

Overview of Chemical Bioengineering

The behaviors of biosystems are well-regulated and controlled by interactions between various functional biomolecules such as DNA, RNA and proteins in different hierarchies: cells, tissues and organs. On the firm basis on chemistry, the research in the chemical bioengineering field is focused on the structure and functions of these biomolecules, and on the mechanisms for regulating and controlling the biosystems through such molecules. The research is also focused on the innovative technology development for design, synthesis and control of high performance cells, tissues and organs through artificial designing, alteration, modification and systematization of functional biomolecules. Finally, we aim at applying these technologies to the medical treatment field.