

The 'Omics' World

Since the advent of genomic sequencing technologies and subsequent release of reference genome sequences, the broader biological community has realized that this will be an organizing science for decades to come. Those other areas have now adopted the suffix 'omics' to many of their genomic related activities. Here are examples.

Traditional Terms

Term	Definition: "the study of .."
Genomics	All of the genes in the genome; a general term for all studies involving many genes and their products
Transcriptomics	The expressed mRNAs
Proteomics	The proteins in the organism
Metabolomics	The metabolites that result from the expression of proteins and genes
Ionomics	The uptake and distribution of ions in the organism
Pharmacogenomics	The genes and proteins in relation to drug development
Phenomics	The many phenotypes and their interactions during the life cycle of an organism

Adapted Terms

Term	Definition: “the study of ..”
Epigenomics	The factors, other than the gene sequence, that control gene expression
Glycomics	The expression of sugars in an organism
Histomics	Histones and their role in life cycle of a genome
Kinomics	Kinases and how they regulate the development of an organism
Immunogenomics	The genes and factors that regulate the immune system
Interactomics	The genes and other factors that regulate the networks that exist between genes and proteins
Lipidomics	The expression of lipids in an organism
Metallomics	The genes and other factors that regulate uptake and distribution of metals in an organisms
Methylomics	The role of methylation in gene expression
Mitochondriomics	The genes involved in mitochondria function
Neuromics	The genes and factors underlying neuron function
Phylogenomics	The evolution history of a taxa using large scale sequence data
Physiomics	The genes controlling the physiology of an organism