CHEMICAL, BIOLOGICAL & MATERIALS ENGINEERING

100 E. Boyd, Sarkeys Energy Center, T-301
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The University of Oklahoma
Norman, Oklahoma

2014 – 2015 Seminar Series

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DR. STEVEN R. LITLE

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DEPARTMENTS OF CHEMICAL ENGINEERING, BIOENGINEERING, IMMUNOLOGY AND
THE MCGOWAN INSTITUTE FOR REGENERATIVE MEDICINE
UNIVERSITY OF PITTSBURGH
PITTSBURGH, PENNSYLVANIA

Will present a seminar on

"CONTROLLING CONTROLLED RELEASE TO MAKE MEDICINE THAT IMITATES LIFE"

Our research group intends to reproduce the basic spatio-temporal information transfer that naturally occurs between the cells in our body to regulate biological form and function. As it stands, such is out of the reach of modern medicine. Accordingly, this seminar will introduce the idea that it is now possible to engineer biomaterials-based controlled release systems that can mimic the prose and context of cell-driven "communication" with the goal of inducing and/or regulating key biological processes. As just one example, simple temporal control over the release of specific growth factors can induce robust formation of specific tissues that naturally regenerate via stage-wise processes. This is possible using recent advances in the precise design of controlled release formulations. In the same way, this concept can also be used to reproduce spatial information that cells (and even tumors) employ to manipulate immunological responses. Collectively, these new tools can effectively reproduce biological context and have already shown significant promise as next-generation medical treatments in a variety of disease models where current medical treatments have no answer.

THURSDAY, OCTOBER 2, 2014
COOKIES AND COFFEE -- 1:45 P.M.
SEMINAR -- 2:00 P.M.
SARKEYS ENERGY CENTER, ROOM M-204

THIS IS A REQUIRED SEMINAR FOR CHE 5971

Accommodations on the basis of disability are available by contacting the office.