



# AMERICAN CHEMICAL SOCIETY KENTUCKY LAKE SECTION

## KLS-ACS 2018 Officers

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## September 2018 Kentucky Lake Section Meeting

@

**Union University**  
1050 Union University Drive  
Jackson, TN 38305

**Thursday, September 20<sup>th</sup>, 2018**  
**Dinner @ 6:00 pm, Presentation @ 7:00 pm**

All events will be held in the Carl Grant Events Center on campus  
Directions and maps: <http://www.uu.edu/about/map/index.htm#Directions>

From U.S. Highway 45 Bypass, take Union University Drive west to Walker Road.  
Turn left on Walker Road. The Grant Center is on your left after passing the  
Welcome House gate and student housing on the left.

Dinner: Choice of Greek Chicken or Beef Brisket, Salad, Cheesy mashed  
potatoes, mixed vegetables, and Chocolate Explosion with ice cream

**Program:** Learning to Abandon Assumptions and to Ask the  
Right Questions or A Mild, Metal-Free Method for the Synthesis  
of Fused Azaheteroaromatics

**Dr. E. Blake Watkins**, Professor of Medicinal Chemistry,  
Union University College of Pharmacy

**Bring your children to attend the Science Center!**

## COMMENTS FROM THE CHAIR

Greetings KLS members,

Last month I had the pleasure of jointly representing our section at the 20<sup>th</sup> annual ACS ChemLuminary Awards ceremony in Boston. What fun it was!! We won two awards this year: **Fostering Interactions Between Local Sections & Student Chapters** – for involving students in the SMACS groups with our science centers, and **Outstanding Performance by a Local Section – Small Size Category Award** – for our ongoing children's science center activities, hosting a Nobel Prize Gala, celebrating National Chemistry Week, and participating in Earth Day activities. Thank you to everyone who continues to contribute to making our section great!

As we look to the fall meeting line-up, please mark the following dates on your calendar:

- **Thurs. Oct 18<sup>th</sup>:** National Chemistry Week Demo Show @ UTM
- **Fri Oct 19<sup>th</sup>:** Deadline for submitting professional & student award nominations.
- **Thu Nov 15<sup>th</sup>:** KLS Elections & Awards @ Bethel U.

Finally, I know that the November elections might seem far away, but we are actively looking for who might serve as our next Chair-Elect. If you would like to run (or nominate a colleague for the position) please contact me!

Best regards, Genessa

## Learning to Abandon Assumptions and to Ask the Right Questions or A Mild, Metal-Free Method for the Synthesis of Fused Azaheteroaromatics

Carbolines and fused-pyridine heterocycles are ubiquitous structural motifs prevalent in natural products, pharmaceuticals, agrochemicals, materials and ligand scaffolds, thus highlighting the significance of such structures. Among the isomeric  $\alpha$ -,  $\beta$ -,  $\gamma$ -, and  $\delta$ -carbolines, the most abundant framework in nature is  $\beta$ -carboline.  $\beta$ -Carboline-containing structures possess a wide array of pharmacological properties, including anti-inflammatory, anti-Alzheimer, antimalarial, antibacterial, antitumor, anti-HIV and others. Current procedures require multi-step syntheses or extended preparation of starting materials in order to prepare these isomeric structures. Our interest in metal-catalyzed, C-H functionalization reactions compelled us to explore the synthesis of these agents in a much more economical manner, particularly in regard to the use of metal catalysts/additives and the number of synthetic steps. The current status of this project and its application to the synthesis of a wide variety of variously substituted pyridines will be presented, with particular attention paid to agents of pharmacological interest

### Speaker Biography



Blake Watkins serves as Professor of Medicinal Chemistry and Founding Chair of Pharmaceutical Sciences in the College of Pharmacy at Union University. He completed his Bachelor of Science in Mathematics and Chemistry at Union and received his PhD in Chemistry from the University of Georgia under the direction of Professor Robert S. Phillips. After doing postdoctoral work at the University of Mississippi School of Pharmacy in the Department of Medicinal Chemistry under Professor Mitchell A. Avery, he worked as a Research Scientist and Research Assistant Professor in drug discovery and natural products synthesis. In 2008, he returned to Union to help start the College of Pharmacy. His current research interests include synthetic method development with application to natural products and drug discovery.