



## American Chemical Society Susquehanna Valley Section

### NOVEMBER 2016 NEWSLETTER

The four hundred and thirty fourth meeting of the American Chemical Society will be held on Wednesday, November 9<sup>th</sup>, 2016 in Room G09 of the Heim Building on the campus of Lycoming College. The meeting will begin at 7:30 PM and will be preceded by a dinner at 5:00 PM. The speaker will be Dr. Chris Tipple of the FBI Laboratory's Counterterrorism and Forensic Science Research Unit.

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#### *“Things That Go Boom”*

Dr. Chris Tipple  
Counterterrorism and Forensic Science Research Unit  
Federal Bureau of Investigation Laboratory Division  
Quantico, VA

Christopher A. Tipple<sup>1</sup>, Chia-Wei Tsai<sup>2</sup>, Sarah J. Milam<sup>3</sup>, Richard A. Yost<sup>4</sup>.

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The analysis of explosives continues to be of great interest to law enforcement agencies, as well as homeland security agencies around the world. Of particular interest is the ability to determine where an explosive was produced. Toward that goal, comprehensive two-dimensional gas chromatography coupled with a time-of-flight mass spectrometer (GC×GC-MS) was implemented for the analysis of plastic explosive extracts. Using appropriate data treatment steps, a low error rate in classification was achieved in cross validation classification of training samples and classification of test samples. Another area of interest in the analysis of explosives is to decrease the time of the entire analysis procedure, including sampling. This is especially important in high profile, time sensitive cases. A recently utilized ambient ionization technique, paper spray ionization (PSI), provides the possibility of combining sampling and ionization to meet this goal. Using this approach, experimentally determined limits of detection as low as 0.06 ng, on paper, were observed. Finally, determining the efficacy of terrorist made improvised explosives is a high priority within the explosives community. Newly identified improvised explosive mixtures are subjected to a structured testing protocol aimed at determining their potential threat. This testing protocol will be briefly examined.

Chris Tipple is a Research Chemist at the FBI Laboratory's Counterterrorism and Forensic Science Research Unit in Quantico, Virginia. He has been working on various chromatographic and mass spectrometric applications in forensic science since joining the FBI in 2008. He currently serves as the lead research staff member for the analysis of explosives and related materials. He has also worked in the field of trace organic volatiles as they relate to the odor of human decomposition and human scent.

Dr. Tipple received a Ph.D. in Analytical Chemistry from the University of Tennessee, Knoxville for his work on microcantilever based chemical sensors. He has a B.S. in Chemistry from the University of Central Florida. Before coming to the FBI, Dr. Tipple was a Department of Defense civilian working on chemistry issues relevant to the military, with a focus on the detection and analysis of explosives.

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**DINNER:** The lecture will be preceded by dinner at 5:00 pm at the [Bullfrog Brewery](#) (231 West 4th Street, Williamsport, PA 17701). Please call or email reservations to Debbie Smith (570-321-4180 or smithdeb@lycoming.edu) by Friday, November 4.

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### **DIRECTIONS TO THE BULLFROG BREWERY RESTAURANT:**

The brewery is at 229 West Fourth Street, Williamsport PA 17701. From I-80, take U. S. Route 15 north. Travel approximately 15 miles to Williamsport. Continue over the Market Street Bridge (stay in left lane) and follow the signs for the Business District. At the third traffic signal, turn left onto 4<sup>th</sup> Street. Follow 4<sup>th</sup> Street west to the third traffic signal, which is Hepburn Street (there will be a movie theater on the right at the corner). Parking is available along Hepburn Street (on the street and in a public parking lot). The Bullfrog Brewery is directly next to City Hall on 4<sup>th</sup> Street, one block east of Hepburn Street.

From I-180/US-220, exit onto Market Street (Exit 27A). Turn left from the exit ramp at the traffic signal and follow Market Street north into the city. At the second traffic signal, turn left onto 4<sup>th</sup> Street. Follow 4<sup>th</sup> Street west to the third traffic signal, which is Hepburn Street (there will be a movie theater on the right at the corner). Parking is available along Hepburn Street (on the street and in a public parking lot). The Bullfrog Brewery is directly next to City Hall on 4<sup>th</sup> Street, one block east of Hepburn Street.

### **DIRECTIONS FROM THE BULLFROG BREWERY RESTAURANT TO THE COLLEGE:**

The college is at 500 Mulberry Street Williamsport, PA 17701. Follow Hepburn Street north to the traffic signal at Little League Boulevard (0.2 mi). Turn right onto Little League Boulevard and follow it until it ends at Mulberry Street (0.3 mi). Turn left at the stop sign onto Mulberry Street. At the next traffic signal, turn right onto Washington Boulevard. The entrance to the Heim Building/Lynn Science Center parking lot will be the first right. Proceed through the main doors into the Heim Building. Take the elevator down to the ground floor, where you will exit within sight of the doorway to room G09.

