ISOTOPICS

The Cleveland Section of the American Chemical Society

Volume 94 Issue 8 November 2018

On Deck:

T.B.D.

Cleveland ACS Officers

Chair:
Michael Levy
Envantage, Inc.
mlevy@envantage.com

Chair-Elect:
W. Chris Boyd
Cleveland State U.
w.c.boyd59@csuohio.edu

Treasurer:
Regina DiScipio
Case Western Reseruve U.
reginadiscipio@gmail.com

Secretary:
Drew A. Meyer
Case Western Reserve U.
dam135@case.edu

Isotopics

Editor:
Geneviève Sauvé
Case Western Reserve U.
(216) 368-3665
genevieve.sauve@case.edu

Cleveland Section Web Site:
http://www.csuohio.edu/sciences/dept/cleveland_acs/

November Meeting Notice

Wed. Nov. 14, 2018

Cibrèo

1438 Euclid Ave., Cleveland, OH 44115

http://thedriftwoodgroup.com/restaurants/cibreo-italian-kitchen/

4:30 pm	Executive Committee Meeting
5:30 pm	Social/Networking
6:15-7:00 pm	Dinner
7:00-8:00 pm	Presentation

"The Molecules in the Monster: How 18th Century Science Inspired Frankenstein"

by Prof. Lisa Ponton, Baldwin Wallace University

From alchemy to modern science, Lisa will show us where fact & fiction intersect and how the excitement of the scientific discoveries at the turn of the 18th century inspired Mary Shelly to create a new genre of literature.

Biography: Dr. Lisa Ponton is an Associate Professor of Chemistry at Baldwin Wallace University. She received her B.S. in Chemistry from the University of Wisconsin – Stevens Point, her M.S. in Chemistry from the University of Michigan, and her Ph.D. in Analytical Chemistry from Iowa State University. After completion of graduate school, Lisa began teaching at Elon University before moving to Baldwin Wallace University. Over the past 15 years, she has taught Introductory Chemistry, Analytical courses at all levels, and Environmental Chemistry. As a trained chromatographer, she works with undergraduate students examining road dust for metals and nitrogen profiling of compost containing compostable plastics. Lisa is currently finishing a three-year term as Chair-Elect/Chair/Past-Chair of the Cleveland Section of the ACS.

DINNER RESERVATIONS Please RSVP for the dinner with your dinner selection (see next page for menu) before noon on November 5th, by emailing Dr. Chris Boyd (w.c.boyd59@csuohio.edu). At the event, we can take credit card payments, checks made out to "Cleveland ACS", or cash. The cost is $20 for members and guests, $10 for retirees or unemployed, and $5 for students.

Cibrèo is located in the heart of Cleveland's PlayhouseSquare. There will be a valet parking service available at a estimated cost $10.

Menu:

First course:
Cibréo salad

Second course (choose one):
Spaghetti and meatballs
Pasta primavera
Salmon and risotto

Third course (choose one):
Tiramisu
Chocolate Italian silk

Announcement: MIM 2018

Mark you calendars! This year's Meeting in Miniature (MIM) will be Wednesday March 13th at John Carroll University.

Call for Nominations: The Morley Medal

The Cleveland Section annually sponsors a regional award, which consists of the Morley Medal and an honorarium of $2,000. The next presentation of the Morley Medal will take place at a meeting of the Cleveland Section ACS in May 2019. The award is presented at a banquet, at which time the recipient will deliver the Edward W. Morley Lecture. Travel expenses for the medalist and spouse will be provided.

The purpose of the award is to recognize significant contributions to chemistry through achievements in research, teaching, engineering, research administration and public service, outstanding service to humanity, or to industrial progress.

The area of eligibility includes those parts of the United States and Canada within about 250 miles of Cleveland. The contributions for which the award is given should have been made by the awardee when a resident of this area, or if a major contribution was made elsewhere, the nominee should have continued to make contributions while a resident of this area. Nominations may be made by any member of the American Chemical Society, The Chemical Society or the Chemical Institute of Canada.

Nominations for the Morley Medal should include a letter of nomination and curriculum vitae including the candidate's education, professional experience & activities, awards & honors, offices held and specifics on significant contributions. The letter of nomination should highlight these significant contributions. A representative list of references to the candidate's more important contributions, an evaluation of the significance of these achievements, and a listing of the nominee's most significant publications and patents are also appropriate. Added consideration will be given to individuals under the age of 48 with demonstrated accomplishments and for promise of continuing significant future accomplishments. Strong seconding letters are also suggested. The specific reference for every publication or patent is neither required nor encouraged. For a list of previous winners see: http://bit.ly/1OaXmyb

Electronic submissions are preferred. Deadline for receipt of nominations is **December 14, 2018**. Send nomination and supporting material to:

Dr. Mark J. Waner
Department of Chemistry
John Carroll University
1 John Carroll Boulevard
University Heights, OH 44118
Ph: 216-397-4791
E-mail: mwaner@jcu.edu

Discoveries: Creating a reduced-fat chocolate that melts in your mouth

Journal of Agricultural and Food Chemistry

Chocolate is divinely delicious, mouthwateringly smooth and unfortunately full of fat. But reducing the fat content of the confection makes it harder and less likely to melt in your mouth. That's why scientists are investigating additives that could reinstate chocolate's delightful properties in these lower-fat treats. Now, researchers report in ACS' *Journal of Agricultural and Food Chemistry* an analysis that sheds light on how adding limonene could improve lower-fat versions' texture and ability to melt.

Flavor and sweetness make strong contributions to the pleasant experience of eating chocolate, but so do look and feel. Reducing the fat in chocolate, however, often ruins its texture and viscosity. Previous research has shown that adding limonene – a compound found in lemons and oranges – results in a smoother, softer chocolate that melts more easily than typical reduced-fat chocolates. Annelien Rigolle and colleagues at KU Leuven in Belgium sought to investigate exactly how limonene impacts chocolate production. They focused on one part of this process: the crystallization of one of its main ingredients, cocoa butter, which undergoes several important transformations at different times and temperatures.

The researchers examined crystallization at 63 °F and 68 °F using differential scanning calorimetry and X-ray diffraction to examine cocoa butter profiles when limonene was added. Surprisingly, they found that adding the compound accelerated cocoa butter crystallization at 63 °F, but inhibited cocoa butter crystallization at 68 °F. Varied concentrations of limonene also affected the crystallization steps of the cocoa butter differently, so they could ultimately affect the texture of chocolate. The study suggests that carefully choosing the amount of limonene and the temperature at which chocolate is processed could lead to a smoother, more luxurious reduced-fat chocolate.

The researchers acknowledge funding from the Fund for Scientific Research-Flanders, Belgium, and KU Leuven University.