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Seminar title:

Mergers and acquisitions: endosymbiosis and gene flow in microbial eukaryotes

Abstract:

Endosymbiosis has had a profound impact on the evolution of eukaryotic life. Mitochondria and plastids (chloroplasts) are endosymbiotically-derived organelles—they evolved from once free-living bacteria. Subsequent to the evolution of 'primary' plastids from cyanobacteria, the process of 'secondary' (i.e., eukaryote-eukaryote) endosymbiosis has served to spread plastids horizontally across the eukaryotic tree. In this presentation I will summarize what is known about the genetic and cell biological diversity of secondary plastid-bearing algae. As we shall see, there are still many unanswered questions about how eukaryotic endosymbionts become organelles, and the extent to which the genomes of microbial eukaryotes are evolutionary mosaics due to the combined effects of endosymbiotic and horizontal gene transfer.