



ISOTOPICS

The Cleveland Section of the American Chemical Society

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March 2019

On Deck:

Morley Award

Wed. May 15, 2019

Michelson & Morley
Restaurant, Case Western
Reserve University

Cleveland ACS Officers

Chair:

W. Chris Boyd
Cleveland State U.
w.c.boyd59@csuohio.edu

Chair-Elect:

Geneviève Sauvé
Case Western Reserve U.
Genevieve.sauve@case.edu

Treasurer:

Regina DiScipio
Case Western Reserve 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/

March Meeting Notice

Meeting-in-Miniature (MIM)

Wed. March 13, 2019

Dolan Science Center

John Carroll University

University Heights, OH 44118

1:30 pm	Registration, Dolan Center Atrium
2:30-5:15 pm	Technical Sessions
5:30-6:30 pm	Plenary talk, Donahue Auditorium
6:30 pm	Dinner, Muldoon Atrium
7:15 pm	Student Awards, Muldoon Atrium

Plenary talk: “The Science of the Flavor of Whiskey: Just how much fun can a group of undergraduate students have doing nerdy science stuff!?” by Dr. Regan Silvestri, Associate Professor of Chemistry, Lorain County Community College, Elyria, OH

An encounter between a chemistry professor and the founder of a start-up whiskey company would quickly lead to the pseudo-accidental creation of an independent student research program in chemistry. Undergraduate students at Lorain County Community College are using gas chromatography-mass spectroscopy (GC-MS) to identify and profile the distinct flavor compounds in unprecedented flavors of bourbon being developed by industry partner Cleveland Whiskey. This led to the establishment of a thriving graduate-school-modeled research group in the Department of Chemistry at Lorain County Community College, where the research group format parallels that of the graduate school experience. We will share results of our research on a variety of topics including: flavor of whiskey, hypersonic aerospace insulating materials, carbon nanotubes, dermatologic allergens, and more. However, equally important with the scientific results are the stories of the impact the program has had on the students, and the stories of just how much fun a group of undergraduates can have doing nerdy science stuff when the topic is whiskey.

DINNER RESERVATIONS Dinner menu: Caesar Salad, Grilled Rosemary Chicken, Italian Sausage and Peppers, Rigatoni Marinar, Italian Seasoned Green Beans, Miniature Cheesecake Tarts. Please RSVP by March. 8, 2019, by emailing Mark Waner (mwaner@jcu.edu). At the event, we can take credit card payments, checks made out to “Cleveland ACS”, or cash. The cost is \$20 for members, non-members and guests, \$10 for retirees or unemployed, and \$5 for students. **Free for presenters.**



Speaker Bio

Dr. Regan Silvestri is an Associate Professor of Chemistry at Lorain County Community College, where he directs a student research group investigating the science of the flavor of whiskey. He previously completed a volunteer assignment in the U.S. Peace Corps as a Visiting Professor in Kazakhstan, where he lived for four years and ultimately served as Acting Dean of Student Affairs. Professor Silvestri holds a doctorate degree in macromolecular science and engineering from Case Western Reserve University, and further completed a post-doctoral fellowship in the laboratory of Professor Jack Koenig. He is an active consultant to the chemical industry specializing in petroleum analysis, polymer science, analytical method development, and technical training of non-technical staff. Dr. Silvestri recently became an associate in the tech start-up intellectual property company Radio Taste, LLC. He currently serves as a member of the Executive Committee for the Cleveland section of the Society for Applied Spectroscopy. Professor Silvestri's recent recognitions include: the 2019 League of Innovation Excellence Award, the 2018 Ohio Magazine Excellence in Education Award, the 2018 LCCC Presidential BIKE Award, the 2017 MSNO Appreciation Award, the 2017 OATYC Teaching Award, and the 2016 LCCC Foundation Faculty Excellence Award. For fun, Professor Silvestri performs his science magic show "Magical Science!!" as a volunteer at local schools, and has reached audiences of tens-of-thousands of enthusiastic students.

