

The Chemical Record

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Columbus Section of the American Chemical Society, Inc.

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ABOUT THE COLUMBUS SECTION



The Columbus Section of the American Chemical Society comprises approximately 1,500 members who live and work in the following central Ohio counties: Delaware, Fairfield, Fayette, Franklin, Hocking, Knox, Licking, Madison, Marion, Morrow, Muskingum, Perry, Pickaway, Ross, and Union.

The Mission of the American Chemical Society (ACS) is to encourage in the broadest and most liberal manner the advancement of the chemical enterprise and its practitioners. Toward that end, the ACS advances scholarly knowledge, provides professional services and support, communicates with varied audiences, and is actively involved in the science, education, and public policy arenas.

The Columbus Section of the ACS adheres to this mission and the strategic thrusts of the national organization and leadership by providing programs and networking opportunities for Chemistry professionals in Central Ohio.

We invite ACS members and scientists in the community to lend their expertise and talents to our activities in science education, government and legislative policy issues, safety in our industrial plants and in our communities, and care of our land.





MEETING NOTICE

Columbus Section of the American Chemical Society, Inc.
columbus.sites.acs.org

Meeting #893

Is Corrosion Like Corruption? What is the Cost? Can it be Stopped?

Srdjan Nestic, PhD
Russ Professor and Institute Director
Institute for Corrosion and Multiphase Technology
Ohio University

Monday, March 5, 2018

Spaghetti Warehouse
397 West Broad Street
Columbus, Ohio 43215

PROGRAM DETAILS

5:00 – 6:00 PM	Executive Committee Meeting – All members are welcome to attend.
6:00 – 6:45 PM	Social Hour – Cash Bar
6:45 – 7:30 PM	Dinner: <ul style="list-style-type: none">• Dinner (Plated):• Fresh Garden Salad• Bread• Your Choice of 1 Entrée –<ul style="list-style-type: none">○ Spaghetti Feast○ Lasagna Platter○ Chicken Parmigiana○ Grilled Chicken Alfredo Fettuccini• Beverages – water, coffee, tea, and soft drinks
7:30 – 8:30 PM Program	Presentation by Prof. Srdjan Nestic: Is Corrosion like Corruption? What is the Cost? Can it be stopped?



Cost	ACS members: \$20 per person. Non-members: \$25 per person. \$5 for retired and unemployed section members and students. Payment will be collected at the door. Cash and checks accepted. There is no cost to attend the program only. Dinner cost will be waived for new members who joined the local section in 2017 and 2018 when they attend their first local section meeting. <i>Remember that this is a dinner order and must be paid. Please help control costs by honoring your order.</i>
RSVP	To avoid dropped reservations please use the Meeting Reservation Form on the section's website (http://columbus.sites.acs.org). Alternatively, please send an e-mail with the same information to us at the following e-mail address: columbusacs@gmail.com providing the information listed below.
E-mail Reservations Template	<ul style="list-style-type: none"> • First and last name • Membership category: <ul style="list-style-type: none"> ○ Emeritus member ○ Regular Member ○ Retired Member ○ Unemployed Member ○ Non-member ○ Student • Employer (if any) • Please indicate if you will join us for the: <ul style="list-style-type: none"> ○ <u>Dinner & Program</u> OR ○ <u>Program-Only</u> • Your phone number, in case we need to contact you.
Reservation Deadline	Sunday, March 4, 2018 at 5:00 pm.
Program Contact	Bob Kroshefsky , Email: columbusacs@gmail.com
Directions & Parking PARKING IS FREE	<p>From the North – Take I-71 South to Exit 108-B for US 40/Broad Street. Turn right onto US 40 (Broad Street). Restaurant will be on the left just beyond COSI between the railroad trestles.</p> <p>From the East – Take I-70 West to exit 100-B for Fourth Street (toward US 23 North). Turn right onto South 4th Street. Turn left onto West Broad Street. Restaurant will be on your left just beyond COSI between the railroad trestles.</p> <p>From the West – Take I-70 East to Exit 97 for US 40/West Broad Street. Turn left onto US 40 (West Broad Street). Restaurant will be on your right between the railroad trestles. If you see COSI, you've gone too far!</p> <p>From the South – Take I-71 North to exit 106-A/106-B on the left and merge onto OH 315 North. Take US 62/OH 3/Rich Street exit toward Town Street. Turn right onto OH 3/US 62/West Rich Street. Turn left at the 3rd cross street onto South Gift Street. Turn right onto West Broad Street. The restaurant will be on your right between the railroad trestles. If you see COSI, you've gone too far!</p>

ABOUT THE TALK:

IS CORROSION LIKE CORRUPTION? WHAT IS THE COST? CAN IT BE STOPPED?

