We Are Pleased to Announce a Seminar Presented by:

**Jeffrey Aubé, Ph.D.**
Fred Eshelman Distinguished Professor of Chemistry
University of North Carolina Eshelman School of Pharmacy

“New Opioid Biology Arising From Heterocyclic Chemistry”

**Thursday, November 2, 2017 at 9:00 AM**
Astellas Conference Room, SLSRC 3410/3430
Refreshments will be served at 8:45 AM

The worldwide opioid crisis has occasioned efforts to develop new opioids for both existing uses (pain control) as well as new indications (itch, addiction). We have focused on the discovery of compounds able to selectively activate one of the two main intracellular pathways associated with the kappa opioid receptor. This type of activity, called “functional selectivity” or “ligand bias”, has the potential to segregate many of the ultimate biological effects of therapeutic opioids.

This project is an effort of a multidisciplinary, multi-institutional team led by the speaker and Professor Laura Bohn of the Scripps Research Institute.[1,2] It began with the development of a speculative library for screening against a range of potential biological targets based on a known but underexplored isoquinolinone synthesis. Applying this chemistry to library synthesis led to a hit compound that stoked our interest in biased ligand discovery, ultimately leading to the discovery of Triazole 1.1, a strongly biased KOR agonist with a fascinating in vitro and in vivo profile. These efforts and recent results will be described.

Bio: Jeffrey Aubé, Ph.D., is a chemist whose research involves synthetic organic chemistry, the discovery of novel probes and drug candidates, and the development of new methods for organic synthesis (including the construction of libraries of drug-like molecules for biological screening). The Aubé laboratory has extensively studied the chemistry of alkyl azides, and is probably best known for its discovery of the Schmidt reaction of alkyl azides with carbonyl compounds and the application of this chemistry to alkaloid total synthesis. Recent activities in the group include collaborative projects in the areas of prostate cancer (with Emily Scott), new agents targeting opioid receptors (with Laura Bohn and Thomas Prisinzano), and on the discovery of new approaches for the study and treatment of tuberculosis (through membership in the Tri-Institutional TB Research Unit, Carl Nathan, PI).

Dr. Aubé received his Ph.D. in chemistry in 1984 from Duke University, working with Professor Steven Baldwin, and was an NIH postdoctoral fellow at Yale University with Professor Samuel Danishefsky. In 1986, he moved to the University of Kansas, where he rose to the rank of University Distinguished Professor. Upon his retirement from KU in 2015, Aubé moved to the University of North Carolina, where he is currently an Eshelman Distinguished Professor in the Division of Chemical Biology and Medicinal Chemistry in the UNC Eshelman School of Pharmacy. He is jointly appointed in the Chemistry Department as well.