been a member of the American Chemical Society since 1998, serving in the local section as secretary in 2015.

SECRETARY-ELECT

Sean Garrett-Roe received his B.S in Chemistry from Princeton University (1999) and his Ph.D. from the University of California, Berkeley (2005). From 2006 to 2011, he was a postdoctoral scientist at the University of Zurich with Prof. Peter Hamm. Sean joined the chemistry department of the University of Pittsburgh as an assistant professor in 2011 and was promoted to associate professor with tenure in 2018. At Pitt, his research has focused on ultrafast vibrational spectroscopy (2D-IR) of ionic liquids. He has published over 40 peer reviewed journal papers. He was awarded the Chancellor's Distinguished Teaching Award (2017). He has been an ACS member since 1999 and regularly attends and presents at ACS national and regional meetings.

Sara Smith received a B.S in Chemistry (2008) and a M.P.S in Forensic Science (2010) from the Pennsylvania State University. She earned her Ph.D. in Analytical Chemistry from the University of Pittsburgh in 2014. Sara has been a

[Continued on Page 6](#)

CANDIDATE BIOGRAPHIES

member of the American Chemical Society for 8 years. She has attended and presented at numerous ACS national meetings including the 246th National Meeting in Indianapolis, Indiana where she was thankful to attend as an ACS Women Chemists Committee/Eli Lilly Travel Award recipient. Since returning to the Pittsburgh area, Sara has been involved in several STEM outreach programs including serving as a judge at scientific poster sessions at both the high school and college levels, as well as volunteering for the National Chemistry Week Chemfest program at Carnegie Science Center. Currently, Sara is an application scientist for PerkinElmer Genomics where she is responsible for the development and validation of new clinical assays for rare genetic disorders.

TREASURER-ELECT

Evonne Baldauff received her B.S. in chemistry from Grove City College in 2000 followed by a Ph.D. in inorganic chemistry from Purdue University in 2004. She currently serves as Chair of the Department of Chemistry & Forensic Science at Waynesburg University where she is an Associate Professor of Chemistry. Her research interests range from developing novel inorganic materials to characterization of roasted and brewed coffee to studying learning outcomes in the general chemistry laboratory. She has been active in the Pittsburgh ACS Local Section since 2013, serving in various officer roles including secretary and chair. She is currently a member of the NCW committee. Baldauff has advised the Waynesburg University ACS student chapter since 2007, during which time the group was recognized nine times as an “Outstanding Student Chapter”. She loves spreadsheets and budgeting and thus hopes to serve the chapter in the role of treasurer.

DIRECTOR

David Gallaher is currently a faculty member in the Department of Chemistry at Carlow University. He holds the rank of Associate Professor and is currently serving as the chairperson of the chemistry department. He advises the Carlow ACS-SA chapter and is finishing his first three-year term as a Director on the Local Section Executive Board. David earned a BS in Chemistry from the University of Pittsburgh in 1993, where he performed undergraduate research under the late Andrew (Jack) Sharkey in the area of trimethylsilyl derivatization methods for detection enhancement in GC/MS. David earned a Ph.D. in Bioanalytical Chemistry from Duquesne University in 1999, under the late Mitchell E. Johnson in the area of near-infrared laser induced fluorescence detection methodologies for capillary electrophoresis. As a director over the past three years, David has become involved with several section projects, notably the archiving of historic issues of *The Crucible*, the planning and hosting of the annual Tripartite Symposium, and the “reboot” of the chemical education group (with Evonne Baldauff). David is actively seeking a second term in the role of Director to allow him to see these projects through to completion.

Fu-Tyan Lin 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 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 Lab. 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 Beijing Conference and Exhibition on Instrumental Analysis (BCEIA) in Beijing, China. He gave another lecture of International Forum for BCEIA on October 12th, 2011 in Beijing. Fu-Tyan organized PITTCON US Symposium at

[Continued on Page 7](#)

CANDIDATE BIOGRAPHIES

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.

COUNCILOR

Dr. Richard Danchik Pittsburgh Section. Consultant, Pittsburgh, Pennsylvania.

Academic Record: Duquesne University, B.S., 1965; Wayne State University, Ph.D., 1968.

