

Michael R. Ladisch

Michael R. Ladisch, PhD is Director of the Laboratory of Renewable Resources Engineering and Distinguished Professor of Agricultural and Biological Engineering with a joint appointment in Biomedical Engineering at Purdue University and courtesy appointment in Food Science. He earned his BS from Drexel University and MS and PhD degrees from Purdue University, all in chemical engineering. He has a broad background in bioscience and bioengineering, and has authored numerous journal papers, as well as a textbook in “Bioseparations Engineering: Principles, Practice and Economics” (Wiley, 2001). He previously chaired the National Research Council Committee on Bioprocess Engineering as well as the Committee on Opportunities in Biotechnology for Future Army Applications. Dr. Ladisch was elected to the National Academy of Engineering in 1999.

Dr. Ladisch’s research addresses fundamental topics in bioprocess engineering as it applies to bioproducts, biorecovery, and bionanotechnology. The work that he carries out with teams of researchers consisting of colleagues, graduate students, and staff is multi-disciplinary and multi-institutional, and addresses properties of proteins and living organisms at surfaces, rapid prototyping of microfluidic biosensors, bioseparations, and transformation of renewable resources into bioproducts. His research has resulted in new industrial bioenergy processes, and systematic approaches and correlations for scaling-up laboratory chromatographic purification techniques to process-scale manufacturing systems. He is currently investigating the scale-down of bioseparations and the rapid prototyping of microfluidic biochips for the rapid detection of pathogenic microorganisms. There are numerous opportunities for graduate and advanced studies in LORRE.

Dr. Ladisch teaches bioseparations, bioprocess engineering and biotechnology at both the graduate and undergraduate level. His discovery and learning activities engage bioproducts, biopharmaceutical, and biotechnology industries on a national basis, as well as industries and stakeholders in the State of Indiana.