

Systems analysis and metabolic engineering of solventogenic clostridia

Frontiers in Biological Sciences
Seminar Series

Presented by...

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Abstract Clostridia are anaerobic, endospore-forming prokaryotes of major importance to cellulose degradation, human and animal health, and acidogenesis, with several applications in biotechnology and advance bioremediation. Clostridial genetics and biotechnology have been frequently misunderstood or ignored. In the last 5 years, however, there has been enormous growth in clostridial-based industrial processes. For example, solventogenic clostridia can produce a large array of metabolites, while metabolic engineering could enhance these native capabilities for production of additional chemicals. Such chemicals can serve as biofuels directly or indirectly.

Dr. Papoutsakis will review the origin and successes in metabolically engineering and some of the systems biology work on solventogenic clostridia, and will highlight recent developments in his lab in modifying their sporulation program. The goal of these “differentiation engineering” efforts is to generate solventogenic but non-sporulating strains suitable for intensive, continuous or semi-continuous bioprocessing. Dr. Papoutsakis will also highlight recent work in his lab to understand core regulons and the stress response system in these organisms.

More info?

See <http://www.pnl.gov/biology/> and <http://www.papoutsakis.org>

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Location: EMSL
Auditorium

Time: 10:30-11:30
a.m.

