

# CINTACS

Newsletter of the Cincinnati Section of the American Chemical Society

#### SPECIAL POINTS OF INTEREST:

- <u>Reservations</u> for Oct 22 Oesper Award Banquet
- Oesper Poster
  Deadline
  October 8 (p.6)
- Call for Nominations for ACS Cincinnati Slate of Officers (p.8)

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Call for Posters

# **October 2021 Section Meeting**

# Oesper Symposium and Award Banquet Friday, October 22, 2021

In Person!

The University of Cincinnati Department of Chemistry and the Cincinnati Local Section of the American Chemical Society are pleased to announce the 2021 Oesper Award Winner, **Professor James M.Tour.** 



OCTOBER 2021

This year's Oesper Symposium and Awards Banquet will be held on Friday, October 22, at UC's Tangeman University Center. \*MASKS are required for indoor functions at UC facilities.

- 9:00 Symposium begins (See page 3 for schedule.)
- 4:00 James M.Tour, Rice University. "Flash Joule Heating for Preparative Chemistry: From Graphene to Soil Remediation, Battery Recycling and More"
- 5:00 Poster session and reception
- 7:00 Award Banquet
- 8:00 The Oesper Award presentation with a talk given by Alexander B. Morgan, University of Dayton Research Institute. *"The Life and Accomplishments of Prof James M. Tour"*

The Symposium is open to the public, but reservations are required for the ACS Banquet. The deadline for registration is **Friday**, **October 15**.



#### The CINTACS Newsletter Volume 55, No. 7 October, 2021

CINTACS is published nine times per year (September through May) by the Cincinnati Section of the American Chemical Society.

Guest Editor: Susan Marine

A permanent editor is needed. In the meantime, send submissions to Susan Marine (mariness@miamioh.edu).



#### ACS Cincinnati Section Officers

<u>Chair:</u> Susan Marine mariness@miamioh.edu

<u>Ist Vice Chair & Chair-Elect:</u> Peter Koenig koenig@fastmail.net

<u>2nd Vice Chair:</u> Brant Center brant.center@thermofisher.com

<u>Secretary:</u> Allison Edwards allison.edwards@protonmail.com

<u>Treasurer:</u> Sam Glover sam.e.glover@icloud.com

# From the Chair:

September 19 was a beautiful, sunny, end-of-summer day with a constant breeze at the Friends and Family Picnic, celebrated jointly with the Dayton Section. While COVID-19 concerns kept many from attending, it was great to see old friends and make new ones. College students had resumes reviewed, received interview tips, and learned what working chemists do at P&G, EUS, Advanced Testing Labs, EPA, FDA Forensic Chemistry lab, NIOSH, and ThermoFisher. The Society for Applied Spectroscopy, Coblentz Society, and SciX conference (formerly FACSS) were also represented. Rockin' Ron from WGRR provided a range of music and challenged attendees to several line dances. Dr. Mike Weaver led us in an Octoberfest beer tasting of local brews; Germania Park provided Warsteiner Pilsner and Dunkel beer. Gloria Story and Susan Hershberger demonstrated the effect of temperature and UV light on reaction rates. I also want to thank all who helped set up or clean up. We look forward to safely meeting in person again.

For 2022 we still need several election candidates. See page 8 for the current slate of officers. Voting should start about November 1.

— Susan Marine

# **Additional Information**

## OESPER SYMPOSIUM

Addition information on the Oesper Symposium is available <u>here</u>. (https://www.artsci.uc.edu/ departments/chemistry/alumni-and-community/theoesper-award-program-and-symposium/symposiumschedule.html)

The Symposium is open to the public, but reservations are required for the ACS Banquet. The deadline for registration is *Friday, October 15*.

An interactive <u>Google map</u> and a downloadable <u>PDF</u> <u>map</u> of the UC campus are available. Hourly rate parking is available at several locations on campus -see maps for locations.

#### (Continued from page 1)

## Oesper Symposium Schedule

\*MASKS are required for indoor functions at UC facilities.

