

Amgen Seminar Series in Chemical Engineering
in
Cherry Auditorium, Kirk Hall, 1 PM

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Engines of the Ocean: Diatoms and Their Genetic Readout Under Nutrient Limitation

By

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Diatoms are important photosynthetic organisms in lakes and oceans; they take up CO₂ and fix it into carbon building blocks for the cell. Therefore, they help balance atmospheric inputs of CO₂. Diatoms also bioprecipitate silica and form nano-patterned cell walls that are unique between species. Diatom genomes have been sequenced to gain a better understanding of the architectural underpinnings for these processes. Diatoms live in environments with fluctuating nutrients, which can constrain photosynthesis and growth. My laboratory is conducting experiments to understand how diatoms respond to nutrient limitation and we are using methods to profile and quantify the expression of all genes simultaneously under different conditions. I will highlight some of our findings and discuss implications for understanding patterns of metabolism in these important species.

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