

## **Upcoming 2004 WV-INBRE Bioinformatics Workshops**

All these workshops will be held at WVU and are open to WV-INBRE participants. There is no charge to participate and supplies, and refreshments, will be provided. Travel support, including overnight lodging is available. Contact Mary Davis to reserve a spot.

### **Introduction to Proteomics**

June 3-4, 1-5pm

This lecture format course will provide an over-view of the use of proteomic techniques in the identification of proteins. Topics include separation and visualization of proteins on gels, mass spectrometric methods for protein identification and characterization, post-translation modification considerations and protein interactions.

### **Introduction to Proteomics: Laboratory Exercise**

June 1-4, 8-noon

Enrollment will be limited to 4 participants. Participants will perform sample preparation, 2-dimensional separation and analysis of proteins. Participants are encouraged to bring their own sample for the workshop.

### **GeneSpring® Beginning and Intermediate**

July 7-8, 9am-5pm

This hands-on computer-based SiliconGenetics workshop will allow you to learn how to use the GeneSpring package to analyze array data and more. The workshop will be held at WVU in one of the wired small-group classrooms. We will be using laptops (provided by SiliconGenetics). Potential content is outlined below—it is a lot and we anticipate either condensing some or possibly add an additional halfday to the workshop. The final program will be sent when it is available.

### ***Experimental and Biological/Clinical Data Organization and Processing in GeneSpring***

- Genomes
- Data Import
- Normalizations, including Introduction, Lowess Normalization for two-color experiments, per-chip or global normalizations and per-gene normalizations
- Sample Attributes and Experimental Parameters
- Experiment Interpretations
- Managing your Samples
- Creating an Experiment

### ***Data Visualization and Manipulation***

- Graph Representations
- Scatter Plot View Biology-based Views: Physical position display, Pathway view
- Data-based Views: Spreadsheet view and Ordered List view

### ***Extensive Gene Search and Associated Data Import/Export In GeneSpring***

- Gene Search: “Find Gene” tool
- Importing/Exporting GeneLists and Associated Annotations

### ***Annotations, Biological Classifications and Pathway Visualization/Analysis***

- Annotations
- Pathway Tool

### ***Statistical/Data Mining Modules of GeneSpring***

- Cross-Gene Error Model
- Gene-Oriented Statistics Important in Data Mining
- Sample-Oriented Statistics Important in Data Mining
- Filtering
- Gene Expression Profile Comparisons
- Clustering
- Class Prediction – Supervised Clustering Module
- Principal Components Analysis

### ***Incorporating and Using Sequence Information***

- Predict Regulatory Sequences (for fully mapped and sequenced genomes)

### ***Presentation of Data, Graphs and Annotations***

#### ***GeNet™***

- Using GeNet
- Administering GeNet

#### ***ScriptEditor™***

- Building Scripts: Basic concepts of scripting
- Understanding basic building blocks
- Building complex scripts