Instituto Gulbenkian de Ciência - IBB - Bioinformatics

Pedro L. Fernandes, David P.Judge, Daniel Sobral

Synopsis

In the dying years of 20th century, the rapidly expanding availability and capability of computational tools enabled the accumulation, organisation and analysis of ever greater volumes of molecular data in forms readily accessible to the Biological Research community. New opportunities inevitably emerged leading to profound advances in both research methodologies and the scale of projects that might be realistically attempted. These advances have had impacts in many research fields including Medicine, Biotechnology and Environment. The education of researchers must reflect these radical changes.

This purpose of this course is to provide an initial exposure to the uses of the basic resources that have emerged as a result of what is commonly referred to as **Bioinformatics**. This objective will primarily be achieved by “hands on” practicals using example data. Special emphasis will be placed on imparting a familiarity with the tools designed to process the vast datasets of sequence data. Such datasets have become commonplace only in recent years due to astounding advances in sequencing technologies enabling what is generally referred to as **N**ext **G**eneration **S**equencing (**NGS**).