AMERICAN CHEMICAL SOCIETY
KENTUCKY LAKE SECTION

KLS-ACS
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KLS-ACS Web Page
http://kentuckylake.sites.acs.org/

March 2017 Kentucky Lake Section Meeting
@
Perkins Family Restaurant
15301 South 1st Street Milan, TN 38358

Thursday, March 23rd, 2017

Social @ 5:15, Dinner @ 5:45 pm, Presentation @ 7:00 pm

Dinner: Order off a diverse menu
The price is $10 (Students $5)

Program: Biodegradable Block Copolymers: Application as Drug-Delivery Systems for Next Generation Therapeutics

Dr. Daniel Abebe, Postdoctoral Fellow under Dr. Davita Watkins at University of Mississippi

Science Center: Bring your kids for fun science lessons!

Comments from the Chair

Hello all. This month marks our third meeting of the year. We have had two amazing meetings so far that have been very well attended. Please help us continue this trend by joining us for our upcoming meeting on March 23rd at the Milan Perkins. The talk will be on cutting-edge research in materials coming out of Dr. Davita Watkins' lab at Ole Miss. I hope all can join us to celebrate this third day of spring by hearing an informative talk.

~ Dr. Phillip Shelton, Chair

What's Happening

- 2017 ACCM Meeting coming Saturday April 8, 8:30-Lunch. The deadline for registration will be Monday, April 3rd. Students presenting should also provide a title and if it's a poster or talk. Cost for lunch is $15 for nonparticipant and free for participants.
- Chemists Celebrate Earth Day (CCED) and March for Science are coming up in April. See attachment.

Title: Biodegradable Block Copolymers: Application as Drug-Delivery Systems for Next Generation Therapeutics

Abstract: Tremendous advancements in the fields of drug discovery and synthetic biology have yielded a range of discoveries in the effective treatment of complex diseases such as cancer, Alzheimer's, cystic fibrosis, infectious and neurodegenerative diseases. Next generation therapeutic agents which are actively being developed include highly potent small molecule drugs, proteins, synthetic peptides and nucleic acids such as RNA (siRNA, shRNA, miRNA), plasmid DNA, and antisense oligonucleotides. Conventional methods of drug formulation, characterization and delivery cannot be adopted for these next generation therapeutics agents due to a range of physicochemical and physiological limitations. In the last two decades, a great deal of effort was spent in engineering novel drug delivery systems capable of overcoming the many biological barriers which have hindered effective treatments against complex diseases. The advent and maturation of nanotechnology has contributed tremendously to the development of breakthrough medical achievements and has ushered in the next era in the diagnosis, prevention and treatment of diseases and traumatic injuries. Although there are a range of techniques and methods currently being investigated, nanoparticulate mediated drug delivery has found wide spread interest in both academia and industry. Nanoparticles having a wide range of morphologies, sizes and architecture can be prepared from different materials including lipids, synthetic polymers, natural polymers and inorganic materials. This talk will focus on the development, characterization and application of biodegradable block copolymer nanoparticles as systemic and localized drug delivery systems.

Bio: Dr. Abebe received his B.S. degree in Chemistry with a concentration in Biochemistry from The University of Memphis. He then pursued an M.S. degree and Ph.D. in the field of Analytical/Polymer Chemistry, also at The University of Memphis. It was there that his research allowed him to explore the use of biodegradable and biocompatible polymeric micelle systems and in-situ forming hydrogels in drug delivery and tissue engineering. Dr. Abebe began his current position as a UNCF/Merck Postdoctoral Fellow at The University of Mississippi with Dr. Davita Watkins in September 2015. Since that time, he has been working on the development of next generation drug delivery systems and diagnostic techniques. As a recipient of both the First Generation PhD Fellowship and the Minority Undergraduate Mentoring and Immersion in Research Scholarship (University of Memphis), Dr. Abebe aspires to set an example of promoting knowledge through research while simultaneously developing diversity in scientific and African American communities.