Time	Speaker Location: 400 A-C Tangeman University Center (TUC)
9:00	Anna Gudmundsdottir, Interim Head, Dept. of Chemsitry, University of Cincinnati Welcome and Introductory remarks
Session	Chair: Neil Ayres
9:05	<i>Noe Alvarez,</i> University of Cincinnati "Carbon Nanotubes: from synthesis and assembly into macromaterials to applications"
9:45	Jean Francois Morin, Université Laval, Québec "Photochemical Synthesis of Well-Defined Nanographenes"
10:25	Adam Rawlett, US Army Senior Scientist "Science and Technology Research within the U.S. Army"
Session	Chair: Ashley Ross
11:15	Jacob Berlin, Terray Therapeutics "Mentoring it Matters! From olefin metathesis to drug discovery"
11:55	Jun Yao, University of Massachusetts at Amherst "Green electronics made of protein nanowires"
	Lunch 12:35
Session	Chair: Jimmy Jiang
1:35	<b>Cary Pint</b> , Iowa State University "Sustainable Synthesis of Carbon Nanomaterials from Atmospheric Carbon Dioxide and their use for Advanced Batteries"
2:15	Alexander Sinitskii, University of Nebraska "Atomically Precise Graphene Nanoribbons: From Synthesis to Applications"
Session	Chair: Ryan White
3:10	<b>John van Leeuwen</b> , Universal Matter Inc. "Universal Matter: Commercializing Flash Graphene – a CEO's perspective"
3:50	Introduction of Oesper Awardee
4:00	<b>James M. Tour</b> , Rice University "Flash Joule Heating for Preparative Chemistry: From Graphene to Soil Remediation, Battery Recycling and More"
5:00	Poster Session & Reception, TUC Great Hall
7:00 Ba	nquet (reservations are required) acscincinnati.org/oesper
8:00	Alexander B. Morgan, University of Dayton Research Institute

"The Life and Accomplishments of Prof. James M. Tour"

From the University of Cincinnati Oesper Award and Symposium web page:

#### The 2021 Oesper Award honors

## Professor James M. Tour

T. T. and W. F. Chao Professor of Chemistry Professor of Computer Science Professor of Materials Science and NanoEngineering Rice University

James M. Tour, a synthetic organic chemist, received his Bachelor of Science degree in chemistry from Syracuse University, his Ph.D. in synthetic organic and organometallic



chemistry from Purdue University, and postdoctoral training in synthetic organic chemistry at the University of Wisconsin and Stanford University. After spending 11 years on the faculty of the Department of Chemistry and Biochemistry at the University of South Carolina, he joined the Center for Nanoscale Science and Technology at Rice University in 1999 where he is presently the T. T. and W. F. Chao Professor of Chemistry, Professor of Computer Science, and Professor of Materials Science and NanoEngineering. Tour's scientific research areas include nanoelectronics, graphene electronics, silicon oxide electronics, carbon nanovectors for medical applications, green carbon research for enhanced oil recovery and environmentally friendly oil and gas extraction, graphene photovoltaics, carbon supercapacitors, lithium ion batteries, CO2 capture, water splitting to H2 and O2, water purification, carbon nanotube and graphene synthetic modifications, graphene oxide, carbon composites, hydrogen storage on nanoengineered carbon scaffolds, and synthesis of singlemolecule nanomachines which includes molecular motors and nanocars. He has also developed strategies for retarding chemical terrorist attacks. For pre-college education, Tour developed the NanoKids concept for K-12 education in nanoscale science, and also *Dance Dance Revolution* and *Guitar Hero* science packages for elementary and middle school education: *SciRave* (www.scirave.org) which later expanded to a Stemscopes-based SciRave. The SciRave program has risen to be the #1 most widely adopted program in Texas to complement science instruction, and it is currently used by over 450 school districts and 40,000 teachers with over 1 million student downloads.

Tour has over 738 research publications and over 140 patent families, with an hindex = 157 with total citations of >116,000. In 2020, he became a Fellow of the Royal Society of Chemistry and in the same year was awarded the Royal Society of Chemistry's Centenary Prize for innovations in materials chemistry with applications in medicine and nanotechnology. Based on the impact of his published work, in 2019 Tour was ranked in the top 0.004% of the 7 million scientists who have published at least 5 papers in their careers. He was inducted into the National Academy of Inventors in 2015. (continued on page 5) (Prof. Tour's bio continued from page 4)

