The Department of Chemistry and Biochemistry

Seminar Series

Presents a Seminar Titled:

"The Medium of Mutualism: Insecticidal and Insect Anti-Feedant Alkaloid Natural Products"

Presented By

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Four alkaloids—lolines, peramine, ergot alkaloids and indole diterpenes—can be produced by mutualistic fungal symbionts (endophytes) living on certain species ofpasture grasses (*e.g.*, fescue, rye). These bioactive alkaloids protect the host plant from herbivores through several different mechanisms. This natural pest control paradigm will be discussed, with particular emphasis on the lolines, which are the most abundant alkaloids produced from the plant-fungal interaction. The lolines present a compact polycyclic pyrrolizidine skeleton and contain a strained five-member ethereal bridge, structural features that have proven challenging for synthetic chemists to incorporate for nearly 100 years. Our first generation synthesis will be reviewed and our progress toward a gram-scale second-generation route will be discussed.

Thursday, October 24, 2013 at 12:20 p.m. in BAL 1012