Honors: American Institute of Chemists, Fellow 1998; American Society of Testing Materials (ASTM) Fellow 1998; Sigma Xi; Phi Lambda Upsilon; ASTM Moyer D. Thomas Award 2007; ACS Pittsburgh Section Distinguished Service Award 2012; ASTM Award of Merit 1998; Society for Analytical Chemists of Pittsburgh Chairman's Award 2004; ASTM Award of Appreciation 2011; ASTM Lifetime Achievement Award 2014; ACS International Activities Committee Award of Appreciation 2015, ACS International Activities Committee Award of Recognition, 2018.

Professional Positions (for past ten years): Consultant, 1997 to date; Alcoa, Manager, Environmental Health Laboratory, 1979-96; Senior Scientist, 1974-79.

Service in ACS National Office: Committee on International Activities, 2010-18, 1992-2000, 2008-09 Committee Associate; Committee on Meetings and Expositions, 2002-07, Committee Associate, 2001; Advisory Board, *Analytical Chemistry*.

Service in ACS Offices: Pittsburgh Section: Councilor, 1991-2018, Chair, 1991, Chair-Elect, 1990; Director, 1992-2004.

Member (current): Member ACS since 1966. American Institute of Chemists; American Industrial Hygiene Association; Spectroscopy Society of Pittsburgh; Society for Analytical Chemists of Pittsburgh, Chairman 1979; Pittsburgh Conference, President, 1986; American Society for Testing Materials International, 1969-2018, Chair of ASTM D22 Committee on Air Quality 2000-2006; International Standards Organization (ISO), 2000-2018. ACS Division of Analytical Chemistry

Related Activities: Member of the Editorial Board of the *Applied Occupational and Environmental Hygiene* Journal; Actively involved with Pittcon (Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, President 1986 and have chaired numerous Committees for Pittcon and is the Negotiations Chairman for 2018; Authored or Co-authored numerous technical articles and has previously authored the Non-Ferrous Metallurgy Review for the Analytical Chemistry Journal.

Edward P. 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.

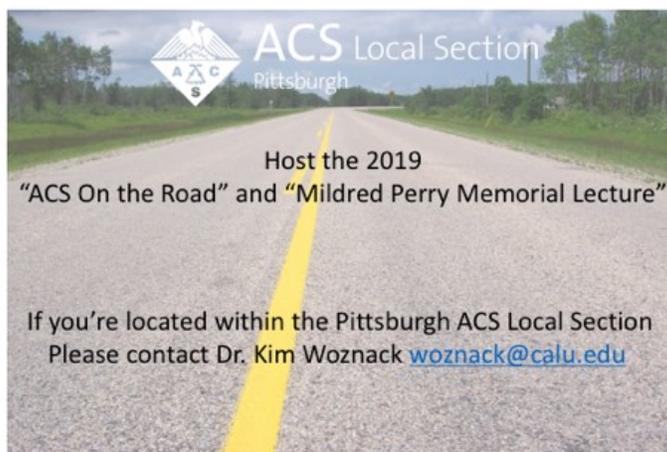
His research focuses on bioinorganic and environmental chemistry, publishing on a range of projects including the breakdown of red blood cells, the use of vanadium in biological systems, b-Lactamase resistance, the expansion of green chemistry in the inorganic laboratory, synthesizing low valent, low coordination state iron complexes, to studying water quality in Central Pennsylvania.

CANDIDATE BIOGRAPHIES

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 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.



Are you interested in hosting the 2019 "ACS On the Road" and "Mildred Perry Memorial Lecture" event at your campus?

Each year the Pittsburgh local section features an "On the Road" event, which has the "Mildred E. Perry" memorial lecture.

This is a great opportunity to local section chemists to visit your site or campus. The organizers choose the speaker and program details and many past organizers would be happy to share our experience and websites if the host location is interested. This event was hosted by California University of Pennsylvania in 2018 and featured Dr. Amanda Bryant-Friedrich from the University of Toledo. If your institution is located in the Pittsburgh Local Section and you'd like to host the 2019 ACS "On the Road" event please contact Kim Woznack (woznack@calu.edu).

**Friends of Drake Well, Inc. dedicates Memorial Bench to
Long-Time ACS Member
Mordecai D. Treblow**



Thanks to the Pittsburgh Local Section's Energy Technology Group, the Friends of Drake Well, Inc. has dedicated a memorial bench to long time member, Dr. Mordecai Treblow. In 2015, Mordecai celebrated 60 years of ACS membership. Throughout his entire career, Mordecai was extremely active with the ACS on both the national and local level. His tireless dedication earned him the Prestigious Distinguished Service Award in 2010 and the Chairman's Award in 2011. Mordecai passed away on Tuesday, April 26, 2016 and is lovingly remembered.



