

RESEARCH EXPERIENCE FOR UNDERGRADUATES

COLLEGE OF POLYMER SCIENCE AND POLYMER ENGINEERING
THE UNIVERSITY OF AKRON
SUMMER 2010



The College of Polymer Science and Polymer Engineering offers a competitive summer research experience for undergraduate (REU) students. Students will participate in a 12-week summer internship to investigate a fundamental question within the broad disciplines of polymer science and polymer engineering including chemistry, physics, characterization, and biomaterials.

Each week, all interns will participate in research activities, a career development activity, discussions outlining their research progress, and a visit to a regional company or national laboratory. The summer will culminate with an oral or poster presentation of each intern's research results at the Northeast Ohio NSF-REU Undergraduate Research Conference.

Stipends for Summer 2010 (12 weeks) are \$7,000. The internships are sponsored by the National Science Foundation, the University of Akron and the Goodyear Tire & Rubber Company. Dates for the internship program are May 17, 2010—August 6, 2010, unless arranged otherwise.



The College of Polymer Science and Polymer Engineering is located in the Goodyear Polymer Center and the Polymer Engineering Academic Center. The college has 86 research laboratories with state-of-the-art research instrumentation in NMR spectroscopy, chromatography, thermal analysis, rheoptics, x-ray diffraction, electron microscopy, and molecular biology.

The research team will consist of graduate students, interns and faculty members from the College of Polymer Science and Polymer Engineering (CPSPE) with specific research interests that align with their role in the four cluster areas (R1) Chemistry, (R2) Physics, (R3) Engineering and (R4) Biomaterials.

Research Cluster 1 (R1): Chemistry

Carbonylative Polymerization of “Green” Polyesters and Polyamides (*Prof. L. Jia*)
Methods and Strategies for the Construction of Supramolecular Materials (*Prof. G. Newkome*)
Synthesis and Characterization of Novel arbIBS Compounds (*Prof. J. Puskas*)

Research Cluster 2 (R2): Physics

Surface Spectroscopy of Comb Polymers (*Prof. A. Dhinojwala*)
Surface Dynamics of Films of Tethered Chains (*Prof. M. Foster*)
Counter ion Condensation in Helical Polyelectrolytes (*Prof. G. Carri*)

Research Cluster 3 (R3): Engineering

Evaporative Precipitation of Polymer Nanoparticles (*Prof. K. Cavicchi*)
Thermal Gradient Cold Zone Annealing of Block Copolymer Films (*Prof. A. Karim*)
Research Methods in Mass Spectrometry (*Prof. C. Wesdemeotis*)

Research Cluster 4 (R4): Biomaterials

Microwave-based Polymerization of Peptide Functionalized Materials (*Prof. M. Becker*)
Synthesis of PLGA-Aspirin as an Anti-inflammatory Implant (*Prof. C. Pugh*)
Antimicrobial coatings from sulfonated polystyrene nanoparticles (*Prof. R. Weiss*)

Additional research projects may be available depending on the level of funding.

For more information:

Application instructions can be found at <http://www2.uakron.edu/cpspe/intern.html>.
Send questions and/or applications to Marj Riccardi (330-972-7539, mericca@uakron.edu):

REU Summer Internships
Attn: Marj Riccardi
Institute of Polymer Science
The University of Akron
Akron, Ohio 44325-3909

Please submit application materials by **March 15, 2010**.