



ISOTOPICS

The Cleveland Section of the American Chemical Society

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On Deck:

Dec. 13, 2017

ACS Holiday Social

T.B.D.

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November Meeting Notice

Night at the Museum

Wednesday, Nov. 15, 2017

Cleveland Museum of Natural History

5 - 9 pm "Think & Drink with the Extinct", a public event

5:15-6:15 pm Executive Committee Meeting, Exploration Restaurant

We invite you and the members of the American Chemical Society -- Cleveland Section as we join 'Cleveland brainiest happy hour' at The Cleveland Museum of Natural History. The "Think and Drink with the Extinct" event highlights a different science topic and offers exclusive access to professional staff researchers, unique experiences, and interactive demonstrations. The November event will focus on 'Science and Art' and will feature The Great Lakes Brewing Company

The event is \$8/person and includes general admission to the Museum after 5pm. Tickets can be purchased at the door. Drink tickets can be purchased at the admissions counter upon entry to the event. Food will be available for individual purchase in the museum restaurant.

All ACS members and guests are encouraged to meet at the Exploration Restaurant (A Zack Bruell Restaurant).

The event is adult oriented but children are permitted

Cleveland Museum of Natural History:

At the Cleveland Museum of Natural History, we believe that discovery starts with you. Explore our exhibits, meet our wild animals, take a hike, join a class—all while creating meaningful memories.

We make science relatable by cultivating your curiosity. When you visit the Museum, you'll have the opportunity to delve deep into the past in our dinosaur hall, discover the outer reaches of the Universe in Shafran Planetarium and experience natural wonders in outdoor galleries. Children can experience hands-on learning in Smead Discovery Center, where the motto is "please touch!" Traveling exhibits bring the world to Cleveland with an ever-changing variety of new subjects to explore.

Beyond the Museum campus, we protect more than 6,400 acres through our Natural Areas program. Each preserve harbors at least one unique natural community, including hardwood forest, Lake Erie island, fossil dune ridge, marsh, swamp and glacial wetland. Together, these areas represent the remarkable biological diversity that was once widespread throughout the region, and now serve as educational and scientific resources. Our naturalist-led hikes and classes provide access to a wild Ohio you may never have imagined.

The Museum is also a leader in sustainability through our GreenCityBlueLake Institute.

Directions and Map:

Cleveland Museum of Natural History
1 Wade Oval Drive
Cleveland, Ohio 44106

**The Cleveland Museum of Natural History is located in University Circle, just off East Boulevard*

Parking is available in Museum's new 300-space parking garage. The garage entrance is located on Wade Oval Drive near the corner of East Boulevard. When Wade Oval is closed to traffic, a special auxiliary entrance opens on East Boulevard across the street from the Louis Stokes Cleveland VA Medical Center. Street parking is also available.

Announcement: 2018 Meeting in Miniature



American Chemical Society

CLEVELAND SECTION

2018 MEETING IN MINIATURE

OBERLIN COLLEGE
WEDNESDAY 28 MARCH 2018

SAVE THE DATE

Announcement: Nominate someone for the Morley Award!

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: Examining how terrestrial life's building blocks may have first formed

Journal of the American Chemical Society

How did life begin? This is one of the most fundamental questions scientists puzzle over. To address it, they have to look not just back to the primordial Earth, but out into space. Now, scientists propose in the *Journal of the American Chemical Society* a new set of cosmic chemical reactions that could have contributed to the formation of life on our planet.

In the earliest minutes of the universe's formation, from the energy of the big bang, hydrogen and helium formed. All of the other elements developed later in the hot interiors of new stars through the nucleochemical transformation of hydrogen into carbon, nitrogen, oxygen and others. A few million years later, supernova explosions in these stars flung elements into the surrounding space, forming water and hydrocarbons — compounds containing carbon and hydrogen such as methane and methanol. How more complex hydrocarbons evolved, including those that would eventually lead to life on Earth, remains an open question. Some astrophysicists propose that they all came from methane, which is composed of one carbon

atom and four hydrogen atoms. But George Olah, Surya Prakash and colleagues have a different idea.

The researchers found that methanol, an abundant derivative of methane and better known on Earth as "wood alcohol," is more reactive than methane itself. Through experiments and calculations, they demonstrated that methanol can give rise to varied hydrocarbons, their derivatives and products, including their ions (carbocations and carbanions), which have been observed in outer space. The scientists believe that when these hydrocarbons and other products were transported to Earth by asteroids or comets, they continued to evolve in the planet's unique "goldilocks" conditions — liquid water, a breathable atmosphere and moderate temperatures — ultimately leading to life as we know it.

The authors acknowledge funding from the Loker Hydrocarbon Research Institute at the University of Southern California.