Next time you are near Titusville, please stop by [Drake Well Museum](#) at 205 Museum Lane, Titusville, PA 16354.

Announcing the Inaugural Meeting of the Newly Reconstituted

Chemical Education Group

Sponsored by the
American Chemical Society (ACS)
Pittsburgh Local Section

Thursday, November 8, 2018 from 6:00PM to 8:00PM
CARLOW UNIVERSITY, A.J. Palumbo Hall of Science and Technology, Room 302

Local chemical education professionals (College and High School Educators) are invited to attend this inaugural meeting to help reconstitute the Chemical Education Group of the ACS Pittsburgh Local Section.

- Discussions on the State of Chemical Education in the Pittsburgh Local Section Area
- Networking with Local Professional Chemical Educators
- Help Shape the Role of the Group in the Dynamic Landscape of Chemical Education in the Pittsburgh Region
- Help to Identify and Develop Strategic Partnerships

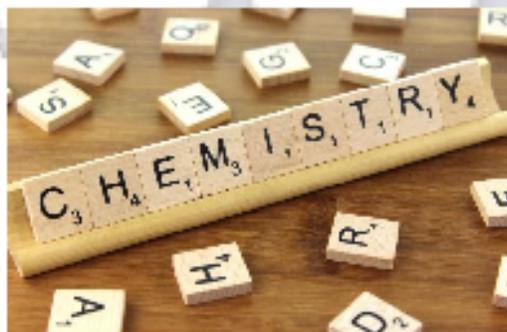
Refreshments will be provided. Parking is available in Carlow University Parking Lot "A" - see campus map at:
http://www.carlow.edu/Maps_Directions_Parking.aspx
(or on-street surrounding the Carlow Campus)

ATTENDANCE IS LIMITED, AND REGISTRATION IS REQUIRED

For questions, information, or to register to attend, please contact:

Dr. David Gallaher
Carlow University, Department of Chemistry
dlgallaher@carlow.edu

Dr. Evonne Baldauff
Waynesburg University, Department of Chemistry
ebaldauf@waynesburg.edu



ACS Local Section
Pittsburgh

31st ANNUAL

FARADAY LECTURE

Tuesday, November 13 at 7:00 PM
Soldiers and Sailors Memorial Hall

Free and open to the public!

“Science You Can See (and Hear)”

This year's Faraday Lecture will be presented by the team of Colin Gould and Gregg Gould. The demonstrations performed will fall in two general areas; electromagnetic induction and sound. Many of the demonstrations will utilize particularly large-scale apparatus to help the audience see/hear the scientific principles involved. These lectures/demonstrations are entertaining as well as educational.

SPONSORED BY:
THE SOCIETY FOR ANALYTICAL CHEMISTS OF PITTSBURGH
THE SPECTROSCOPY SOCIETY OF PITTSBURGH



Society for Analytical Chemists of Pittsburgh Spectroscopy Society of Pittsburgh



November Meeting

Wednesday, November 14, 2018



in Pittsburgh



5:30 PM Social Hour — Power Center Ballroom
5:30 PM SSP Technology Forum – Power Center Ballroom
6:30 PM Dinner – Power Center Ballroom
Student Affiliate Meeting – Shepperson Suite
7:45 PM Business Meeting – Power Center Ballroom
8:00 PM Technical Program – Power Center Ballroom

Deadline for Dinner Reservations: Monday, November 5, 2018

SSP TECHNOLOGY FORUM



Dr. Neal Dando, The Spectroscopy Society of Pittsburgh “Starhopping – Finding Your Way in the Night Sky”

Starhopping is the practice of using readily locatable planets or constellations as reference points for finding other features of interest in the night sky. Our planetarium program allows participants to observe the sky, planets, various constellations and individual stars from any point on the surface of the earth, at any year or time of day and at any rate of elapsing time. We will use these capabilities to explore the night sky from different perspectives within the northern hemisphere and show how relatively obtuse astronomy concepts can be made tangible by the innovative use of the planetarium software. One 30-minute presentation will commence at 5:30. Several chairs will be available inside the planetarium for folks who cannot sit on the floor.

Our portable planetarium was purchased by the Pittsburgh Conference for the Spectroscopy Society of Pittsburgh and the Society of Analytical Chemists of Pittsburgh to use in our outreach programs.