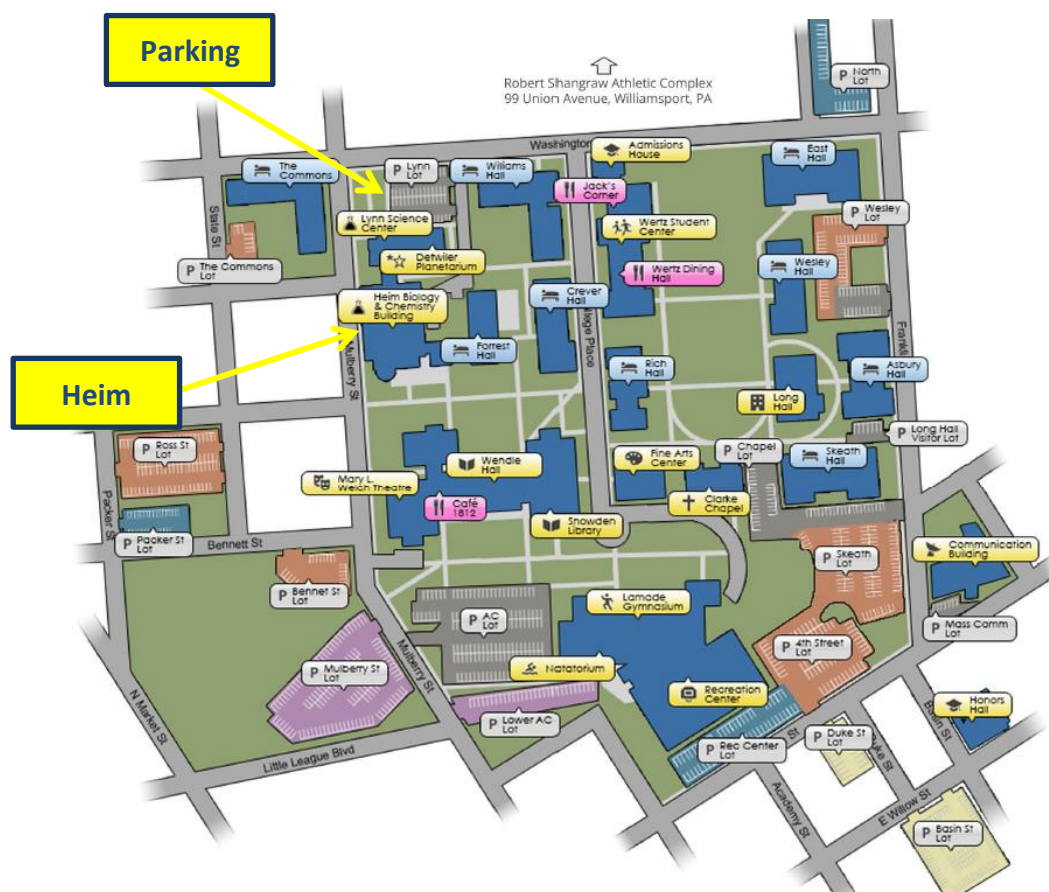
### **DIRECTIONS TO THE COLLEGE**

The college is at 500 Mulberry Street Williamsport, PA 17701. From I-80, take U. S. Route 15 north. Travel approximately 15 miles to Williamsport. Continue over the Market Street Bridge (stay in left lane) and follow the signs for the Business District. Go to the fourth traffic signal and turn right onto Little League Boulevard. Go one block east and turn left at the stop sign onto Mulberry Street. At the

next traffic signal, turn right onto Washington Boulevard. The entrance to the Heim Building parking lot will be the first right as shown in map below. Take the elevator down to the ground floor, where you will exit within sight of the doorway to room G09.

From I-180/US-220, exit onto Market Street (Exit 27A). Turn left from the exit ramp at the traffic signal and follow Market Street north into the city. Go to the third traffic signal and turn right onto Little League Boulevard. Go one block east and turn left at the stop sign onto Mulberry Street. At the next traffic signal, turn right onto Washington Boulevard. The entrance to the Heim Building parking lot will be the first right. Take the elevator down to the ground floor, where you will exit within sight of the doorway to room G09.

You can also see <http://www.lycoming.edu/admissions/ourCampus/directionsToCampus.aspx>



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## SECTION NEWS:

### 2016 LOCAL SECTION ELECTIONS:

The section is still in search of a 2017 Chair-Elect. Once a candidate is found an electronic ballot will be sent through email to vote. If interested, please contact Dr. Ron Supkowski at [ronalsupkowski@kings.edu](mailto:ronalsupkowski@kings.edu) or 570-208-5900x5733.

### CHEMISTRY TEACHER OF THE YEAR:

Dr. Anne Szklarski, Chair of the Susquehanna Valley ACS section, presented the 2016 Outstanding Chemistry Teacher award to Ms. Michelle Tonkin at Honesdale High School on October 20.

MARM 2017:

MARM 2017  
"elements of transition"

Co-organized by the Lehigh Valley and Susquehanna  
Sections of the ACS



The Susquehanna Valley Section is co-hosting MARM 2017 with the [Lehigh Valley Section](#). It will be held June 4-6, 2017 at the Hershey Lodge in Hershey, PA. Interested symposia organizers should contact the program chair, [David Rovnyak](#). For other volunteer opportunities and questions, please contact the meeting co-chair, [Dee Casteel](#).

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## NATIONAL ACS NEWS:

### ACT4CHEMISTRY:

Legislation that may impact the chemical enterprise comes before Congress on a regular basis, and the ACS is committed to keeping its members informed and encouraging them to weigh in on high-priority issues. One of the main ways the ACS does this is through Act4Chemistry. To learn more please visit their [website](#) or email [advocacy@acs.org](mailto:advocacy@acs.org).

### NATIONAL MEETINGS:

The 2017 spring national meeting will be held in San Francisco, California from April 2-6. A call for papers has been opened with most divisions having a deadline of Monday, Oct. 31. See the [website](#) for further details.

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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](mailto:ronaldsupkowski@kings.edu)

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