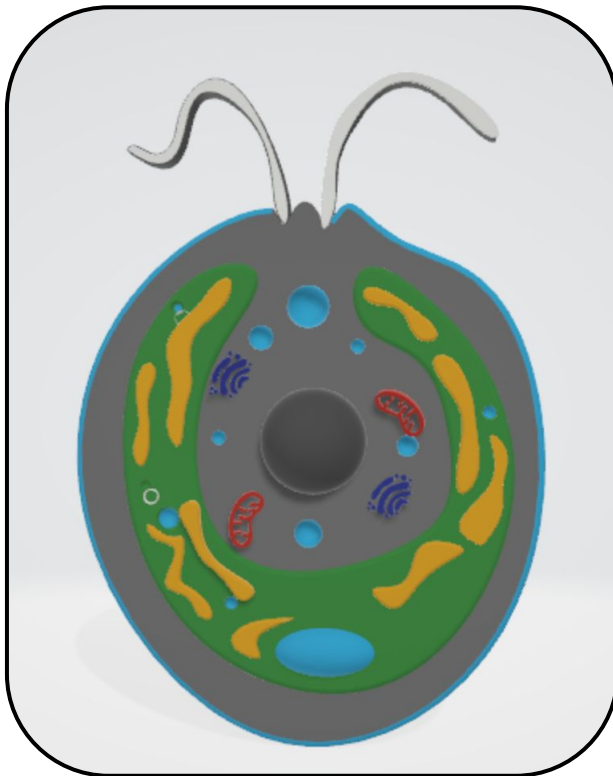


Chlamydomonas reinhardtii

Chlamydomonas reinhardtii is a type of green algae that is made up of a single cell with two flagella allowing it to move around. This green algae is found in freshwaters such as ponds, as well as soil and ditches. It is isogamous, meaning that its gametes are so similar in morphology that the cells cannot be classified as male or female. While it may seem like a simple organism, *C. reinhardtii* serves as a model organism for cell and molecular biology. This is because it takes little space to grow and has a short generation time, so genetic studies are easy to conduct on it. It helps scientists to understand the fundamentals of cells, such as how they move and interact with each other.



Photo credit: NASA



At the Donald Danforth Plant Science Center, Principal Investigator Dr. James Umen is using *Chlamydomonas reinhardtii* to investigate the evolution of multicellularity by comparing the regulation and expression of genes that control the mechanisms of cell division in this single-celled organism with multicellular close relatives such as the green algae in the *Volvox* genera.

Principal Investigator Dr. Ru Zhang is using *C. reinhardtii* as a model organism to study how photosynthetic cells respond to high temperatures and which components of the photosynthetic process are most sensitive to it. This research aims to better understand process of adaptation to a heating climate.

This 3D model was made using Fusion 360. A reference image of *C. reinhardtii* was used to trace the structure. After initial sketches were made, they were extruded up and colored for the final result.