



PHILADELPHIA ORGANIC CHEMISTS' CLUB

- DATE:** Thursday, September 29th, 2005; 6:00 pm dinner, 8:00 pm seminar
- PLACE:** Carolyn Hoff Lynch Room, located on the 1st floor (around the corner from the business office), New Chemistry Building, University of Pennsylvania, 34th and Spruce Streets, Philadelphia, PA
- SPEAKER:** **Dr. Jim Empfield, CNS Associate Director of Lead Optimization, AstraZeneca Pharmaceuticals**
- BIOGRAPHY:** Jim Empfield received a B. S. degree in Chemistry from Lebanon Valley College in 1983. He then attended Bucknell University where he studied mechanistic organic chemistry en route to his M. S. in Chemistry. Jim then spent a summer at Leiden University in the Netherlands studying biomimetic metal complexes. In 1985 he attended the University of Pennsylvania where he received his Ph. D. for his work in completing the total synthesis of breynolide while working for Amos B. Smith, III. Jim joined the Medicinal Chemistry Department of ICI Americas (now AstraZeneca Pharmaceuticals) in 1990. He was promoted to Senior Research Chemist in 1995 and Principal Chemist in 1999. He is currently the Associate Director of Lead Optimization within the CNS Chemistry Department in Wilmington, DE. During his tenure with AstraZeneca Pharmaceuticals, he has been involved in the drug discovery of novel therapeutic agents for the treatment of urinary incontinence, stroke, inflammatory diseases, Alzheimer disease, migraine and psychosis.
- TITLE:** **Microwave-Assisted Organic Synthesis: a) Thermal Vs. Microwave Studies on 2,4-Dialkylaminoquinolines and b) Real-Time *in Situ* Raman Analysis.**
- DINNER:** The meeting will be preceded by cocktails (cash bar) at 5:30 pm followed by a dinner at 6:00 pm at Penne Restaurant & Bar, 3601 Walnut Street. Reservations should be made by email: emichelotti@locuspharma.com or phone: (215)-358-2026 to Enrique Michelotti **before 5:00 pm, Monday, Monday September 26st. Please pay the \$46.00 for dinner when you attend.** Thank you.

Microwave-Assisted Organic Synthesis: a) Thermal Vs. Microwave Studies on 2,4-Dialkylaminoquinolines and b) Real-Time *in Situ* Raman Analysis.

James R. Empfield, Scott R. Throner and Don E. Pivonka

The application of microwave chemistry in organic synthesis has become increasingly common over the past few years. This technology has been employed to advance numerous drug discovery programs within AstraZeneca. Our interest in microwave-assisted organic synthesis has prompted us to investigate further the parameters that influence the efficiencies that have been observed with this technology. This presentation will highlight two areas of investigation. First, we will present our findings, within a series of 2,4-dialkylaminoquinolines, on thermal versus microwave reaction rates, and describe the effects of a variety of parameters such as solvent/reaction media, microwave power, and microwave pulsing. Secondly, we will illustrate the use of real-time *in situ* Raman analysis of microwave-assisted organic reactions.