The effects of corruption and corrosion are similar. Corruption in a society leads to slow degradation of order causing eventual break down of the society. Similarly, corrosion in metal leads to slow disintegration of metallic framework causing eventual damage to structures, e.g. bridges, refineries, cars, trains, planes, etc. A civilization depends on these infrastructures. Corrosion causes crumbling of these infrastructures. There is a cost associated with such damage. Prof. Nestic will discuss the process and cost of corrosion during this talk. He will also highlight the research that his group is conducting in order to understand ways to curb or slow down the unstoppable process of corrosion.

ABOUT THE SPEAKER:

PROF. SRDJAN NESIC

OHIO UNIVERSITY – RUSS PROFESSOR AND INSTITUTE DIRECTOR, INSTITUTE FOR CORROSION AND MULTIPHASE TECHNOLOGY

Prof. Srdjan Nestic is a Russ Professor and the Director of Institute of Corrosion and Multiphase Technology at Ohio University. He has been serving in his current role since 2002. Prof. Nestic's research interests reside at the intersection of transport phenomena and electrochemistry. His research projects span a wide range of topics, including corrosion, erosion, computational fluid dynamics, multiphase flow, etc. Prof. Nestic is a prominent figure in the field of corrosion research. He was elected as the Fellow of the National Association of Corrosion Engineers (NACE) in 2008 for his seminal role in this field.





UPCOMING ACS WEBINARS
FROM THE ACS WEBSITE

Reshaping Chemical Lab Safety: Creating a Dynamic and Adaptive Safety Environment

March 8, 2018 @ 2-3pm ET

Ralph Stuart of Keene State College and Samuella Sigmann of Appalachian State University propose a new way of thinking that builds a dynamic safety system based on your own needs and conditions as well as provides resources on how such programs can be developed.



Exceptional Presentations In Spite of PowerPoint: How to Communicate in the Digital Age

March 15, 2018 @ 2-3:00pm ET

Mark Jones returns to share the keys to effective presentations; including knowing your audience, recognizing limitations, and overcoming those limitations.



Creating New Models to Combat Neglected Disease Through, Industry, Government, and Public-Private Partnerships

April 5, 2018 @ 2-3pm ET

Michael Pollastri of Northeastern University discusses a successful model of distributed neglected tropical disease drug discovery that involves collaborators in industry, government, and public-private partnerships.



Why Attend ACS Webinars®?

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Editor's Note: For more details about the webinars described above, please visit <https://www.acs.org/content/acs/en/acs-webinars.html>



UPCOMING ACS SHORT COURSES
FROM THE ACS WEBSITE



Upcoming Courses at the ACS National Meeting

March 17 – 21, 2018

American Chemical Society will be holding Short Courses in New Orleans on March 17-21, 2018 at the [ACS National Meeting & Exposition](#) to help you gain invaluable training in just a few days. Short Courses from the ACS give you the tools to stay on top of new technology, growing trends in the science industry and basic skills you need to advance in your career. [See all courses »](#)



Upcoming Laboratory/Lecture Courses

ACS offers week-long courses that combine traditional lectures with a hands-on component. In conjunction with our partners, Virginia Tech and Axion Labs, these innovative courses are taught by world-renowned experts in their fields and have limited seats to ensure you make the most of your experience. [Register today to secure your seat.](#)

Editor's Note: For more details about the short courses described above, visit www.proed.acs.org/.



FROM CHEMICAL & ENGINEERING NEWS MARCH 5, 2018

CHEMOURS TOLD TO CUT FLUOROCARBON AIR POLLUTION FROM NORTH CAROLINA PLANT

Chemours is facing costly demands from North Carolina regulators to curb atmospheric releases of fluorinated chemicals from the company's factory outside of Fayetteville. Chemours is installing emission controls to reduce its releases of hexafluoropropylene oxide dimer acid (HFPO-DA) and other poly- and perfluorinated compounds to air, the state says.

HFPO-DA and other fluorochemicals, collectively called GenX by North Carolina regulators, have tainted groundwater near the Chemours plant and public drinking water drawn from the Cape Fear River in Wilmington, N.C., 110 km downstream of the facility. While information about the toxicity of these substances is incomplete, a growing body of research suggests that they are more toxic than a previous generation of hazardous and widespread industrial fluorochemical pollutants that includes perfluorooctanoic acid (PFOA).

