CINTACS

Newsletter of the Cincinnati Section of the American Chemical Society

February , 2014
Vol. 51 No. 5

Section Calendar

Upcoming Events

Younger Chemists Committee Event	February 11
February Meeting	February 12
February Meeting, Chemist of the Year	February 12
Teacher of the Year Nominations Due	March 15
March Meeting	TBA

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February Monthly Meeting
Wednesday, February 12, 2014
Embassy Suites Blue Ash

Featured Speaker
Professor Bill Connick
University of Cincinnati

Program:

5:30-7:00	Registration, Social hour – Promenade area
7:00 – 8:00	Dinner – Birch Room ($25 or $15 for students, emeritus, unemployed or teacher members). Plated menu: field green salad, pecan/mustard crusted chicken breast, leek mashed potatoes, madeira jus and haricots vert, chocolate indulgence cake, coffee and tea.
7:45-8:00	Presentation of Researcher of the Year Award to Michele Mangels, P&G; Presentation of Chemist of the Year Award to Dr. Bill Connick, UC Dept. of Chemistry
8:00 – 9:00	Featured Speaker, Dr. Bill Connick

Directions to Embassy Suites:
Directions: From I-71 N, ext 15, Pfeiffer Rd Left on Pfeiffer Rd to Reed Hartman Hwy, 1 block & left on Lake Forest Drive to hotel. From I75 take I-275 east to Reed Hartman Hwy, right in approximately 2 miles & right onto Lake Forest Drive.

THE CINTACS NEWSLETTER

Vol. 51, No. 5 February 2014

Editor.....Adam Bange
Advertising……Daniel Esterline

CINTACS is published eight times a year (September through May) by the Cincinnati Section of the American Chemical Society. The submission deadline will be approximately February 25 for the March 2014 issue. Electronic submission is strongly preferred. All materials should be sent to:

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ACS Cincinnati Section

Letter from the chair:

We enjoyed a different meeting format and a new venue for us at our January meeting. We had dinner by the bite with exceptional food and service provided by Funky's Catering. The Anderson Center could not have been more accommodating and our ACS members from the east side of Cincinnati enjoyed the opportunity to have a close drive to a monthly meeting. But the highlight of the evening was really having the chance to honor Diane Schmidt for being named our new national ACS president-elect. She gave a very nice presentation on the role of the ACS president and president-elect and gave us some ideas of priorities she has set for her term. Our members had time to ask her many questions and to congratulate her in person during the evening. We presented Diane with a framed picture that included her official ACS photo, a picture from our December meeting of Diane with our section's students with an engraved plaque from the section. If the ending time of the party was any indication, all in attendance had a great time!

Now we move on to our February meeting where we will honor our Cincinnati Section Research Associate and Chemist of the Year. Dr. Bill Connick, will become our section's 64th recipient of the Chemist of the Year award. He earned his Ph.D. under Harry Gray at Cal. Tech. and joined the faculty in the Department of Chemistry at the University of Cincinnati in 1998. Our 2014 Research Associate of the year is Michele Mangels who is a principle researcher at Procter and Gamble. Many of you also know her as our section's webmaster extraordinaire. On Wednesday, February 12, we head to the Embassy Suites, Blue Ash for this celebration, so please join us as we give our hearty congratulations to Bill and Michele as exemplar examples for our section!

Looking for more chemistry fun in February? Please consider joining the YCC for cocktails, hors d'oeuvres, and a webinar to explore the art of perfume chemistry. What better topic a few days before Valentine's Day! The event will be Tuesday, February 11 at Markes International Office and Laboratory. See full event information elsewhere in CINTACS and on the section's website; please RSVP to Vanessa Frost Barnes directly via email or phone: vfrostbarnes@markes.com 513-707-2769. This will make for a fun week of chemistry in February!

