American Chemical Society Wichita Section

February, 2016 Newsletter
Stephen Donnelly, Editor

Section Meeting

Monday, 22 February
Wichita State University
Wichita, KS

Meal: 6:00 p.m.
Presentation: 7:00 p.m.

We will meet for dinner in the Olive Room (RSC 261) in the Rhatigan Student Center on the campus of Wichita State University. The meal will include a Mexican buffet at a cost of $14.00 for members and guests, and $7.00 for students. The presentation will be given in the same room starting at 7:00 PM. We ask those interested in joining us for dinner to RSVP to Paul Rillema by email to paul.rillema@wichita.edu by Friday, 19 February.

A map of the WSU campus can be found at: http://webs.wichita.edu/?u=parking&p=/2015_parking_plan/. Parking is available in Lot 7 just south of the Rhatigan Center.

Speaker: *Dr. Carolyn Fisher*, Senior Scientist, Descernis

Title: *Spices and Herb: Chemistry and Health*

Abstract:

A general overview of the components of spices and herbs is presented, along with their attributes for the food industry. Rosemary, Ginger, Capsicum, and Cinnamon as well as others are surveyed. Bioactivities of their components are discussed, with emphasis on antimicrobial, antioxidant, anti-carcinogenic and anti-diabetic activities.

Speaker Bio:

Dr. Fisher received her B.S. from Wayne State University and Ph.D. from Stanford University. Her career moved from Research (Kalsec, 1978-1991) to Teacher (Univ. of Delaware, 1992-1996) to Book Author (Flavours: Biology & Chemistry, 1997; Royal Society of Chemists; available in English and Spanish). At McCormick & Co., Carolyn was a member of cross-functional teams developing visions, strategies and action plans for more efficient commercialization processes, moving from Quality Assurance (1996-2005) to Regulatory (2005-2010) to Knowledge Management (2011). She completed the 5-year leadership training program known as the Corporate Multiple Management Board. Using her QA skills in regulatory, she managed cross-training and consensus sessions for regulatory professionals which resulted in updated Desk Procedures, communications explaining the science behind certain regulatory compliance strategies and a course within the Learning Development Center for McCormick professional development.

As Senior Scientist at Decernis (2012 – present), Carolyn directed data capture of over 160 countries' food additive regulations and supported the development of rule-based queries to provide regulatory evaluation of ingredients and formulas for global compliance. She translates customer desires into actionable working solutions as well as provides customer training and issue resolution related to gComply and gComply Plus.

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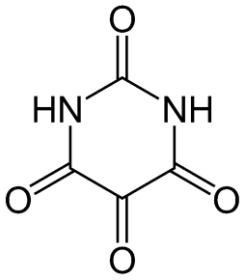
Molecule of the Week



Alloxan

Alloxan is a thermally stable white solid with an unusual structure. Its formal name is 2,4,5,6(1H,3H)-pyrimidinetetrone, indicating that it has a pyrimidine ring structure with four carbonyl groups. It is freely soluble in water, forming a slightly acidic solution. The solid begins to decompose at 256 ºC.

In 1818, Italian chemist Luigi V. Brugnatelli was the first to isolate alloxan; he synthesized it via nitric acid oxidative degradation of uric acid. Shortly after Friedrich Wöhler found that urea can be made from inorganic materials in 1828, he and Justus von Liebig discovered alloxan in human excretions, showing that it also can be biosynthesized. Currently, alloxan is prepared from barbituric acid or alloxantin; the article of commerce is the monohydrate.

Alloxan is sometimes used in dye manufacture, but its main (and most notorious) use is to induce diabetes in laboratory rodents. Alloxan's structure mimics that of glucose, which allows it to be absorbed by the pancreas. Once inside the organ, it destroys insulin-producing β-cells and produces a disease similar to type 1 diabetes in humans. Fortunately, alloxan is not taken up by the human pancreas, but it has shown liver and kidney toxicity.

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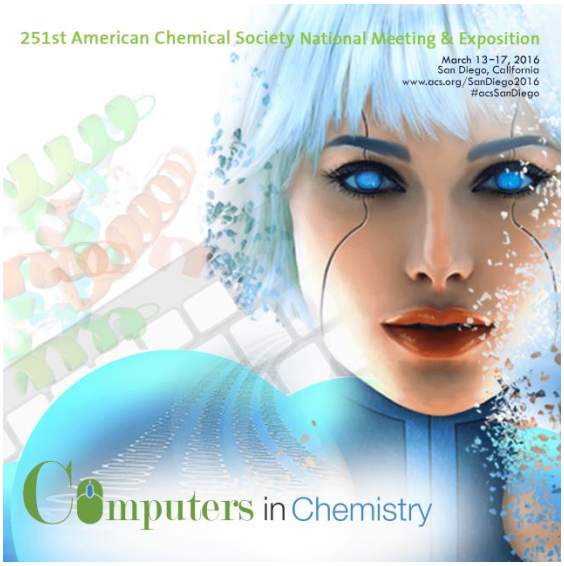

251st ACS National Meeting & Exposition

March 13-17, 2015
San Diego, California
www.acs.org

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The American Chemical Society's National Historic Chemical Landmarks (NHCL) program is administered by the ACS Office of Public Affairs. Through this program ACS grants Landmark status to seminal achievements in the history of the chemical sciences.

The mission of the NHCL program is to enhance public appreciation for the contributions of the chemical sciences to modern life in the United States and to encourage a sense of pride in their practitioners for chemistry's rich history. The program does this by recognizing seminal achievements in the chemical sciences, recording their histories, and providing information and resources about Landmark achievements.

Kansas currently has one NHCL designated site. Do you know what it is? Here's a hint: it is appropriate that this chemical discovery was made in the SUNflower state. For the answer go to acs.org and follow the link to the National Historic Chemical Landmarks page.

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51st Midwest Regional Meeting
American Chemical Society

MWRM 2016

October 26-28, 2016
Kansas State University
Manhattan, KS

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Wichita Section Web Site:
http://wichita.sites.acs.org/

2016 Section Officers

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