



American Chemical Society Susquehanna Valley Section

SEPTEMBER 2015 NEWSLETTER

The four hundred and twenty fifth meeting of the American Chemical Society, Susquehanna Valley Section will be held on Wednesday, September 9, 2015 at 7:30 pm in room 301 (Gallery Theatre) in the Elaine Langone Center (LANG) on the Bucknell University campus in Lewisburg, PA. The speaker will be Eugene P. Mazzola Ph. D. who is recently retired from the U.S. Food and Drug Administration in Washington, DC. The talk will be preceded by a reception at 5:00 pm in LANG 213 (Walls Lounge) and a dinner at 6:00 pm, also in LANG 213.

“Structural Elucidation of Saponins using F2-Coupled HSQC Spectra”

Dr. Eugene P. Mazzola
Department of Chemistry
University of Maryland
College Park, MD

The structural elucidation of organic compounds begins with the determination of high-resolution mass spectral data to obtain molecular formulae and ^1H and ^{13}C NMR spectra. ^1H and ^{13}C signals are then directly correlated (H-C) and long-range correlated through 2 bonds (H-C-C) and 3 bonds (H-C-C-C) by additional 2-dimensional NMR experiments.

Carbohydrates, however, occupy an unusual niche in this general process. The structures of 6-membered ring carbohydrates are relatively easily determined or with great difficulty, depending upon the degree of overlap of proton NMR signals. When severe signal overlap does not occur, TOCSY experiments are made for carbohydrates, permitting the identification of entire proton spin systems, and COSY experiments can then be used to determine the structural position of each hydrogen signal.

In cases of moderate to severe ^1H NMR signal overlap, determination of the position of non-anomeric ring hydrogens, to say nothing of their orientation, in each sugar unit can be exceedingly difficult. Nevertheless, 2-dimensional NMR experiments now exist that permit the relief of spectral congestion by taking advantage of signal dispersion via C-13 satellites.

Eugene P. Mazzola was born on Feb. 2, 1942 in Montclair, New Jersey. He obtained an A.B. degree in 1964 from Franklin and Marshall College in Lancaster, PA and a Ph.D. degree in 1971 in Organic Chemistry from the University of Pittsburgh. From 1970-72, he was a postdoctoral fellow with Professor Harold Goldwhite at the California State University, Los Angeles, applying NMR spectroscopy to dynamic systems in organophosphorus compounds. He joined the Bureau of Foods of the U.S. Food and Drug Administration in Washington, DC in 1972 and took charge of the Bureau's NMR Facility in 1973, a position from which he retired in 2015.

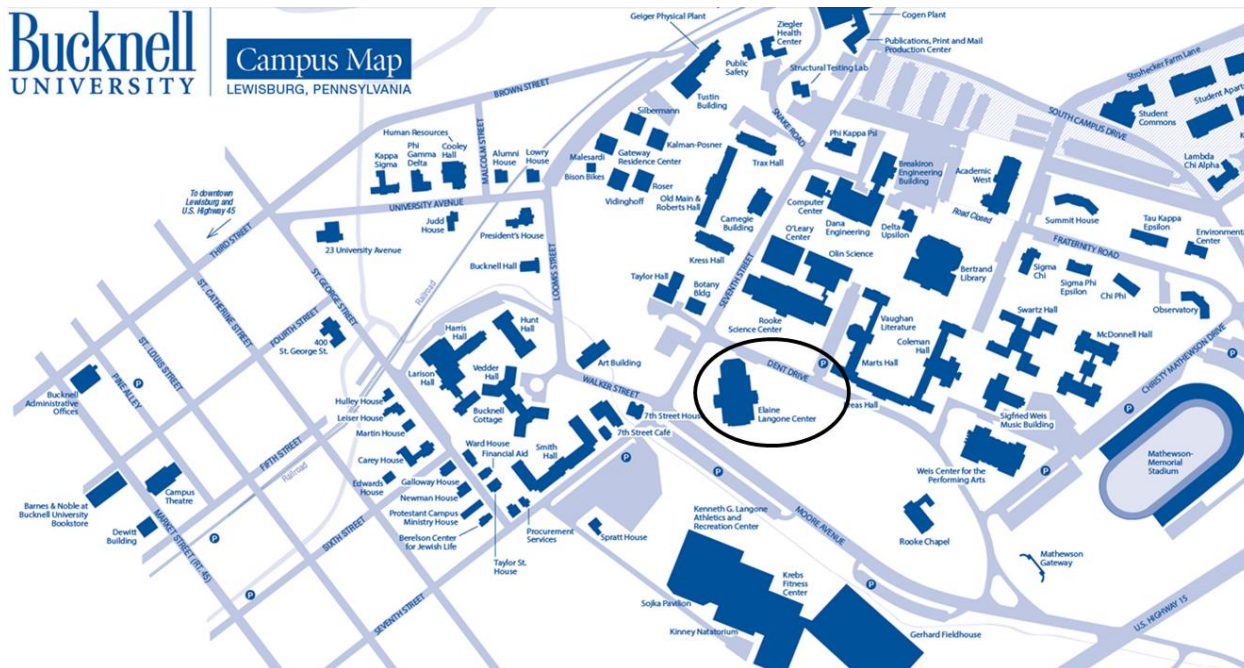
His research has focused primarily on the structural elucidation of natural product food contaminants and food colorant manufacturing impurities by NMR spectroscopy. He has served on the Editorial Advisory Board of Magnetic Resonance in Chemistry since 1996 and the Organizing Committee of the Small Molecule NMR Conference since 1999. He is Adjunct Professor of Chemistry at the University of Maryland and the Virginia Polytechnic Institute and State University and co-author of the NMR text, "Nuclear Magnetic Resonance Spectroscopy: An Introduction to Theory, Applications, and Experimental Methods."

