**Center for Biostatistics and Bioinformatics Services**

The Center for Biostatistics and Bioinformatics Services (CBBS), directed by Mario Medvedovic, PhD, Professor of Biostatistics and Bioinformatics, offers a wide range of data analysis and data science services. The core staff consists of seven full time biostatistics and bioinformatics faculty in the Department of Biostatistics, Health Informatics and Data Sciences. The core applied the latest domain-specific statistical and machine learning methodologies to provide support in following biomedical domains:

1. **Experimental and Observational Studies**: Modeling for longitudinal and other observational studies, Population database design and analysis, Secondary analyses of clinical databases including, Statistical analysis of electronic medical records, Observational study design, Modeling data with dependency structure, Bioassay experiments, Laboratory experimental design, Sample size calculations, Complex linear models for experimental data, Multiple hypothesis testing strategies, Multivariate hypothesis testing.
2. **Clinical trials**: Phase I/II designs, Phase III designs, Repeated measures designs including cross over and semi cross over, Sample size and power calculations, Study design and strategies for multiple hypothesis testing, Development of case report/data collection forms, Development of study designs, protocols, and decision rules
3. **High-dimensional omics data analysis (Bioinformatics)**: Genomics, transcriptomics, proteomics, epigenomics, metabolomics data, Single cell omics data analysis, Integrative omics data analysis, NGS-sequencing, DNA microarrays, protein microarrays, mass spec, Experimental design, normalization, statistical analysis, filtering, gene set enrichment analysis, pathway analysis, network analysis, connectivity analysis, systems biology analysis, Re-analysis of public domain datasets (GEO,TCGA, ENCODE, etc)