Sincerely,
Diana

2014 Chemist of the Year

Our 2014 Chemist of the Year is William B Connick, Associate Professor of Chemistry at the University of Cincinnati and Director of the Center for Biosensors & Chemical Sensors. Bill Connick is a physical-inorganic chemist with research interests in inorganic photochemistry, catalysis, and chemical sensing. After earning his B.A. degree from Williams College in 1988, Bill studied for two years at the University of Cambridge where he obtained a M.A. degree in chemistry. In 1997, he earned his Ph.D. degree at the California Institute of Technology with Professor Harry Gray investigating the spectroscopy, photophysics, and photochemistry of platinum(II) diimine complexes. He subsequently took a postdoctoral appointment in the laboratory of Professor Rich Eisenberg at the University of Rochester, where he synthesized and characterized metal complexes for catalyzing light-to-chemical energy conversion reactions. In 1998, he joined the faculty at the University of Cincinnati where he has made major contributions to chemistry through his research, teaching, service and outreach.

During his time at UC, Dr. Connick has developed multiple areas of research, which include multi-electron transfer of platinum complexes, vapochromic sensing materials and a nuclear forensics research collaborative with Prof. Henry Spitz in CEAS. He studies light-to-chemical energy conversion and develops new materials for chemical sensing. This research has led to a strong international reputation for research excellence as noted by the 35 invited lectures at universities/ colleges, scientific meetings, and companies across the U.S., as well as in Canada, Puerto Rico and Europe (Glasgow, Scotland). His research accomplishments have led to a continuous record of high quality publications. Just since receiving tenure in 2004, Bill has published 23 peer-reviewed articles in widely read journals with international reputations including Inorganic Chemistry, the Journal of the American Chemical Society, Chemical Communications and the Journal of Materials Chemistry.

Dr. Connick is recognized by his peers and students as one of the top teachers in the Chemistry Department at UC. While maintaining rigorous standards, he consistently discusses difficult concepts in a way that the average student can readily grasp. Bill has also been an excellent mentor to a range of graduate students, producing very high quality Ph.D. graduates. In addition, he has supervised over 70 undergraduate research students since 2003 and 6 high school students in his labs including 3 who were supported by Project SEED (and in part by the Cincinnati Section).

Dr. Connick received a Beckman Young Investigator Award (2001-2004) from the Arnold and Mabel Beckman Foundation and a National Science Foundation CAREER Award (2002-2007) for his research focused on cooperative two-electron transfer reactions. In 2009, he was named an IUPAC Young Observer which allowed for participation in the 42nd IUPAC General Assembly and Congress. Based on his outstanding research accomplishments, demonstrated excellence in teaching and commitment to service within our community, William B. Connick is clearly well deserving of our recognition as the Cincinnati Section's 2014 Chemist of the Year. Congratulations, Bill!!

Cincinnati Research Associate of the Year

The Cincinnati Section of the American Chemical Society is pleased to announce that Michele L. Mangels has been named as the Research Associate of the Year for 2014.

Michele Mangels received her BS degree (Summa Cum Laude, 1996) in Chemistry and Health Science from Aurora University. After graduate course work at Illinois State University and Miami University, she began her career at Procter & Gamble in the Fabric & Home Care Innovation Center in 2000. Over the years, Michele has steadily expanded her instrumental analysis knowledge in separation sciences (HPLC, SFC, Extraction approaches) and mass spectrometry while growing her mastery of computer systems, software programming and data management tools. As a result of her continuous effort, she has become one of the top technical talents in method development for the analysis of surfactants and other complex active molecules. Her ability to simplify sophisticated analysis of complex mixtures to accurately estimate critical active molecules deposited on different substrates (fabric, hair, skin) has enabled mechanistic understanding and modeling programs to predict performance and consumer delight of numerous consumer products.

