



American Chemical Society Susquehanna Valley Section

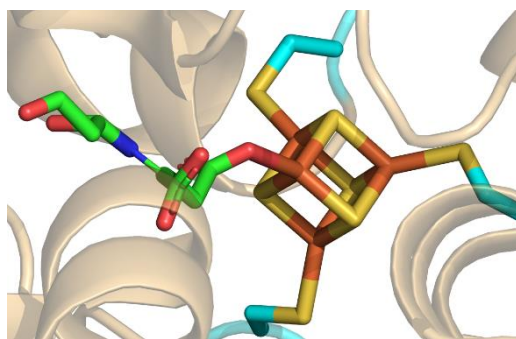
THIRD 2019-2020 SEASON NEWSLETTER (end of November)

The four hundred and fifty sixth meeting of the American Chemical Society will be held on Wednesday, November 13th, 2019 in in room G09 of the Heim Science Building on the campus of Lycoming College. The meeting will begin at 7:00 PM and will be preceded by a dinner at 5:00 PM. The speaker will be Dr. Allison Saunders.

“Quinolinate Synthase – an unusual suspect for turnover in the presence of oxygen”

Dr. Allison Saunders
Assistant Professor of Biochemistry
Lycoming College
Williamsport, PA

Quinolinate synthase (NadA) is an enzyme in the prokaryotic pathway for quinolinic acid (QA) formation, an intermediate in the biosynthesis of nicotinamide adenine dinucleotide (NAD⁺). The biosynthesis of QA differs in prokaryotes and eukaryotes, making the prokaryotic pathway an interesting target for study. NadA catalyzes the condensation reaction of dihydroxyacetone phosphate and iminoaspartate utilizing a [4Fe-4S]²⁺ cluster that is required for activity. A sequence alignment of NadA from many prokaryotes displays a conserved Cys-X-X-Cys-X-X-Cys motif, that was hypothesized to contain the cysteines that ligate the iron-sulfur cluster. Yet that motif is not conserved among all prokaryotic species, which initiated studies to determine which cysteines actually ligate the iron-sulfur cluster. During these studies, it was observed that NadA from *Escherichia coli* was not only active in the presence of oxygen, but produced QA at a significantly higher rate than in the absence of oxygen. The [4Fe-4S]²⁺ cluster is typically very oxygen sensitive and requires isolation and characterization in strict anaerobic conditions. Further studies confirmed the presence of a disulfide bond that is involved in regulating NadA activity in select organisms.



BIOGRAPHY OF DR. SAUNDERS:

Allison Saunders, Ph.D. received her B.S. in Biochemistry from Rochester Institute of Technology in 2003, followed by two years working in Quality Assurance at Merck and Co. in West Point, PA. Dr. Saunders received her Ph.D. in Biochemistry, Molecular and Microbiology from the Pennsylvania State University in 2011, and continued working for two-years as post-doctoral scholar at the same university. Dr. Saunders has spent time teaching various courses at Pennsylvania State University, both at University Park and the Hazelton branch campus, Bloomsburg University and Mansfield University before joining the Lycoming College Department of Chemistry in July 2019.

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 November 8th.

DIRECTIONS TO BULLFROG BREWERY RESTAURANT:

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 4th Street. Follow 4th 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 4th 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 4th Street. Follow 4th 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 4th Street, one block east of Hepburn Street.

DIRECTIONS FROM THE BULLFROG BREWERY RESTAURANT TO THE COLLEGE:

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

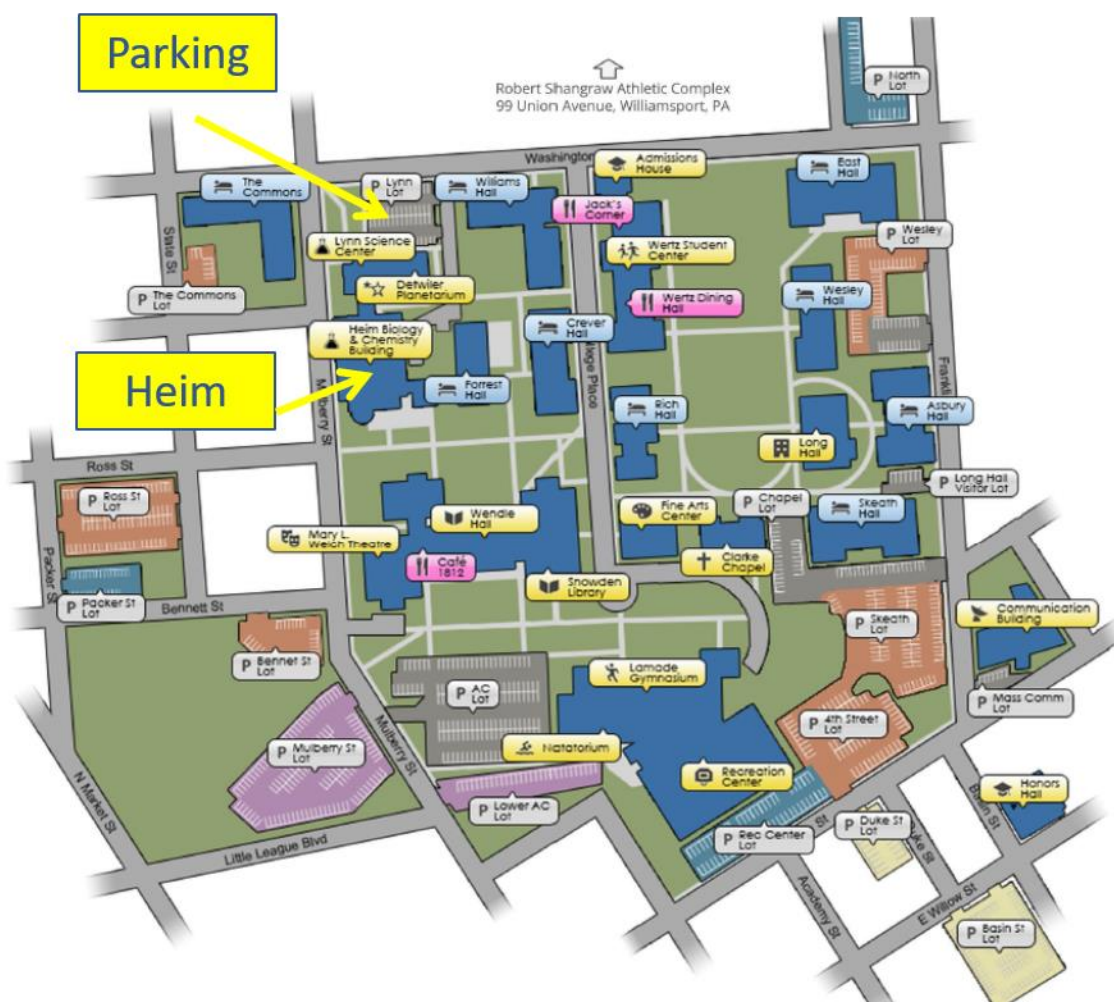
From I-80, take U. S. Route 15 north. Travel approximately 15 miles to Williamsport. Continue over the Market Street Bridge (stay in left lane) and follow the signs for the Business District. Go to the fourth traffic signal and turn right onto Little League Boulevard. Go one block east and turn left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

the Heim Building/Lynn Science Center parking lot will be the first right. Proceed straight after entering the main doors of the Lynn Science center into the Heim Building. 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/Lynn Science Center parking lot will be the first right. Proceed straight after entering the main doors of the Lynn Science center into the Heim Building. Take the elevator down to the ground floor, where you will exit within sight of the doorway to room G09.

Detailed directions can be found at the following internet address:

<https://www.lycoming.edu/admissions/visit/directions.aspx>



A detailed campus map can be found at the following internet address:

<https://www.lycoming.edu/admissions/ourcampus/campusmap.aspx>

SECTION NEWS:

2020 LOCAL SECTION ELECTIONS:

Nominations, including self-nominations, are due for the position of Chair-elect. If interested, please contact Dr. Ron Supkowski at ronaldsupkowski@kings.edu or 570-208-5900x5733.

MARM2020:

MARM 20/20



Save The Date

The 48th Mid Atlantic Regional Meeting (MARM) will be held June 12, 2020. The meeting is hosted by the New York Local Section of the American Chemical Society. Check the website, <http://marm2020.org>, for more information.

LOCAL STEM COMPETITIONS:



A list of all STEM competitions for high school students is posted on our [website](#). If you have any questions about the contests or have suggestions for others, please contact either the person indicated on the site or the section webmaster, Ron Supkowski at ronaldsupkowski@kings.edu or 570-208-5900 x5733

NATIONAL ACS NEWS:

ACS LEGISLATIVE ACTION NETWORK:

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. To see the position of the ACS on many legislative issues visit the ACS LAN website:

<https://www.acs.org/content/acs/en/policy.html>

To find out how to become more active in ACS advocacy activities, see the website:

<https://www.acs.org/content/acs/en/policy/memberadvocacy/advocacy-tools.html>

To join ACS' grassroots legislative advocacy network, ACT4CHEMISTRY, which will allow you to stay up to date on policy issues and contact legislators on behalf of chemistry and chemists, go to their website, follow the [Act4Chemistry Twitter](#) account, or email advocacy@acs.org.

JOIN THE ACS:

If you know of anyone who would benefit from being a member of the American Chemical Society, please direct them to the membership website:

<https://www.acs.org/content/acs/en/membership-and-networks/acs/join.html>

NATIONAL MEETINGS:

Spring 2020 ACS National Meeting

The 2020 spring national meeting with the theme “Macromolecular Chemistry: The Second Century” will be held in Philadelphia, PA from March 22 – 26. See the [website](#) for details.

The fall 2020 national meeting, “Moving Chemistry from Bench to Market” will be held in San Francisco, CA from August 16 – 20.

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