BIOGRAPHY: Neal Dando is a member of the Spectroscopy Society of Pittsburgh (SSP), the Society of Analytical Chemistry of Pittsburgh and the Pittsburgh Conference (PITTCON) Organizing Committee. Neal is also the 2018-19 Chair of the SSP Pittcon Planetarium Committee, Chair-elect of the SSP and President-elect Designate of the Pittsburgh Conference Committee.

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Society for Analytical Chemists of Pittsburgh Spectroscopy Society of Pittsburgh



November Meeting

Wednesday, November 14, 2018

SACP TECHNICAL PROGRAM

Rick Yost, University of Florida

“The Triple Quadrupole: Innovation,
Serendipity and Persistence”



In this presentation I will provide a personal perspective on the conceptualization, development and demonstration of the analytical capabilities of the triple quadrupole mass spectrometer. And in that perspective, I will try to illustrate the roles of innovation, serendipity and persistence that are fundamental to scientific research.

The triple quadrupole mass spectrometer has become the most common mass spectrometer in the world today, with sales of over \$1 billion per year. It is the gold standard for quantitative analysis in metabolomics, clinical analysis, drug discovery and development, and environmental analysis. But when I proposed that instrument as the “ultimate computerized analytical instrument” as a new PhD student in Chris Enke’s research group at Michigan State University as in 1975, the NSF reviews were uniformly negative, with experts in the field unanimous that the proposed instrument would never work. Fortunately, ONR funded the proposal, and the instrument did work!

In the 40 years since, mass spectrometry has evolved from a niche research area, largely for fundamental chemistry studies, into a practical, widely available analytical technique. Indeed, one can hardly name a significant advancement in science that was not made possible by the inventions and development of new tools to see something or measure something, and that includes everything from litmus paper to giant telescopes on mountain tops. And common to these inventions and developments have been innovation, serendipity and persistence.

BIOGRAPHY: Dr. Yost is the University Professor and Head of Analytical Chemistry at the University of Florida. He is recognized internationally as a leader in the field of analytical chemistry, particularly tandem mass spectrometry (MS/MS). Dr. Yost received his BS degree in Chemistry in 1974 from the University of Arizona, having performed undergraduate research in chromatography with Professor Mike Burke and his PhD degree in Analytical Chemistry in 1979 from Michigan State University, having performed graduate research with Professor Chris Enke. He then joined the faculty of the University of Florida.

[Bio Continued on Page 18](#)

DINNER RESERVATIONS: Please complete the [Online Dinner Reservation Form](#) NO LATER THAN Monday, November 5, 2018. The form is also located under the Meeting Notice on website www.sacp.org. & www.ssp-pgh.org. Should you not be able to access the form, please call 412-825-3220, ext. 212 the SACP & SSP Administrative Assistant to make your dinner reservation. The entrée choices for November are **Roasted Turkey** or **Butternut Squash Tart**. Please let us know if you have any dietary restrictions. Dinner will cost \$10 (\$5 for undergraduate students). Checks can be made payable to the SACP or the SSP, depending on membership. **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. Should any difficulties arise, please contact Duquesne University.



ACS-Energy Technology Group Meeting

Thursday, November 15, 2018

“Advancing Coal through New Technology Development for Mining and Beneficiation”

Dan Connell

Coal remains a vital source of energy in the United States and around the globe, accounting for about 30% of U.S. electricity generation and providing 60% of the primary energy consumed by China and India in 2017. As such, the U.S. holds substantial value in its vast proven coal reserve base, which is the largest of any country in the world. However, in order for this value to be fully realized, new technology development for “upstream” aspects of coal – including mining and beneficiation – is needed in order to keep coal competitive with rapidly evolving energy sources such as natural gas and renewables. While substantial federal R&D spending has been directed toward controlling emissions from coal combustion and improving the efficiency of coal-fired power plants, relatively little has been invested in upstream portions of the coal supply chain even though these factor prominently in the overall value proposition for coal as well. The cost of the coal feedstock is a major factor in determining the competitiveness of domestic coal-fired power plants, U.S. coal exports, and non-power end-uses of coal, and coal mining, processing, and transport factor prominently in coal’s overall environmental, health, and safety profile. This presentation highlights new technology opportunities in coal mining and beneficiation – including opportunities in the areas of automation and robotics, big data and advanced computing, fully remote mining, waste coal recovery and utilization, and new product streams – and discusses potential implications for the coal industry.