Besides Ms. Mangels exemplary career with P&G, she has combined her valuable expertise and practical industrial experience with an engaging style to successfully teach a Chemical Instrumental Analysis class at Cincinnati State Technical and Community College. Her classes are known for her innovative teaching approach. In addition, Michele is an active member of ACS, currently serving as the webmaster for the Cincinnati Section's website and as an engaging demonstrator at the Museum Center during National Chemistry Week and at the public library during Brian Camp.

All the above technical achievements, linked to her unique interpersonal skills used to promote social events at work and lead a Lab-Safety team, make Ms. Mangels an indisputable candidate to deserve the recognition of Researcher Associate of Year award. Congratulations Michele!!

Research Abstract

From Cooperative Two-Electron Transfer Reagents to Chemical Sensing Materials

William B. Connick
Department of Chemistry, University of Cincinnati, Cincinnati, OH USA

Square planar d8-electron and octahedral d6-electron 2nd and 3rd row transition metal complexes are particularly promising candidates for multiredox catalysts. At the core of this reactivity are cooperative two-electron transfer events coupled to bond-making and bond-breaking steps. The cooperativity arises from the stability of the d6- and d8-electron configurations with respect to the intermediate d7-electron configuration, which can be expected to manifest as an inversion of the one-electron reduction potentials: E1°'(d7/d8)>E2°'(d6/d7). Fine control over these redox potentials and electron-transfer kinetics is a critical element of a strategy for improving catalysts and rationally designing new catalysts. However, attempts to investigate the thermodynamics and kinetics of these electron-transfer reactions are severely hampered by the fact that these reactions are often irreversible because of the accompanying drastic changes in the metal coordination sphere. To address this problem, we have designed a series of platinum and palladium complexes that undergo cooperative, outer-sphere and reversible two-electron transfer. An important architectural element of these molecules is a ligand scaffold capable of stabilizing the square planar coordination geometry preferred by a d8-electron metal centre and the octahedral geometry of d6-electron metal centre. In this presentation, we will discuss the spectroscopy, structures and reactivity of two-electron palladium and platinum reagents, as well as the close relationship between molecular structure, electronic structure and reactivity. We also will explore how closely related compounds can be used in the detection of chemical vapors or aqueous ions.

Younger Chemist Committee Event February 11

Why do some scents quicken our pulse? Come explore the art of chemistry through the production of perfumes used in household products. Join three industry experts as they break down the science of fragrances and how chemists are working to find love potion #9. Cincinnati Chapter Younger Chemists Committee looks forward to hosting you and learning more about this fascinating topic. This event will be held on February 11th with cocktails and hors d'oeuvres from 6 to 7 pm and webinar from 7pm to 8 pm at Markes International Office and Laboratory, 11126 Kenwood Road Suite D, Cincinnati, Ohio 45242.

Please RSVP to Vanessa Frost Barnes via email or phone: vfrostbarnes@markes.com 513-707-2769. We look forward to seeing you then!

Call for Nominations: Teacher of the Year Awards

Each year the Cincinnati section of the American Chemical Society recognizes outstanding area educators by giving awards in the following categories:

High School Chemistry Teacher of the Year,
Middle School/Junior High School Science Teacher of the Year,
Elementary School Science Teacher of the year.

Nominations should include the teacher's CV and at least one letter of nomination (ideally from the school principal), indicating why the individual exemplifies excellence in Chemistry Education (for High School) or Science for Middle or Elementary School. These awards will be given at our April meeting.

We need your help in finding these outstanding teachers. If you know a teacher who has made a difference in students' lives through excellent, innovative teaching methods, encouraging students to pursue science, and dedication to their profession, please encourage them to apply or nominate them yourself. You can also help to find good candidates by forwarding this information to the principal of your children or grandchildren's school and encouraging them to nominate one of their teachers. Nominations are **due by Saturday, March 15, 2014.**
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Nomination materials should be sent to:

Lynn Hogue
LynnHogueTS@gmail.com

or

Lynn Hogue
9076 Arrowhead Ct.
Cincinnati, OH 45231

Electronic submission is strongly encouraged

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