ACS Career Day Cleveland

On Saturday, February 23, 2019, the Cleveland Local Section hosted Career Day. Over sixty (60) individuals attended the workshop that was held at the Cuyahoga Community College Corporate College East campus. The event was sponsored by Career Navigator LIVE from the ACS National Office. Support was provided by ACS staff as well as volunteers from the Cleveland and Northeast Ohio Local Sections.

The day included workshops on Resume Writing for Industry Professionals and Networking. Companies exhibiting and conducting interviews at the event included Bridgestone, Powdermet, Chemical Abstracts Service, Lubrizol, and Shin-Etsu Silicones of America. Representatives from Shin-Etsu and Powdermet participated in a panel discussion with questions from the workshop attendees.

The day-long activities concluded with resume review sessions and mock interviews. These sessions were conducted by ACS Career Consultants as well as volunteers from the local sections.



Announcement: 50th CERM of the ACS

The 50th Central Regional Meeting of the American Chemical Society will be held in Midland, Michigan, from June 4 – 8, 2019, at the H Hotel (111 W. Main Street, Midland). The theme of the Meeting is "Molecules to

Materials” and it recognizes the 100th anniversary of the Midland Local Section. Registration is open, and advance registration (a \$50 discount on meeting registration fees) ends on April 1. MEALS ARE INCLUDED with registration (breakfast and lunch only). To get information about CERM, including a preliminary program and registration information, go to <https://acscerm2019.org>.

Announcement: May Conference

The 63rd Annual May Conference will be held on Wednesday, May 22, 2019 at John Carroll University, Dolan Science Center. The conference typically has 180+ attendees and 30 or more vendors and is a joint meeting that includes participation/sponsorship from a number of societies including SAS, MSNO, ACS, AVS/Ohio, and SPE. There are 30+ oral presentations from a mix of invited speakers, vendors, and students. The cost for students to attend is minimal and students are encouraged to present both papers and posters. There are monetary awards for the best papers/posters and two MSNO awards that include a trip to the national conference. The conference includes the joint SAS/ACS Yeager Award and presentation. Topics are varied and include microscopy, surface science, and spectroscopy. We also recognize the John Bell Award winners from the NEO Science & Engineering fair at the reception. The keynote speaker is Chris Yuan, Associate Professor, CWRU, “*Electric Vehicles for Transportation: Facts, Prospects, Mysteries and Folklore*”. Additional information can be found at <http://www.msneo.org/2019-sasmsnoacsavs-may-conference.html>

Volunteering opportunities: Help use Select ACS Special Awards at NEOSEF

Every year, your ACS local section gives special awards to outstanding students in grades 7-12 who participate in the Chemistry Category at the Northeastern Ohio Science and Engineering Fair (NEOSEF). To select the award winners

amongst ~100 projects, we need volunteer judges with a minimum of a Bachelor degree in Chemistry. Judging involves talking with the students, which is very rewarding. This year, NEOSEF is at Cleveland State University March 12, 2019. The time commitment is a few hours in the afternoon (2:30 pm –6 :00 pm), If you are interested in judging, please contact Genevieve Sauve at genevieve.sauve@case.edu.

ACS Discoveries: Sprayable foam that slows bleeding could save lives

ACS Biomaterials Science & Engineering

Traumatic injuries, whether from serious car accidents, street violence or military combat, can lead to significant blood loss and death. But using a material derived from crustacean shells, scientists have now developed a foam that can be sprayed onto an open wound to stop the bleeding. They report their successful tests on pigs in the journal *ACS Biomaterials Science & Engineering*.

For some serious injuries to arms and legs, medics can apply pressure to keep bleeding in check. But for major trauma to the torso, particularly when it affects vital organs, compression can make the situation worse. Currently, first responders have no way to stop this kind of bleeding, which is a leading cause of death among young adults and the most common cause of death from combat-related injuries. Srinivasa R. Raghavan, Matthew B. Dowling and colleagues wanted to find a simple way to treat these wounds quickly.

The researchers developed a sprayable foam made of modified chitosan, a biopolymer derived from the shells of shrimp and other crustaceans that is already being used in other types of non-foam wound dressings. In tests on pigs, the spray reduced blood loss by 90 percent.

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