

And
UNIVERSITY OF OKLAHOMA BIOENGINEERING CENTER

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**The University of Oklahoma
Norman, Oklahoma
2009 – 2010 Seminar Series**

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WELLSPRING ASSISTANT PROFESSOR OF CHEMICAL ENGINEERING
DEPARTMENT OF CHEMICAL ENGINEERING
UNIVERSITY OF TULSA
TULSA, OKLAHOMA

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Will present a seminar on

"PATHWAY ENGINEERING IN MICROALGAE FOR BIOFUEL PRODUCTION"

Microalgae have garnered increasing interest over the past few years for their ability to produce valuable products ranging from therapeutic proteins to biofuels. In particular, the potential of microalgae-based biofuels is creating a great deal of excitement due to the innate ability of microalgae to synthesize high levels of oils and hydrocarbons. The potential of algae-based products is therefore well recognized, but the full potential of microalgae-based production systems is still unrealized. The genetic engineering of microalgae may be necessary in order to increase the concentrations of target metabolites to acceptable levels. Recent advances in molecular biology and genomics have revolutionized our ability to discover and engineer biosynthetic pathways, yet the expression of multi-gene biosynthetic pathways in microalgae chloroplasts has not been fully achieved and represents a critical step in our ability to tailor microalgae for specific purposes. This talk will highlight current industrial efforts to produce biofuels from microalgae, describe the challenges that microalgae-to-biofuels efforts face, and will summarize the recent advances in our laboratory to engineer multi-gene biosynthetic pathways in the chloroplasts of microalgae.

THURSDAY, FEBRUARY 18, 2010
COOKIES AND COFFEE -- 2:45 P.M.
SEMINAR -- 3:00 P.M.
SARKEYS ENERGY CENTER, ROOM M-204

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THIS IS A REQUIRED SEMINAR FOR CHE 5971