Title: Secrets of Giant Microalgae Genomes

Keywords/Stikkord: Genome Biology, Bioinformatics, Microalgae, Genome Assembly, Gene Annotation, Biotechnology, Lipid pathways

Thesis type/Oppgavetype: Master

Credits/Stp: 30, 45, 60

Language/Språk: English

Supervisors/Veiledere: Gareth Gillard, Thomas Harvey

Description:
Microalgae offer a sustainable solution for food, feed, and fuel production, with dinoflagellates showing particular promise due to their versatility and rapid growth. However, limited genomic data hinders their potential for biotechnological applications. This project aims to bridge this gap by sequencing and annotating the genome of Crypthecodinium cohnii, a significant producer of the omega-3 fatty acid DHA. Leveraging advanced sequencing technologies, the project will produce a high-quality reference genome, facilitating the discovery of novel biochemical pathways involved in lipid metabolism. This project will suit a bioinformatic student interested in developing expertise in genome assembly and annotation, and pathway discovery in novel species.

Additional info: Recommended knowledge includes basic abilities to work in a command line environment to run bioinformatic software.

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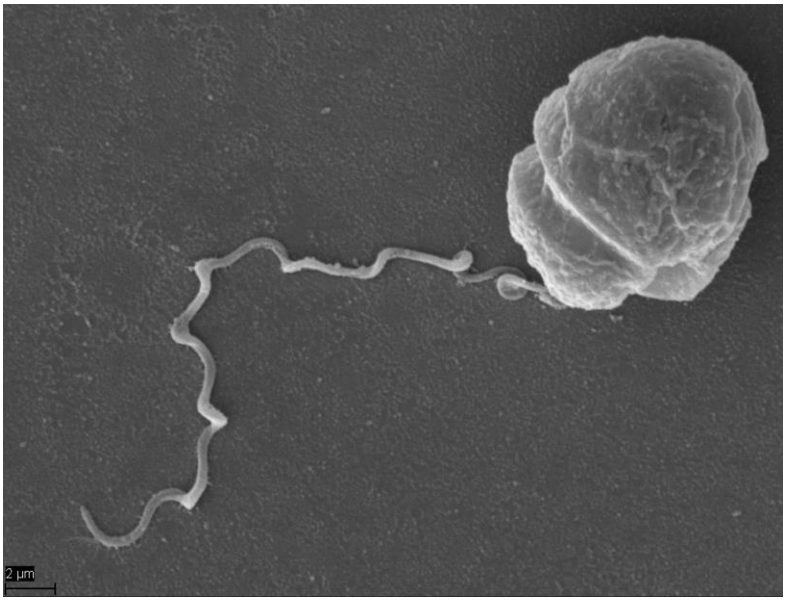

C. cohnii viewed under electron microscope. Credit: Gareth Gillard

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