The Laboratory of Polymer Reaction Engineering (LPRE) was established in 1985. The Laboratory's research activities fall into the following general areas:

- Design, optimization and computer control of polymerization reactors (CAD/CAM)
- Mathematical modeling and experimental investigation of polymer production processes
- Hardware and software sensors for on-line polymer quality monitoring
- Molecular, physical and morphological characterization of polymers
- Theoretical and experimental investigation of macro- and microencapsulation techniques
- Synthesis of water-soluble polymers: structure-function relationships
- Production of porous and non-porous polymer microparticles
- Synthesis and transport properties of polymer membranes and films

The Laboratory is equipped with experimental facilities (i.e., several high-pressure bench scale reactors) for the production of polymers and analytical equipment (i.e., GPC, DSC/TGA, GC, FTIR, Laser Diffraction Particle Size Analyser, X-Rays, Mercury Porosimeter, UV spectrometer, etc.) for their characterization. It has an up-to-date computer network which includes two Silicon Graphics workstations, as well as over sixty personal computers.
Presently the Laboratory employs four doctoral research associates, fourteen Ph.D. candidates, five research associates and three technicians. Its present annual budget is over Euro € 750,000.
The main objective of the Laboratory of Polymer Reaction Engineering (LPRE) is to carry out innovative, collaborative research work, the results of which can be applied to the long-term needs of the Greek and European Polymer Industries with a special emphasis given in the area of polymer reaction design, optimization and control.

LPRE offers intensive courses in Polymer Reaction Engineering at CPERI/CERTH premises or at the Company’s site.
For more information please follow the link: Course Brochure