



American Chemical Society Wichita Section

October, 2013 Newsletter

Stephen Donnelly, Editor

Section Meeting
Wednesday, 30 October, 7:00 PM
Newman University
Wichita, KS

Meal (optional): 6:00 PM

Dinner will be served in the Dugan Gorges Conference Center at Newman University in Wichita. Dinner will include a romaine salad, broiled chicken breast with black bean corn salsa, cilantro lime rice, and julienned vegetables. The cost of the meal is \$12 and the section will cover the full cost for students who also attend the presentation. Directions and a campus map can be found at: <http://www.newmanu.edu/campus-map>

Please RSVP by Monday, 28 October to Alan Oberley at oberleya@newmanu.edu.

Meeting: 7:00 p.m.,

The meeting and presentation will follow dinner and take place in the same location.

Speakers: James O'Brien, Professor (Emeritus) in the Chemistry Department at the Missouri State University.

Title: *Chemistry in the Sherlock Holmes Stories*

"Madam, you must stop painting your child's crib." These were the first words spoken by Sir Arthur Conan Doyle to a woman who had brought her listless infant daughter to the Edinburgh Medical School in 1912. Doyle, like his creation Sherlock Holmes, had acute deductive powers. His diagnosis of lead poisoning proved to be correct. Conan Doyle's first published medical article, in the British Medical Journal in 1879, dealt with poisons. His interest in Chemistry is apparent in his fictional writings as well. Poisons, for example, are mentioned in 22 of the 60 Holmes tales. Numerous other chemicals are mentioned as well. Sherlock

Holmes had a chemical "table" in his Baker Street quarters. Here he would relax by doing chemical analyses or syntheses (much as today's students relax!). There is, in fact, so much Chemistry in the Sherlock Holmes stories that practically every story has some, whether it be poisons, gems, brandy, acids, or even the famous 7% solution of cocaine. This lecture will discuss the scientific Holmes with quotes from the Master himself and will illustrate that Asimov's assessment of Holmes as a "blundering chemist" is incorrect.

Speaker Bio:

Jim O'Brien was born in Philadelphia on the 4th of July. He received a BS in Chemistry from Villanova University and a Ph.D. in Chemistry from the University of Minnesota. Following postdoctoral work at the Los Alamos Scientific Laboratory in New Mexico, he joined the faculty at Southwest Missouri State University, recently renamed Missouri State University. While at MSU, Dr. O'Brien received three research awards and three teaching awards, including the Governor of Missouri's Award for Teaching Excellence in 2001. In 2002 he was named the university's fourth Distinguished Professor. Now retired, he does volunteer work at a Springfield hospital and continues to study the History of Chemistry, Sherlock Holmes, and Civil War History. He tries to play some Golf. He and wife Barbara often travel to visit good friends in Ireland.

Chair's Message

Dear Section Members:

I guess it is a bit of serendipity that in the same month our speaker will be discussing the chemistry found in Sir Arthur Conan Doyle's stories of Sherlock Holmes we also have the ACS highlighting two plant alkaloids of historical and pharmaceutical importance as the "Molecule(s) of the Week" (see below). I have read all of the Baker Street stories, and, while I do not remember a specific instance of the use of atropine in a story line, surely Mr. Holmes and Dr. Watson would have been well aware of the benefits, dangers, and illicit use of these compounds.

Our next meeting will be in mid-November (probably Tuesday, 12 November) back in Wichita. The Wichita State Chemistry Department will host this "open house" meeting which will include dinner on campus and a tour of their research labs. This will be an excellent opportunity for section members to learn about the research conducted by our WSU colleagues and for students from the other

schools in the section to learn about the WSU graduate program as well. I will send along the details with the November newsletter.

Election Day is just two weeks away and, given that it is an off-year election, most of the balloting will be local meaning we have another year of calm before we have to deal with talking heads, pundits, and attack ads. Of course ACS members do have national ballot of interest – we have three candidates vying for the ACS President-Elect position. I hope you have received your ballot, reviewed the candidate's statements, and marked your ballot – I will be working on mine after I finish writing this.

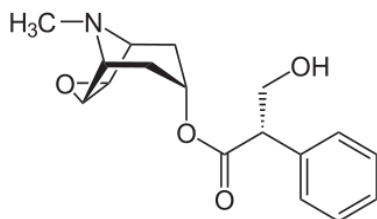
We have a local election as well – it is time to choose a new section secretary who will join the leadership progression through chair-elect, and then to chair over the next three years. Dr. Dorothy Hanna, Professor of Chemistry at Kansas Wesleyan University and former member of the section's leadership team, has volunteered to run for this position. I have not received any other nominations for the ballot, but of course we always include the option for a write-in candidate. The ballot will accompany this newsletter and I ask that you return it to me via email or snail mail by 15 November.

I hope to see you on the 30th in Wichita.

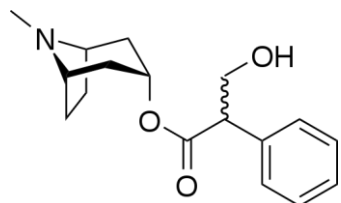
Sincerely,

Stephen Donnelly, Chair, ACS Wichita Section

Molecule of the Week



(1) scopolamine



(2) hyoscyamine

Scopolamine (1) and its biochemical precursor hyoscyamine (2) are deadly-nightshade alkaloids that are also found in other plants of the Solanaceae family such as mandrake, jimsonweed, and tomato. The *l*-hyoscyamine isomer undergoes partial race-

mization during the extraction process giving the well-known nightshade alkaloid atropine.

Both alkaloids are extremely poisonous and have hallucinogenic effects. (Mandrake is sometimes called “insane root”.) They are anticholinergic agents, and, when used in small doses, they have medical uses such as treating gastrointestinal disorders. Plant extracts containing them have been used medicinally and ritually since biblical times or earlier.

Scopolamine is used criminally to poison people, not only to murder them but also to make them vulnerable to robbery or other nefarious activity. Despite its adverse effects, it also has been tried as a “truth drug”.

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Wichita Section Web Site:

<http://wichita.sites.acs.org/>

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