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Suzanne Weekes*, Worcester Polytechnic Institute. *Industrial strength mathematics in academia.*

“I like math a lot, but what can I do with it other than teach?”

In order to enhance the educational and research experiences for students and faculty and to help make new contacts with business and industry, the Center for Industrial Mathematics and Statistics (CIMS) was established at Worcester Polytechnic Institute (WPI) in 1997. Faculty and students work with our industrial partners on real-life problems that are of both industrial and mathematical significance.

CIMS research activities have included research projects for mathematical sciences majors during the regular academic year; the WPI REU Program in Industrial Mathematics and Statistics which has been supported by the National Science Foundation (DMS 9732338, DMS 0097469, DMS 0353816, DMS 0649127, DMS1004795) and the ASSURE program of the Department of Defense; supporting and hosting the Mathematical Problems in Industry Workshop (NSF-0753050); and the Mathematics in Industry Institute for Teachers.

In this talk, we will give more details and examples of the research and educational partnerships that we have made with the over 50 companies that we have worked, some research problems that students have tackled, the skills that we see are needed to be successful working with and in industry, and the challenges that one may face when working with corporate partners. (Received April 10, 2012)