

## WORKSHOP: MEASURING STUDENT PERFORMANCE FOR PROFESSIONAL PRACTICE IN THE LABORATORY

**Friday, July 10th, 11:00am-12:30pm**

**LOCATION: CET 213**

**Facilitator: Mary A. Peek, Georgia Institute of Technology**

### **Abstract:**

Traditional undergraduate science laboratory courses have student-learning goals that include development of a wide range of skills, namely technical, critical thinking, experimental design, and oral/written communications skills. However, assessment of student learning is often limited to evaluation of examinations, homework assignments and laboratory reports – tools that do not explicitly or fully measure desired outcomes. For the last six years, students in the Biochemistry Teaching Laboratory at Georgia Tech have been evaluated on student performance using a rubric that we believe helps students to recognize, develop and practice a strong work ethic. The ideas to be presented in this workshop are adaptable to any classroom setting where measurable behavioral outcomes are desired as indicators of success. Participants in all disciplines are welcome and should attend the workshop with a specific course in mind for implementation of the ideas developed.

### **Learning Outcomes:**

1. Develop professional practice criteria to measure student performance in a relevant class.
2. Define exemplary student performance behaviors for each professional practice criterion.

### **Facilitation Plan:**

1. Participants should consider bringing a copy of the syllabus and schedule for a relevant course.
2. Experimentation and measurement of participant performance
3. Critique of the first activity and development of course-specific professional practice criteria based on the group feedback.

15 min      PowerPoint Presentation:  
Assessing Student Performance in an Undergraduate Biochemistry Laboratory

30 min      Demonstration  
*Half of participants do an experiment in front of class for 15 min*  
*Others evaluate the “student’s” performance*  
*Switch roles for 15 min*

- 30 min      Group Discussion  
*List outcomes from the demonstration*  
*What behaviors were easy to detect?*  
*What behaviors were missed or more challenging to recognize/evaluate?*  
*What desired behaviors were not exhibited or missed?*
- 15 min      Class-Specific Rubric Design  
*Identify 1 class in which student performance needs to be assessed*  
*Design a set of criteria that will work for those classes*  
*Generate a 1st draft of a rubric that could be implemented in your course*

**Resources needed:**

1. Materials for presenter: None
2. Handouts for participants:
  - a. Biochemistry Teaching Laboratory Student Performance Measurement Sheet
  - b. Student Performance Template
3. Equipment for participants:
  - a. Empty tables as “lab benches”
  - b. Mary Peek will bring “laboratory experiment” supplies
4. Session equipment:
  - a. Projector and screen for Power Point presentation or overhead projector
  - b. Tablet on an easel or Dry-erase board for documenting and viewing audience feedback