**Status of Synthetic Biology in Pakistan**

Synthetic biology is an interdisciplinary branch of biology, combining disciplines such as biotechnology, molecular biology, systems biology, structural biology, genomics and computational biology and it is broadly linked with the genetic engineering.

Pakistan has been excelling in the establishment of new research fields in the areas of molecular biology, structural biology, genomics and computational biology. Following are few active research establishments working broad interdisciplinary synthetic biology.

1. Centre for Excellence in Molecular Biology, University of The Punjab. The goal oriented molecular biological research on specific problems related to economic needs of the country, in agriculture, health & medicine, industrial, energy and environmental sectors. The institute is creating a repository of DNA modifying enzymes, DNA cloning vectors, novel bacterial strains and other such molecular tools for ready availability and use by various research groups at this centre and other DNA research laboratories in Pakistan.
2. The A.Q. Khan Institute of Biotechnology and Genetic Engineering (KIBGE), University of Karachi. The institute broadly aims to impart training in modern day biological sciences, biotechnology and genetic engineering with the goal of using modern technology to improve the economic well-being of the citizens of Pakistan by means of technological innovations in health, industrial and agriculture sectors.
3. Dr. Panjwani Center for Molecular Medicine and Drug Research, ICCBS, University of Karachi. The PCMD initiated a number of scientific programs with the objective to find possible treatments of often neglected prevalent diseases of Pakistan, as well as associated human resource development. The PCMD has established research groups in frontier areas of molecular biology which include structural biology, computational biology and a dedicated research center specifically for genome research.
4. LUMS School of Science and Engineering. The biology department is aim to become a centre of excellence in basic research in biological sciences. Research programmes being developed are in Molecular and Cell Biology, Genetics and Epigenetics, Biochemistry and Biophysics, Structural and Computational Biology.
5. Faculty of Biotechnology and Biological Sciences, Quaid i Azam University, Islamabad. The QAU has established the active research groups in the areas of Biochemistry, Molecular Biology, Plant Sciences and Bioinformatics.