

Title III grant “Increasing Undergraduate Research in Chemistry Curriculum” from SUNY Potsdam program funded by the U.S. Department of Education

Several undergraduate research projects are carried out in Chemistry Department under the Title III grant awarded by the U.S. Department of Education in the program “Increasing Undergraduate Research in Chemistry Curriculum” by Professors: Maria Hepel, Antony Molinero, Clifford Rossiter, and Martin Walker. The undergraduate research projects involve hot new topics related to the development of nanotechnology and nanobiotechnology, problems of sustainable environment, and green chemistry approaches.

The integration of a Fourier-Transform Infra-Red (FTIR) Spectrometer under the Title III grant has been a success in several research projects. One of the goals of the Chemistry Department is to get all of majors involved in undergraduate research for one or more semesters while they are here at SUNY Potsdam, The acquisition of FTIR instrument is extremely helpful in engaging students in new researchlike experiences.

A number of research projects are being incorporated into regular undergraduate courses, which extends our long standing tradition of individual Faculty/Student undergraduate research carried out in CHEM 497 Research Problems courses. In these research projects, 87 students are involved each semester. This grant enables us to extend the research pool of students involved in research by incorporating research component into several chemistry courses.

In general, the introduction and utilization of the FTIR technique will allow us to expand our course topics and expose our students to the new research approaches offered by this technique to obtain vibrational characteristics of chemical compounds enabling our students to identify and quantify analytes in a way they will be required to do in their future work in industrial, government or academic labs.