

Statistical challenges in the "Omics"

Octavio Martínez de la Vega

Computational Biology Lab., Langebio - Cinvestav Irapuato.

"Omics" sciences include high-throughput data collection and analysis in Biology. These include: Genomics the deciphering and study of whole genome sequences; Transcriptomics -studying gene expression from different tissues and under different conditions; Proteomics -the same for proteins, etc. Statistical challenges arise in the collection, ordering, identification and analyses of the Omics data.

On this talk I will present some well perceived as well as more hidden and interesting problems in the area. More than giving many technical details of each problem, I will focus in the description of the challenges, some existent solutions, and, more interesting, the fertile field of statistical research that opens with the huge quantity of data obtained in modern molecular Biology.