Biography - Dan is Vice President of Business Development & Technology for CONSOL Energy Inc., which is a producer and exporter of bituminous thermal and metallurgical coal from the Northern Appalachian Basin. In his current position, Dan is focused on developing and executing CONSOL’s growth strategy and advancing the company’s initiatives to create value through the application of new technologies. He also has responsibility for the CONSOL Marine Terminal in the Port of Baltimore. Prior to this, Dan spent about 15 years working in CONSOL’s Research & Development, Marketing, and Strategy & Engineering groups, where he focused on the development and economic analysis of advanced power generation and environmental control technologies, technical marketing for thermal and metallurgical coal customers, coal market analysis, strategic planning, new market development, and major transactions.

As a member of CONSOL’s R&D group, Dan served as Principal Investigator and administrative lead for the Greenidge Multi-Pollutant Control Project, a \$33 million clean coal technology demonstration project sponsored by the U.S. Department of Energy, and he was CONSOL’s lead investigator on a number of research projects focusing on topics such as chemical looping, carbon dioxide capture, water treatment, and ambient air quality. More recently, Dan was responsible for all technical aspects of CONSOL’s thermal and metallurgical coal sales, for developing its market strategy, and for managing its mine planning, coal quality, and reserves functions. He has served as a key team member for several major transactions, including the successful spin-off of CONSOL’s coal business from its natural gas E&P business.

Dan earned his B.S. in chemical engineering from the University of Notre Dame, and he is a graduate of CONSOL’s Leadership Education and Development program. He is the author of more than 50 publications and presentations on topics related to coal, energy, and the environment.

Cost is \$26 (cash or check), walk-ins are welcome but reservations with dinner selection are preferred.

Dinner Menu: Soup, salad and choice of: Lasagna, Chicken Romano, Spaghetti w/meatball, Manicotti.

Also, included are coffee, tea, or soft drinks.

RSVP to ACS.ETG@gmail.com by Mon. November 12, with names of those planning to attend, and, your dinner choice.

Check In: 6:00-6:30 PM, Dinner: 6:30-7:30 PM, Technical Presentation 7:30-8:30 PM

Location: [Lombardozzi’s Restaurant](#) - Bloomfield, 4786 Liberty Ave, Pittsburgh, PA 15224

MADE IN PITTSBURGH

A SYMPOSIUM SPONSORED BY SACP/SSP CONTINUING EDUCATION

**THREE ICONIC PITTSBURGH AREA COMPANIES WILL PRESENT THEIR SUCCESS STORIES
FEATURING: PPG INDUSTRIES, SARRIS CANDIES & WESTINGHOUSE**

LOCATION: CHURCH OF THE BRETHREN, 481 CENTER RD, MONROEVILLE, PA 15146

TIME: SATURDAY, NOVEMBER 17, 2018 8:30—9 REGISTRATION

9—12 SYMPOSIUM

COST: \$10 (INCLUDES PARKING, REFRESHMENTS AND LUNCH)

LUNCH IS AT FORTUNE STAR BUFFET, MIRACLE MILE MALL, MONROEVILLE

PLEASE SEND A CHECK OF \$10.00 PAYABLE TO SACP TO ATTN: CONTINUING EDUCATION,
SACP, 300 PENN CENTER BLVD, SUITE 332, PITTSBURGH, PA 15235 & COMPLETE THE
INFO STATED BELOW.

DEADLINE: REGISTRATION MUST BE POSTMARKED BY NOVEMBER 12, 2018

NAME: _____

AFFILIATION: _____

EMAIL: _____

PHONE: _____ WILL YOU STAY FOR LUNCH: YES__ NO__

If you already sent the registration form in using the form in the October *Crucible* and you used the zip code of 15231 listed on the form, please let Manny Miller (millerm@pittcon.org) know, because the zip code was incorrect it should be 15235.

SAVE THE DATE!!!!!!