Tour was named among "The 50 Most Influential Scientists in the World Today" by TheBestSchools.org in 2019; listed in "The World's Most Influential Scientific Minds" by Thomson Reuters ScienceWatch.com in 2014; and recipient of the Trotter Prize in "Information, Complexity and Inference" in 2014; and was the Lady Davis Visiting Professor, Hebrew University, June, 2014. Tour was named "Scientist of the Year" by R&D Magazine, 2013. He was awarded the George R. Brown Award for Superior Teaching, 2012, Rice University; won the ACS Nano Lectureship Award from the American Chemical Society, 2012; was the Lady Davis Visiting Professor, Hebrew University, June, 2011 and was elected Fellow of the American Association for the Advancement of Science (AAAS), 2009. Tour was ranked one of the Top 10 chemists in the world over the past decade, by a Thomson Reuters citations per publication index survey, 2009; won the Distinguished Alumni Award, Purdue University, 2009 and the Houston Technology Center's Nanotechnology Award in 2009. He won the Feynman Prize in Experimental Nanotechnology in 2008, the NASA Space Act Award in 2008 for his development of carbon nanotube reinforced elastomers, and the Arthur C. Cope Scholar Award from the American Chemical Society for his achievements in organic chemistry in 2007. Tour was the recipient of the George R. Brown Award for Superior Teaching in 2007. He also won the Small Times magazine's Innovator of the Year Award in 2006, the Nanotech Briefs Nano 50 Innovator Award in 2006, the Alan Berman Research Publication Award, Department of the Navy in 2006, the Southern Chemist of the Year Award from the American Chemical Society in 2005, and The Honda Innovation Award for Nanocars in 2005. Tour's paper on Nanocars was the most highly accessed journal article of all American Chemical Society articles in 2005, and it was listed by *LiveScience* as the second most influential paper in all of science in 2005. Tour has won several other national awards including the National Science Foundation Presidential Young Investigator Award in Polymer Chemistry and the Office of Naval Research Young Investigator Award in Polymer Chemistry.

Professor Tour is the founder and principal of NanoJtech Consultants, LLC, performing technology assessments for the prospective investor. Tour's intellectual property has been the seed for the formation of several other companies including Weebit (silicon oxide electronic memory), Dotz (graphene quantum), Zeta Energy (batteries), NeuroCords (spinal cord repair), Xerient (treatment of pancreas cancer), LIGC Application Ltd. (laser-induced graphene), Nanorobotics (molecular nanomachines in medicine), Universal Matter Ltd. (US) and Universal Matter Inc. (Canada) (flash graphene synthesis), Roswell Biotechnologies (molecular electronic DNA sequencing), and Rust Patrol (corrosion inhibitors).

Professor Tour has served as a visiting scholar at Harvard University, on the Chemical Reviews Editorial Advisory Board, the Governor's Mathematics and Science Advisory Board for South Carolina, the Defense Science Study Group through the Institute for Defense Analyses, the Defense Science Board Chem/Nano Study Section, the Department of Commerce Emerging Technology and Research Advisory Committee, and the MD Anderson Cancer Research Center's Competitive Grant Renewal Board. He has been active in consulting on several national defense-related topics, in addition to numerous other professional committees and panels. (from UC Oesper Award/Symposium website)

# LOCAL POSTER SESSION! at UC October 22

**Submissions for the Poster Session are** now being accepted. A Poster Session will be held from 5:00 to 7 PM at the Oesper Symposium prior to the banquet. (It is open to all students.) Those wishing to present a poster should submit the title, authors (underline presenting author), and affiliation to <u>oespersymposi-</u> <u>um2019@gmail.com</u>. A confirmation email will be sent once the title information is received.

<u>The Poster submission deadline is Friday, October 15, 2021.</u> For any questions regarding the poster session, please contact Connor Rahm or Md Abdul Hoque at <u>oespersymposium2019@gmail.com</u>.

From the University of Dayton's online Directory: Oesper Banquet Speaker: Alexander B. Morgan Group Leader, Energy and Environmental Sciences Distinguished Research Scientist University of Dayton Research Institute: Power and Energy

Dr. Morgan has over 24 years of experience in the area of <u>fire</u> <u>safety science including materials flammability</u>, polymeric material flame retardancy, fire science, fire testing, and fire safety



engineering. Dr. Morgan's expertise has an emphasis on chemical structure property relationships and fire safe material design. He has helped academic, government, and industrial customers solve their flame retardant and fire safety needs in a wide range of applications. Dr. Morgan is on the editorial review boards for Fire and Materials, the open access journal Polymers, and is the Editor-In-Chief for the Journal of Fire Science. Dr. Morgan is a member of ASTM (chair of ASTM E05.15), Sigma Xi, the American Chemical Society, and the International Association of Fire Safety Scientists.



# CCC:Chemistry and Chemists from around Cincinnati

CCC covers news from the chemical community around Cincinnati. Do you have a piece of news that you would like to see covered? Contact <u>news@acscincinnati.org</u>.

Dr. Ashley Ross (Assistant Professor of Chemistry, University of Cincinnati) was recently named a Research Corporation for Science Advancement (RCSA) Microbiome, Neurobiology, and Disease Scialog fellow and was awarded a <u>Collaborative Award</u> (\$55,000 per PI) with Prof's Maayan Levy (Microbiology, Univ. of Pennsylvania) and Kai Zhang (Biochemistry, University of Illinois at Urbana-Champaign) to study "Engineering Enteric Neuron Activity to Enhance Antimicrobial Immunity in the Gut." The project focuses on combining the power of electrochemistry, optogenetics, microfluidics, metabolomics, and mucosal immunology to study how neurons communicate with microbes and immune cells in the gut. Through this high-risk, high-reward work, advancement in the fundamental understanding of the mechanism, dynamics, and impact of neuronal signaling in the gut will be achieved.



