

Program in Polymer Science and Technology

The Program in Polymer Science and Technology (PPST), founded in 1986, is an interdepartmental program offering graduate education in the interdisciplinary field of polymer science and engineering. Its goals are to provide educational opportunities and to foster a spirit of community and collaboration among the large and widespread group of students, faculty, and visitors involved in polymer-related activities at MIT. It consists of a core curriculum, written and oral qualifying examinations for doctoral studies, and continuing education opportunities through seminars, visitors from industry and academia, and research competitions. The program is administered by faculty from the departments of Materials Science and Engineering, Chemical Engineering, Mechanical Engineering, and Chemistry. PPST also serves as a focal point for information and opportunities in polymer-related fields at MIT.

PPST continues to maintain a steady course. There were 32 students enrolled in PPST in AY2004, with home departments in Materials Science and Engineering, Chemical Engineering, and Mechanical Engineering. This year the program graduated six students with the PhD degree—four from Materials Science and Engineering and two from Chemical Engineering. Five new PPST students were admitted into the program from the departments of Chemical Engineering (three) and Materials Science and Engineering (two). Faculty participation in PPST remains strong, with 15 core faculty and 11 affiliated faculty.

The core curriculum remains focused around fundamental courses in physical chemistry and synthetic chemistry of polymers, biopolymers, and mechanical behavior. A project lab is conducted during the Independent Activities Period. Additional topics in polymer morphology, colloids and surface science, macromolecular hydrodynamics, and polymer statistical mechanics are alternated each year so that the full curriculum can be completed in four semesters.

The PPST weekly seminar continues to attract an average of 50–80 students, faculty, and visitors per seminar. This past year, lectures were presented by leading polymer faculty from a number of US, Asian, and European universities as well as from faculty and senior students within MIT. Professor Ken Beers (Chemical Engineering) and Professor Christine Ortiz (Materials Science and Engineering) were in charge of the organization of this seminar series and have agreed to continue for the coming year.

In spring 2004, PPST conducted its third annual OMNOVA Signature Award for Excellence in Polymer Research, sponsored by the OMNOVA Foundation. This competition produced two student awardees, Michael Berg and Dr. Prem Pavoov, who each received a cash award and invitations to present their award-winning research in a special PPST seminar. The awardees' faculty advisors, Professor Michael Rubner and Professor Robert Cohen, were also recognized. We hope that OMNOVA will continue to sponsor the competition in the future.

Professor Gareth McKinley of Mechanical Engineering has accepted responsibility for directing PPST effective with AY2005. He looks forward to continuing efforts at broadening departmental participation within PPST and also to guiding the program toward its 20th anniversary in 2006.

Gareth H. McKinley

Director

Professor of Mechanical Engineering

More information about the Program in Polymer Science and Technology can be found on the web at <http://web.mit.edu/ppst/>.