

Biol 380 Undergraduate Research

Bioprospecting for Clean Green Biotech

Maximum enrollment: 12

Pre-requisites:

Grades of 75 % in Biol 120 *and* Biol 121.

Preference will be given to students who *have taken, or are taking* Biol 226 or Biol 342.

Before

After *Four Weeks*



Bioprospecting for Clean Green Biotech will develop your *Microbiology* and *Molecular Genetic* skills as you learn to find rare (<< one in a million) microbes in the environment. *Most* of this can be done on a kitchen table (keep the cats away) using items you already have. For these and other microbiology and microscopy steps, we will be assisted by *Dr. Zakia Boubakir* and *Ms Jacey Bell*.

1. You will be isolating genomic DNA (gDNA) from these strains, generating ITS amplicons using PCR, sequencing using Sanger sequencing. These steps, and the analysis that follows
2. In parallel, you will be documenting strain morphology using methods developed by *Dr. Kaminskyj's* research group, plus scanning electron microscopy (SEM) with help from *Dr. Guosheng Liu* using fast preparation methods developed by *Dr. Kaminskyj's* group. Microscopy will be used to compare molecular and morphological identifications.
3. Grading will be based on a research essay and a seminar.