

GSTP

Seminar Series

University of Wisconsin–Madison
Genomic Sciences Training Program

*Fostering new paradigms for the
biological sciences*

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5:00 p.m.

Room 1408, Genetics/Biotechnology Center, 425 Henry Mall

DNA Microarray Analysis of Diatom Cell Wall Synthesis

Abstract:

Diatoms are unicellular algae that construct an amorphous silica cell wall. Recently, the genome of a marine diatom *Thalassiosira pseudonana* was sequenced by the Joint Genome Institute. Little is currently known about the diatom cell wall synthesis process. DNA oligonucleotide microarrays were used to identify genes that are differentially expressed in the marine diatom, *T. pseudonana*, during conditions of silica starvation in an attempt to identify genes involved in the cell wall synthesis process. Thirteen genes were identified as repressed and forty-two genes were identified as induced under silica-starvation conditions. Genes identified as being repressed include genes involved in cell wall synthesis, oxidation/reduction reactions and phosphorylation. Genes identified as induced include cyclins, kinases and silica metabolism genes. 46% of repressed genes and 41% of induced genes have an unknown function.
