# Bio-CLCAR

**Monday 26 August 2013 - Friday 30 August 2013**

**Costa Rica**

# Scientific Programme

Interacciones proteína-proteína
Análisis y Alineación de Secuencias
Biología de Sistemas
Plegamiento de proteínas y ARN, predicción de estructuras secundarias
Estudios de expresión génica por Microarrays
Análisis de Imágenes Médicas y Reconocimiento de Patrones
Redes y Procesos Biológicos In-silico
Genómica, Metagenómica, Metabolómica, Transcriptómica, Proteómica Computacional
El análisis de grandes datos biológicos (Microarrays, NGS, etc)
Filogenias y epidemiología molecular

# Computational Needs for a Personalized Medicine

The research in biology and in biomedicine is now facing a new challenge, where the major bottle neck is at the computational level. Current approaches towards personalized medicine involve massive biological data production, mostly as DNA and RNA sequences of particular patient samples. Since the cost of genome sequencing is decreasing it is now becoming a standard practice in biomedicine resulting in the generation of massive amounts of biological data. The management and comprehensive analysis of all this data is still not yet solved and needs desperately computational solutions, both at hardware and at software level.