DINNER: The lecture will be preceded by dinner at 6:00 PM in LANG 213 (Walls Lounge). Dinner will be buffet style, including a vegetarian option and desert. The cost will be \$15.00 per person. Those wishing to reserve a spot for dinner should contact Jim Swan by email (swan@bucknell.edu) by 10 pm Monday September 7. Payment for dinner may be in advance (check to Bucknell University Chemistry Department) or at the dinner.

DIRECTIONS TO BUCKNELL UNIVERSITY:

East of Lewisburg: <ol style="list-style-type: none">1. Interstate 80 West to Exit 210A2. Route 15 South3. At 11th traffic light (the first light after crossing Route 45 (Market Street)), turn left onto Moore Avenue. (Look for the Bucknell Athletic Stadium on the left.)	West of Lewisburg: <ol style="list-style-type: none">1. Interstate 80 East to Exit 210A2. Route 15 South3. At 11th traffic light (the first light after crossing Route 45 (Market Street)), turn left onto Moore Avenue. (Look for the Bucknell Athletic Stadium on the left.)
South of Lewisburg: <ol style="list-style-type: none">1. Take Routes 11&15 North2. When Routes 11 & 15 split, stay on Route 15 (Tedd's Landing is on your right; KMart on your left)3. Approx. 7 miles after Selinsgrove / Shamokin Dam, you'll come to a stop light. Bucknell is on your right. (Look for the Bucknell Athletic Stadium on right.)	North of Lewisburg: <ol style="list-style-type: none">1. Take Route 15 south2. Once past Interstate 80, turn left on Moore Avenue at the 11th traffic light (the first light after crossing Route 45 (Market Street)). (Look for the Bucknell Athletic Stadium on the left.)

Once on campus: Follow the campus map below to the visitor parking designated with a .



Online campus maps can be found at <http://www.bucknell.edu/script/communication/map/>

SECTION NEWS:

2015 – 2016 LOCAL SECTION MEETING SCHEDULE:

09-Sept-2015: Bucknell University	10-Feb-2016: Marywood University
21-Oct-2015: Wilkes University	09-March-2016: Susquehanna University
11-Nov-2015: Lycoming College	13-April-2016: King's College
Jan 2015: Executive Board Meeting	May-2015: Awards Banquet

2016 LOCAL SECTION ELECTIONS:

Nominations are due for the position of Chair-elect. If interested, please contact Dr. James Swan at swan@bucknell.edu or 570.577.3671.

MARM 2016:

The 44th MARM is scheduled for June 9-12, 2016 and is being hosted by the New York Section of the American Chemical Society. It will be held at the College of Mount Saint Vincent, Riverdale, NY. See their website for more details: <http://marmacs.org/2016/>

Susquehanna Valley Section Web Page: <http://departments.kings.edu/SusquehannaValleyACS>

Please send any comments about the monthly newsletter to Ron Supkowski, Section Secretary
 King's College 131 N River St Wilkes-Barre PA 18711 ronaldsupkowski@kings.edu