To protect drinking water drawn from the river and delivered to hundreds of thousands of people, North Carolina's Department of Environmental Quality (DEQ) in November revoked the permit that allowed the plant to discharge wastewater into the river from its fluorochemicals production unit. Chemours now hauls all wastewater from this part of the facility to Texas for disposal in a deep injection well.

DEQ announced in late February that it found GenX in rainwater collected at 10 sites within 4.7 km of the plant. "These findings lend weight to our belief that airborne GenX contributes to contamination of private wells and lakes near Chemours' facility," Michael S. Regan, secretary of DEQ, says.

"This observation isn't overly surprising to me," says Cora J. Young, an assistant professor at York University in Toronto who studies the atmospheric chemistry and transport of fluorinated compounds. "For over a decade, we have had evidence of atmospheric emissions of other poly- and perfluorinated substances around fluorochemical manufacturing facilities." Additionally, DuPont researchers in 2007 published a study of how airborne PFOA is transferred from the atmosphere to the ground by rain.

The ammonium salt of HFPO-DA is a commercial product, officially called GenX, which DuPont introduced as a "sustainable replacement" for PFOA in 2010. DuPont then spun off its fluorochemicals business into a separate company, Chemours, in 2015. Like PFOA, GenX is a surfactant used to aid in polymerization of fluoropolymers. PFOA was phased out because of concerns about its toxicity and persistence in the environment.

DEQ says it is directing Chemours to install, on a trial basis, carbon adsorption technology at stacks at its vinyl ethers unit and polymer processing agent facilities. The state chose carbon adsorption because these systems are relatively easy to obtain, says Jill Warren Lucas, a DEQ spokesperson. Engineering estimates indicate that the equipment will cut emissions of the fluorinated compounds by 90%, DEQ says.

The technology is not designed to control process emissions—it is intended to scrub fluorinated chemicals from indoor air at the factory, the agency says. Young of York University says activated carbon has been used to effectively remove poly- and perfluorinated substances from air samples.

North Carolina will evaluate performance of the trial system before determining what final emission control strategy it will require Chemours to use at the Fayetteville plant, DEQ's Lucas says, noting that other technology is also under consideration.

Chemours provided to the state data showing that the plant emits about 30 different fluorochemicals into the air, including HFPO-DA and HFPO-DA fluoride, says Detlef Knappe, a North Carolina State University engineering professor. He is concerned about which of these compounds will be used to determine the performance of the emission control system and what level of release to the atmosphere will be considered an acceptable level.



In addition to requiring air pollution controls, DEQ has ordered Chemours to excavate or otherwise remediate polluted ditches at the plant so they no longer are sources of fluorochemicals into the Cape Fear River through runoff or into groundwater through infiltration of rainwater. Chemours did not respond to requests for comment for this article. It and DuPont face class action lawsuits from people claiming they are or could get ill from drinking water tainted with the fluorochemicals.

COLUMBUS SECTION ACS CALENDAR OF EVENTS

Year	Month	Date	Day	Location	Comments
2018	March	4	Sunday		5:00 pm: Deadline for reservations for March, 2018 Section meeting.
2018	March	5	Monday	Spaghetti Warehouse	Monthly Section Meeting; see details elsewhere in this issue of <i>The Chemical Record</i> .

ABOUT THE CHEMICAL RECORD

The Chemical Record, official newsletter of the Columbus Section of the American Chemical Society, Inc., is published monthly, February-May and September-December (eight issues per year.) Opinions expressed by editors or contributors do not necessarily represent the official position of the Columbus Section or of the editorial staff. We welcome your contributions to your *Chemical Record*. Please submit them via postal or electronic mail to **Ashish Deshmukh**, 2690 Fishingier Road, Columbus, Ohio 43221, ashishdeshmukh@hotmail.com. Electronic mail contributions should be in MS Word file attachments (preferred) or plain-text messages. *Thank you very much!*

CHANGE OF ADDRESS

Changes in postal or e-mail address should be reported to the Membership Chair, **David Speth**, 614-688-5162, drspeth@sbcglobal.net. David will forward the change-of-address information to ACS Headquarters.

ADVERTISING RATES

Advertising rates for *The Chemical Record* are as follows (per single insertion): Full Page, \$250; Half page, \$150; Quarter Page, \$120; Eighth Page: \$60; Business Card, \$50. Discounts: 5% for four insertions or 10% for eight insertions during a calendar year. There is no charge for "help wanted" ads.