

The IUPUI Signature Center on Bio-Computing

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Abstract

Bio-Computing is the discipline that integrates biomedical concepts and Computer Science techniques for collecting, managing, processing and analyzing large-scale biomedical data, as well as enables a deeper understanding of biological processes and medical procedures through modeling, simulation, and visualization. Bio-Computing emphasizes the algorithmic, computational, and software system issues arising from biomedical problems. It focuses on developing new, improved, specialized and customized Computer Science techniques and tools for computing related needs in life science applications that do not have ready-to-use solutions. The IUPUI Signature Center on Bio-Computing (SCBC) aims to act as a catalyst to provide Bio-Computing infrastructure and expertise for Indiana life science initiative. The specific mission is the following:

- **Bio-Computing Infrastructure:** To develop cutting-edge bio-computing techniques and tools to establish an infrastructure as a framework to support life science applications.
- **Collaborative Projects:** To actively engage in collaborative research projects, and maximize the impact of bio-computing in life science research and funding efforts.

The scope of the projects supported by SCBC can be best described by the figure below:

