



Genome Sciences Seminar

Wednesday, 5.3.17 | 3:30 | Foege Auditorium



Dr. Timothy Donohue

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https://bact.wisc.edu/p_research_profile.php?id=tdonohue&view=intro

“Mining Genomes for Fuels and Bioproducts”

Donohue Lab:

Our laboratory analyzes pathways and networks that microbes use to grow, generate biomass, or produce alternative fuels from sunlight or other renewable sources of energy. To dissect this fundamentally important problem, we are studying metabolic and regulatory pathways of the photosynthetic bacterium *Rhodobacter sphaeroides*. By taking advantage of the *R. sphaeroides* genome sequence, microarrays, proteomics and molecular techniques we are defining how the energy in sunlight or renewable nutrients is partitioned into processes like cell growth or formation of biofuels. The metabolic pathways, global signal transduction networks, alternative sigma factors, and signals that control expression of well-studied components of the respiratory and photosynthetic electron transport chains are being defined or modelled using mutants, in vitro systems and computational techniques. The long range goals are to identify metabolic and regulatory activities that are critical to bioenergy formation, to obtain a thorough understanding of energy-conserving pathways of agricultural, environmental and medical importance, and to use computational models to help design microbial machines with increased capacity to utilize solar energy, generate renewable sources of energy, remove toxic compounds, or synthesize biodegradable polymers.

Refreshments served outside the Auditorium at 3:20pm

Questions? Contact Brian Giebel at bgiebel@uw.edu or visit the Seminar website at <http://www.gs.washington.edu/news/seminars.htm>

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