



ISOTOPICS

The Cleveland Section of the American Chemical Society

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October 2017

On Deck:

Nov. 15, 2017

Cleveland Museum of
Natural History

October Meeting Notice

Industry Night

Wednesday, Oct. 18, 2017

DayGlo Color Corp.

4515 St. Clair Ave., Cleveland, OH 44103

http://www.dayglo.com/contact_us/

4:30 – 5:25 pm	Executive Committee Meeting
5:30 – 6:00 pm	Social/Networking
6:00 – 7:00 pm	Dinner
7:00 – 8:00 pm	Presentation
8:00 pm	Tour

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“DayGlo Color Corporation History and Overview”

Day-Glo Color Corp. is the world's largest manufacturer of daylight fluorescent pigments. We develop technologies that improve and enhance any color, from subtle specialty effects, to glow-in-the-dark pigments, to our classic range of fluorescents.

We're proud of our heritage and the role our fluorescents played in pop culture history. From the days of disco to punk rock and pop-art posters to graffiti on the Berlin wall - no matter the trend, no matter the event, DayGlo was there, making things brighter, bolder, and so much cooler! But t here's a lot more to DayGlo than just fluorescents.

With our extensive technical expertise and diversified product lines, DayGlo has served the world's color marketplace since the 1930's. At DayGlo, we even make colors better - richer reds, deeper blues, and even make colors glow in the dark!

Discover for yourself our custom color solutions for packaging and consumer goods, plastics, graphic arts, paints and coatings, dyes and textiles, as well as the personal care and cosmetics ingredients industries.

PARKING will be available in the in the main entrance parking lot (after 5:30pm). All members arriving for the Executive Committee Meeting are encouraged to park on the street.

DINNER RESERVATIONS REQUESTED:

Please R.S.V.P to mlevy@envantage.com with the names in your party by Wednesday, Oct. 11, 2017. A dinner will be offered with vegetarian options. At the event, ACS accepts credit card payments, cash, and or checks made out to “Cleveland ACS. The cost is \$20 for members and guests, \$10 for retirees or unemployed, and \$5 for students.

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 2018. 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 15, 2017**. Send nomination and supporting material to:

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From ACS Discoveries: Olive mill wastewater transformed: From pollutant to bio-fertilizer, biofuel

ACS Sustainable Chemistry & Engineering

Olive oil has long been a popular kitchen staple. Yet producing the oil creates a vast stream of wastewater that can foul waterways, reduce soil fertility and trigger extensive damage to nearby ecosystems. Now in a study appearing in *ACS Sustainable Chemistry & Engineering*, scientists report on the development of an environmentally friendly process that could transform this pollutant into "green" biofuel, bio-fertilizer and safe water for use in agricultural irrigation.

During processing, olives are crushed and mixed with water in mills. The oil is separated out of this mixture, and the dirty water and solid residue are discarded. In Mediterranean countries, where 97 percent of the world's olive oil is produced, olive mills generate almost 8 billion gallons of this wastewater annually. Disposing of it has become problematic. Dumping it into rivers and streams can potentially contaminate drinking water and harm aquatic life. Pumping it onto farmland damages the soil and reduces crop yields. Some researchers have tried burning the wastewater with mixtures of solid waste from the mills or waste wood. But these approaches have either

been too costly or have produced excessive air pollution. Mejdí Jeguirim and colleagues took a different approach. They wanted to see if they could convert olive mill wastewater (OMW) from a pollutant into sustainable products for practical use.

The researchers first embedded OMW into cypress sawdust – another common Mediterranean waste product. Then they rapidly dried this mixture and collected the evaporated water, which they say could be safely used to irrigate crops. Next, the researchers subjected the OMW-sawdust mixture to pyrolysis, a process in which organic material is exposed to high temperatures in the absence of oxygen. Without oxygen, the material doesn't combust, but it does thermally decompose into combustible gases and charcoal. The researchers collected and condensed the gas into bio-oil, which could eventually be used as a heat source for OMW-sawdust drying and the pyrolysis process. Finally, they collected the charcoal pellets, which were loaded with potassium, phosphorus, nitrogen and other nutrients extracted from the breakdown of OMW-sawdust mixture during pyrolysis. Used as biofertilizers, the researchers found that after five weeks these pellets significantly improved plant growth, including larger leaves, compared to vegetation grown without them.

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