2019 Tripartite Symposium

Saturday May 18, 2019

Carlow University – A.J. Palumbo Hall of Science

Can you guess the Tripartite 2019 Theme? Here is a hint:

CHEMISTS



**Stay tuned for the December issue of
The Crucible for another hint.**

Little Bio Continued from Page 1

mathematical design tool for degradable polymer-based controlled release formulations that produce customizable controlled release behavior. This work led to the founding of the first custom design controlled release formulation design company (for pharmaceutical industry, agricultural industry, and academic laboratories) in Pittsburgh, PA (Qrono Inc.). Dr. Little has also developed a number of novel controlled release and drug delivery formulations that mimic the body's natural processes including systems that can mimic the natural sequence of regenerative cues in wound healing as well as targeting the homing/recruitment of specific cell populations (immune cells, stem cells, etc.) to a local site for more highly sophisticated, next-generation regenerative medicine that requires only picograms-nanograms per kilogram of active ingredient per dose.

Dr. Little's research has resulted to date in over 90 peer reviewed publications and the founding of two spin-out companies located in Pittsburgh, PA. Dr. Little has delivered over 60 invited talks including 6 plenaries and 6 keynote lectures. Dr. Little has been recognized by national and international awards including the Curtis W. McGraw Research Award from the ASEE, being elected as a fellow of BMES and AIMBE, a Carnegie Science Award for Research, the Society for Biomaterials' Young Investigator Award, the Controlled Release Society's Young Investigator Award, the University of Pittsburgh's Chancellor's Distinguished Research Award, being named a Camille Dreyfus Teacher Scholar, being named an

Arnold and Mabel Beckman Young Investigator, and being elected to the Board of Directors of the Society for Biomaterials and also the Controlled Release Society. In addition, Dr. Little's exceptional teaching and leadership in education have also been recognized by both the University of Pittsburgh's Chancellor's Distinguished Teaching Award and a 2nd Carnegie Science Award for Post-Secondary Education. Dr. Little was named one of Pittsburgh Magazine's 40 under 40, a "Fast Tracker" by the Pittsburgh Business Times, and also one of only five individuals in Pittsburgh who are "reshaping our world" by Pop City Media.

Dr. Little currently serves as the 12th Chairman of the Department of Chemical Petroleum Engineering.

Berry Bio Continued from Page 1

Berry's research interests are in the physical chemistry and physics of polymers and their solutions. His early studies in Ann Arbor focused on the properties of branched polymers, revealing behavior that remained unexplained theoretically for a number of years. The position at the Mellon Institute afforded the opportunity to carry out systematic studies on the thermodynamic and hydrodynamic properties of well-defined polystyrenes over a wide range of molecular weight and temperature. That body of experimental data proved to be central to the improvement of theoretical understanding of the properties of dilute solutions of flexible chain polymers. Its publication occasioned the beginning of associations with the polymer science community in Japan in 1966, that have included Visiting Professorships at the Universities of

Kyoto and Tokyo. Berry's interest in polymer rheology prompted a critical review with Thomas G Fox on the viscosity of polymers and their concentrated solutions, and his interest in light scattering has motivated a number of encyclopedic chapters, some with Edward F. Casassa. His research has included rheological and light scattering on dilute and moderately concentrated solutions of flexible chain polymers; a portion of his research focused on the physical chemistry and rheology of liquid crystalline polymers, elucidating important behavior of these complex materials. His research contributions were recognized by the 1990 Bingham Medal of the Society of Rheology and the 1994 Pittsburgh Award of the Pittsburgh ACS Section. He is a Fellow of the Am Physical Soc, the Soc Rheology and the ACS PMSE Div, and was one of 12 Delegates of the US-China Bilateral Symp on Polymer Sci in 1979. His laboratory has included thirty-two postdoctoral associates and graduated twenty-one Ph.D. students.

Berry became a Senior Fellow of the Mellon Institute in 1965, and a member of the faculty of Carnegie Mellon University on the merger of Mellon Institute with the Carnegie Institute of Technology in 1966, holding the ranks of Associate, Full, and finally University Professor in CMU. He has served as Head of the Department of Chemistry, as well as Acting Dean of the Mellon College of Science of Carnegie Mellon. He was been Chair of the Pittsburgh ACS Section and served as a Director of the Section for several years. He is co-Editor-in-Chief with Kris Matyjaszewski of Progress in Polymer Science, was co-editor with Edward F. Casassa of the Journal of Polymer Science: Polymer Physics and has served on the editorial boards of a number of journals.

