**Facilities Equipment and Other Resources**

**SUNY-ESF Facilities**

PI-Boyer’s laboratory at SUNY-ESF consists of a multi-room suite of wet labs, supporting analytical rooms, three separate culture facilities, a radioactive/biohazard facility, walk-in cold room, and separate rooms for media preparation and storage. Controlled environmental chambers (6 upright and 2 shaking) are available and one room has been dedicated to the growth of cyanobacteria under carefully defined conditions. We also have a 400L pilot plant facility with full autonomous control for the mass culturing of algal biomass for preparation of defined biomass. These mass culture units are located in secured facility and could be used for the growth of toxic algae if necessary for the identification of new and novel toxins as demanded by this project and for preparation of analytical standards.

The analytical suite is well equipped for the chemical analysis of cyanobacterial natural products and has sever as the major analytical facilities for MERHAB-LGL cyanobacterial toxins project since 2002. It is equipped with five HPLC's with detector combinations including UV-VIS, mass selective, fluorometric, amperometric, photodiode array and radioactive detectors. Three LCMS instruments, two Water’s ZQ4000 single quads and a Waters TQD LC-MS/MS each equipped with a photodiode array detector serve as the core analytical facilities for toxin analysis. All HPLCs are interfaced with data management software. The laboratory also maintains a MALDI-TOF/TOF mass spectrometer for characterization of toxin profiles in natural samples. SUNY-ESF’s Analytical and Technical Services located in the basement of Jahn Laboratory has 2D-high resolution NMR capabilities (300, 600 and 800 MHz with microprobe) capabilities, a high resolution mass spectrometer for characterization of any isolated toxins and ion trap GC-MS/MS. Additional analytical capabilities such as a high resolution Orbitrap LC-MS/MS are available through reciprocal collaborative arrangements with the proteonomics facility at the near-by State University of New York Upstate Medical Center and at Syracuse University.