

## **2016 NISBRE WORKSHOP INFORMATION**

### **Name, title, institution, and email address of each facilitator**

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### **Session theme or topic:**

The theme of this lecture is the application of machine learning to a variety of biological data sets for the production of predictive classifiers.

### **Session format (lecture, facilitated discussion, panel discussion, Q&A):**

The format is lecture/demonstration

### **Session title**

Machine Learning for Bioinformatics

### **Provide 3 anticipated participant learning outcomes:**

1. Participants will gain a better understanding of bioinformatics in general and machine learning specifically.
2. Participants will learn how to quickly take advantage of machine learning for the production of predictive classifiers.
3. Participants will learn how to extract predictive relevant attributes from decision trees.

### **Intended audience (INBRE, COBRE, CTR, students, faculty, PI's):**

This lecture/demonstration is intended for a general audience (all of the above).

### **Abstract (200 Words):**

Some bioinformatics solutions involve predictors and classifiers. Machine learning is a method to train classifiers. This tutorial introduces C5.0 to train a predictive classifier. These methods are introduced in Windows for a general audience. This tutorial is designed to inspire participants as to the power of machine learning while demystifying the process. After completion they will have the knowledge to download the demonstration data set, the C5.0 application, and run it.

**Additional Materials, Web Information or Additional Information:**

<https://www.rulequest.com/download.html>

<http://binf-app.host.ualr.edu/resources/downloads/windowsFormat-C5data.7z>