**SACP Technical Meeting
Yost Bio
Continued from Page 13**

Dr. Yost's professional activities have focused on research and teaching in analytical mass spectrometry, particularly tandem mass spectrometry (MS/MS). His group's research has reflected a unique balance between instrumentation development, fundamental studies, and applications in analytical chemistry. His group has led in the application of novel mass spectrometric methods and techniques to areas such as metabolomics, clinical, biomedical, pharmaceutical, environmental, petrochemical, and forensic chemistry. Dr. Yost has supervised the research of well over 100 graduate students during the past 39 years, graduating almost 90 PhDs from his group. He has served as PI or Co-PI on grants and contracts totaling over \$60M of funding. Research in the group has led to over 200 publications and 16 patents. He still loves teaching undergraduates and graduates in the classroom each semester. Dr. Yost recently completed terms on the Florida Board of Governors (Regents) and the University Of Florida Board Of Trustees. He is director of the Southeast Center for Integrated Metabolomics (SECIM) and of NIH's Metabolomics Consortium Coordinating Center (M3C). He is also a Professor of Pathology at both the University of Florida and the University of Utah/ARUP. His research has been recognized with the 1993 ASMS Award for Distinguished Contribution in Mass Spectrometry and the 2018 MSACL Award for Distinguished Contribution to Clinical Mass Spectrometry. He currently serves as the President of the American Society for Mass Spectrometry (ASMS).

**University of Pittsburgh
Professor Jill Millstone
Selected as the Kavli
Emerging Leader Speaker
for 2019, Featured in
C and E News**

The Kavli lecture series is a result of a collaboration between ACS and The Kavli Foundation, an internationally recognized philanthropic organization known for its support of basic scientific innovation. Jill discussed how the interactions between metal atoms and ligands predict the final architectures and physical properties of nanomaterials, including dramatic changes in both optoelectronic and magnetic behaviors. Congratulations, Jill!

Three Pittsburgh Local

Section Members Receive National ACS Awards

September was a great month for the Pittsburgh Local Section. Three of our members received 2019 National ACS Awards. **Shanti Swarup** from PPG won the ACS Award in Applied Polymer Science for outstanding achievements in the science or technology of plastics, coatings, polymer composites, adhesives, and related fields. 2001 Pittsburgh Award Winner **Krzysztof Matyjasewski** from Carnegie Mellon University won the ACS Award in the Chemistry of Materials for creative work in the chemistry of materials. **Hrvoje Petek** from the University of Pittsburgh won the ACS Award in Ultrafast Science & Technology for outstanding and creative contributions to fundamental discoveries or inventions in ultrafast science & technology in areas of physics, chemistry, biology, or related fields. Congratulations, all!



Jill Millstone and Harry Atwater,
published in C and E News

August 27, 2018



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/or a recommendation letter from another 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

(hjuzwa@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.



<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 hlijuzwa@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.

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

Business Directory

Services

Services

Services

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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 2018 issue must be to the editor by November 15, 2018.

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 hjuzwa@shimadzu.com!



Society for Analytical

Chemists of Pittsburgh

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Dues Only \$10.00, Call the SACP

Administrative Assistant at

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The Crucible

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American Chemical Society

Spectroscopy Society of Pittsburgh

- Professional Networking within the Spectroscopy Community
- Monthly Symposia by Prominent Researchers
- Promoting Science Education



To Join Call Amy: 412-825-3220 ext 212

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

Thursday, November 8

Pittsburgh ACS Chemical Education Group

Carlow University, AJ Palumbo Hall of Science and Technology, Room 302

November 13

31st Annual Faraday Lecture

“Science You Can See (and Hear)”

Soldiers and Sailors Memorial Hall

Wednesday, November 14

SSP Technology Forum

“Starhopping - Finding Your Way in the Night Sky”

Dr. Neal Dando, The Spectroscopy Society of Pittsburgh

Duquesne University, Pittsburgh, PA

SACP Technical Meeting

“The Triple Quadrupole: Innovation, Serendipity and Persistence”

Rick Yost, University of Florida

Duquesne University, Pittsburgh, PA

Thursday, November 15

ACS-Energy Technology Group

“Advancing Coal through New Technology Development for Mining and Beneficiation”

Dan Connell

Lombardozzi’s Restaurant - Bloomfield, 4786 Liberty Ave, Pittsburgh, PA

Saturday, November 17

SACP/SSP Continuing Education Symposium

“Made in Pittsburgh”

Church of the Brethren, 481 Center Rd., Monroeville, PA

Thursday, December 6

Pittsburgh Section ACS Awards Dinner

Grand Concourse, 100 West Station Square, Pittsburgh, PA