Dr. Ashley Ross

Keep the local news coming!

# CALL FOR NOMINATIONS FOR UPCOMING ELECTION

The Nomination and Election Committee is currently seeking nominations for elected positions on the Section's executive board.

#### Office (1-year term unless specified)

- First Vice-Chair / Chair Elect
- Second Vice-Chair
- Secretary
- Treasurer
- Auditor (term to end Dec. 2024)
- Councilor (term to end Dec. 2024)
- Alternate Councilor (term to end Dec. 2024) Lynn Hogue

If you have an interest in a leadership role in the Section, please contact <u>John Glaser</u> or <u>Susan Marine</u>. **The deadline for nominations is October 15.** Voting starts November 1.

**Candidates** 

??

??

**Brant Center** 

??

Kendra Denlinger

**Rick Mullins, John Glaser** 

# ACS Dues in 2022

### The Premium Package

Continue to enjoy the full range of benefits from ACS. This package offers identical benefits to what you enjoy today with realigned pricing:

Regular Member	<b>\$</b> 1	60
Society Affiliate	\$I	60
Graduate Student	\$	55
Undergraduate Student	\$	25
Retired Member	\$	80
Emeritus	\$	0

## The Standard Package

The Standard Package is ideal if you want to remain active in the Society but do not attend many events or need wider access to ACS Publications. As part of this package, you will still be able to tap into many of ACS' most popular benefits. This package is only available to existing members or prospective members who have a degree, certification, or significant work history in the chemical or related STEM sciences, or with a certification as a teacher of a chemical science.

### Regular Members \$80

## Ever Wonder:



# What Do ACS Councilors Do?

## -Richard J. Mullins, Councilor

Within the local section leadership structure of the American Chemical Society is a position called Councilor. Because Councilors primarily serve the National ACS as liaison to the local section, there is often confusion about the position. The ACS Council itself [Council - American Chemical Society (acs.org)], upon which Councilors serve, is the "popular deliberative assembly of the SOCIETY," and includes among its membership, "the President, the President-Elect, the Directors, the Past Presidents, the Executive Director, the Secretary, and Councilors representing Local Sections and Divisions." Councilors play a vital role in ACS governance, acting on issues of importance to the chemical enterprise and as an advisory role to the ACS Board of Directors, the other deliberative body for the ACS.

The ACS Council meets for four hours on Wednesday of the Fall and Spring National Meetings of the ACS. It is here where the Council deliberates on actions of national interest, including electing committee members to three important elected Council committees: Council Policy Committee (CPC), Committee on Committees (ConC), and the Committee on Nominations and Elections (N&E). The majority of other Council committees, of which there are 6 standing committees, 2 society committees, 15 joint Board-Council committees, and 5 other committees of council, are staffed through appointments overseen by the Committee on Committees. Membership on some, but not all, committees requires Councilor status.

In addition to attending the Council meeting, many Councilors take on national committee roles. For example, I have served for the past five years on the Committee on Economic and Professional Affairs (CEPA). CEPA develops and oversees initiatives to help maintain and enhance the professional status of chemists. From job fairs, to career coaching, to mass layoff assistance programs, CEPA has as its mission to "support ACS members in their professional lives." At each national meeting, CEPA meets for 6-8 hours on the Saturday before the beginning of the National Meeting. Within CEPA, I am on the Subcommittee on Marketing, Research, and Volunteers. Each subcommittee meets during the morning portion of the full committee meeting and reports back on its work during the afternoon. SMRV is tasked with identifying Career Consultants and evaluating ongoing Career Consultant initiatives, including the job fair that occurs at each National Meeting.

Councilors are intended to represent the Local Section on issues of national importance. As such, if you have any questions about things happening at the national level, please reach out to any of the councilors who would be more than happy to assist. The current councilors of the Section are myself (mullinsr@xavier.edu), Susan Hershberger (hershbss@miamioh.edu), and Kathy Gibboney (kgibboney@outlook.com).



Miami team? Mt St Joe team? NKU team? UC team? Xavier team? Old-Timers ? Younger Chemists?

Tuesday, October 19, 2021 6:30 PM ChemClash: Rival Reactions presented by ACS Program-in-a-Box Contact \*\*\*\*\* (\*\*\*\*@\*\*\*\*\*) if you want to form a team for local competition.

