

# Did you know? The Bioinformatics Research Support Core of the Arkansas INBRE\* has two technical centers to assist students and faculty with their bioinformatics and bio-computing needs.

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## The Department of Biomedical Informatics Center at the University of Arkansas for Medical Sciences

Stephens Spine Center, Fourth Floor  
UAMS Campus – 501 Jack Stephens Drive  
Little Rock, AR 72205  
Phone: (501) 603-1766  
Email: <http://dbmi.uams.edu/inbre/bioinformatics-core-support-request-form/>

Bioinformatics approaches and pipelines serve as a cornerstone in all omics-oriented clinical and basic science research projects and the availability of different state-of-the-art pipelines implementing the analysis is of tremendous help for all clinical and basic scientists. It is typically necessary for an NIH/NSF/INBRE grant applicant proposing experiments producing large-scale omics data to demonstrate support from Bioinformaticians. The Department of Biomedical Informatics provides the expertise necessary to make this possible for both PUI and UAMS investigators.

Faculty and students can receive free assistance with the following activities:

- Large scale omics data analysis including:
  - RNA-seq data analysis pipeline
  - Methylation data analysis pipeline
  - 16S rRNA microbiome data analysis pipeline
  - Metaproteomics data analysis pipeline
- Experimental study design for omics data analysis
- Omics data analysis results analysis and interpretation (pathways analysis, network and module inference)
- Writing bioinformatics sections (methods and results) of manuscripts and grants for Arkansas PUI and UAMS faculty

## MidSouth Bioinformatics Center at the University of Arkansas at Little Rock

EIT Building, Room 326  
UALR Campus – 2801 South University Avenue  
Little Rock, AR 72204  
Phone: (501) 569-8074  
Email: Dr. Phil Williams, Technical Director, [phwilliams@ualr.edu](mailto:phwilliams@ualr.edu)

The UA Little Rock MidSouth Bioinformatics Center provides training on a wide variety of tools and techniques for working with your bio data. In addition the Center provides assistance to help students and faculty to process their bio data including running jobs on the Center's computers, setting up your own computer(s) to run jobs, or using the "cloud" to run your bio data computations. The Center also provides free consulting services to help researchers with their data collection, computation, and analytical needs.

Faculty and students can receive free assistance with the following activities:

- RNA-seq and Bisulfite sequencing data analysis including visualization with heat-maps, PCA plot and Integrative Genomics Viewer (IGV)
- Sequence annotation, Gene Ontology (GO)
- Data integration and conversion tasks
- Machine learning for classification and regression including methods for decision trees, support vector machine and neural nets
- High performance computing (HPC) tasks such as setting up user accounts and algorithm development
- Expansion into the cloud with examples and algorithm development
- Customized training workshops offered both at UA Little Rock and on-site. Sample topics include: Intro to Linux, Bash scripting for Bioinformatics, R/RStudio, Machine learning, Galaxy Bioinformatics platform, High performance computing (HPC), Building and using a Rocks Cluster (Open Source Linux Cluster Distribution)