

TRIAD CHEMICAL TIMES



Central North Carolina Section American Chemical Society

October Local Section Meeting

Speaker: Dr. Joshua Kellogg; “Analytical Metabolomic Investigations of Botanical Dietary Supplements and Natural Products”

When: Monday, October 23, 2017 (Mole Day) (6:30 pm Social, 7:00 pm Meeting)

Where: Syngenta Auditorium, Greensboro, NC



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Upcoming Events

Nov 7-11, 2017: SERMACS, Charlotte, NC

Nov 14, 2017: Local Section Meeting, at RJR Reynolds, Winston-Salem, NC

December 7, 2017: Holiday Banquet, Hawthorne Inn

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Analytical Metabolomic Investigations of Botanical Dietary Supplements and Natural Products

Speaker Biography

Josh Kellogg, Ph.D., received his doctorate from North Carolina State University under the mentorship of Dr. Mary Ann Lila. His primary dissertation research studied the phytochemistry and bioactivity of ethnobotanically-relevant Alaskan seaweed and wild berries. Analysis of the macroalgae led to the determination of the dominant bioactive phytochemicals and their multi-faceted bioactivity in adipocyte and macrophage in vitro systems. Investigations into the phytochemical make-up and anti-diabetic properties of wild Alaskan berries led to the identification of rare A-type proanthocyanidins in species not previously known to possess these oligomers. He is currently a postdoctoral research fellow at the University of North Carolina at Greensboro in Dr. Nadja Cech's research group. As a postdoctoral researcher, Josh has worked in translating analytical metabolomic methods to the natural products and dietary supplements realm, developing a biochemometric workflow to identify bioactive metabolites from a complex mixture. He has also worked with comparative metabolomics, and developed new statistical metrics for sample comparison.



Abstract:

Complex chemical systems feature dozens, hundreds, or even thousands of structures, an undetermined number of which can possess bioactive properties or serve as key biomarkers. Natural products, dietary supplements, environmental samples, and nutraceutical and food matrices all contain diverse phytochemicals, the identities of which are not often known. In addition, substantive variability in phytochemical composition exists in these products depending on the method of preparation or source material used. Metabolomics-based approaches have emerged as important tools in assessing these large and complex chemical and biological data sets, aiming to correlate changes in the chemical profile of a sample with a corresponding shift in macroscopic phenotype due to a perturbation. Three analytical approaches – untargeted liquid chromatography-mass spectrometry (LC-MS), targeted LC-MS, and 1H-NMR – are the dominant approaches to metabolomics. Our work has involved comparing these three methodologies, and applying them to studies of botanical supplements and natural products for more facile means of comparing samples, as well as enhanced discovery of bioactive compounds.

Senior Chemist News

We will take a half-day road trip on Friday, October 27 to Horne Creek Living Historical Farm near Pilot Mountain. This is a state-run working farm from the early 1900's (no entrance fee). The schedule is roughly as follows but more detail will follow for those who plan to attend. Leaf viewing will not be optimum but should still be good.

8:15-30 AM – meet at a McDonald's in the northern part of Winston-Salem

9:15 AM – arrive at Horne Creek Living Historical Farm (308 Horne Creek Rd, Pinnacle, NC 27043)

10:45 AM – leave the farm to go for lunch at King Restaurant (521 S Main St, King, NC).

12:15 PM – return home or join us for a drive to the top of Pilot Mountain

Please let me know if you will be participating no later than Friday, October 20. It would be desirable to do some car pooling depending on how many participate. If the weather is pleasant, I will be driving my Triumph (thus, no extra passengers).

EXTRA NOTE: The speakers for our November 16 meeting will be Rod Bennett, Cynthia Williard, and Ralph May. This should be an exciting and entertaining evening. More details to follow.

Robert Yokley

Triad Tech Savvy News

AAUW Greensboro and UNCG are teaming once to bring a series of STEM education outreach programs in 2017-2018. This year we are offering two NEW programs for high school girls.

On Saturday November 4, 8:30 a.m. to 3:00 p.m., we have Triad Tech Savvy for ninth grade girls which will focus on math, computer science, and astronomy.

Full details and registration can be found on our website: <http://greensboro-nc.aauw.net/techevents/>

You can also download the schedule and the information flier.

Thank you for your continued help with getting the word out about our events.

Laura Tew

AAUW STEM outreach co-chair

336-834-2743

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