# Assemble your team and zinc fast to become the first #NCW ChemClash Champion!

Tuesday, October 19th, 2021 (Virtual Doors open at 6:30pm ET, the game kicks off at 7pm ET)

Use your chemistry knowledge and lightning-fast thumbs to go head-tohead against groups of friends, coworkers, student chapters and local sections across 5 rounds of science trivia in this event inspired by ACS Program-in-a-Box.

All registrants will receive a link to watch the live broadcast, but your group must have **at least 3 members registered in Eventbrite by October 18th** to access the game platform, <u>CrowdPurr</u>.

View instructions for adding members to your group on Eventbrite.

# 2021 NCW Illustrated Poem Contest Fast or Slow ... Chemistry Makes It Go!

The Cincinnati, OH / Northern KY Local Section of the American Chemical Society (ACS) is sponsoring an illustrated poem contest for students in Kindergarten through 12th grade.

#### Contest Deadline: Thursday, October 21, 2021

First Place winners of each category will be honored at the local ACS Awards dinner in April 2022.

#### Contact: Jamie Heimkreiter at <u>poem.contest@acscincinnati.org</u> PCNA, 3131 River Road, Cincinnati, OH 45204

Winners of the Cincinnati, OH / Northern KY Local Section's Illustrated Poem Contest will advance to the National Illustrated Poem Contest for a chance to be featured on the ACS website and to win prizes!

Write and illustrate a poem using the NCW theme, "**Fast or Slow ... Chemistry Makes It Go!**" Your poem must be <u>no more</u> than 40 words and in one of the following styles to be considered:

#### HAIKU - LIMERICK - ODE - ABC POEM - FREE VERSE - END RHYME - BLANK VERSE

#### Possible topics related to the theme include:

Activation energy Catalysts and enzymes Collision theory Fast vs. slow reactions Pressure Reaction rates

#### Entries will be judged based upon:

Artistic Merit - use of color, quality of drawing, design, and layout Poem Message - fun, motivational, inspiring about yearly theme Originality and Creativity - unique, clever and/or creative design Appearance - neatness, free of spelling and grammatical errors



#### **Contest Rules:**

- All poems must be no more than 40 words, and in one of the following styles to be considered: Haiku, Limerick, Ode, ABC poem, Free verse, End rhyme, and Blank verse.
- Entries are judged based upon relevance to and incorporation of the NCW theme, word choice and imagery, colorful artwork, adherence to poem style, originality and creativity, and overall presentation.
- All entries must be original works without aid from others. Poems may be submitted by hand on an unlined sheet of paper not larger than 11" by 14" or scanned and sent via email. Illustrations may be created using crayons, watercolors, other types of paint, colored pencils, or markers. The illustration may also be electronically created by using a digital painting and drawing app on a computer, tablet, or mobile device.
- The text of the poem should be easy to read and may be typed before the hand-drawn or digital illustration is added, or the poem may be written on lined paper, which is cut out and pasted onto the unlined paper with the illustration.

No clipart or unoriginal images can be used.

- Only one entry per student will be accepted; all entries must include an entry form. If the illustration is created using a digital painting or drawing app, the name of the program must be included on the entry form.
- All illustrated poems and/or digital representations of the poems become the property of the American Chemical Society.
- Acceptance of prizes constitutes consent to use winners' names, likenesses, and entries for editorial, advertising, and publicity purposes.



## Hold the Date: October 22, 2021

### October Meeting

The 2021 Oesper Symposium will be held on Friday October 22 at the University of Cincinnati. The meeting is planned to be in-person. The Symposium Schedule is <u>here.</u>

**Submissions for the Poster Session are** still being accepted. A Poster Session will be held from 5 to 7 PM at the Oesper Symposium prior to the banquet. (It is open to all students.) Those wishing to present a poster should submit the title, authors (underline presenting author), and affiliation to <u>oespersymposium2019@gmail.com</u>. A confirmation email will be sent once the title information is received.

<u>The Poster submission deadline is Friday, October 15, 2021.</u> For any questions regarding the poster session, please contact Connor Rahm or Md Abdul Hoque at <u>oespersymposium2019@gmail.com</u>.

# **Deadlines and Scheduled Events**

Oct	Abstract Submission Deadline for ACS Spring Meeting 3/20-24
Oct 15	Deadline to register for Oesper Poster Session on Oct 22
Oct 15	Deadline for Oesper Banquet reservations
Oct 22	Oesper Symposium; Poster Session; ACS Dinner Meeting
Oct 20	Midwest Regional Meeting in Springfield, MO

