

GENOMICS AND PERSONAL GENOMICS

SERGIO BARLATI - UNIVERSITY OF BRESCIA

Genomics and personalized genetics are highly topical issues that will have great relevance in the future of biomedical research and will involve all areas of medicine and clinical applications. Our research group at the Division of Biology and Genetics of the University of Brescia, has developed expertise in the area of genomic studies (DNA arrays) mainly in patients with neurological and psychiatric disorders (1). The study of the genome with this type of approach requires also the use of sophisticated software for analyzing and managing the enormous amount of data generated by the DNA array. In this context we developed an innovative software that can simultaneously manage data of hundreds of DNA samples obtained from different subjects (2). The software can be applied to the analysis of the different type of data generated by the DNA array systems developed by Affymetrix and Illumina. Some of the data obtained will be presented in association with the advantages of the utilization of the software developed. The main aim of the study is the consciousness that understanding the individual genome may lead to the development of new, personalized, therapies for “genetic” and “non genetic” pathological conditions.

1)Magri C. et al. “New Copy Number Variations in Schizophrenia” PLoS ONE (on line) October 2010

2)Barlati S et al. "GenotypeColour: colour visualisation of SNPs and CNVs". BMC Bioinformatics. 2009 Feb 4;10:49