Exam/Exam Structure
Moderator: Michael Thoennessen

In order to fix the terminology for exams and to establish a baseline for the subsequent discussion, the moderator conducted a poll of the participants. Based on that poll, the following terms were defined:

**Qualifying/placement exam (on undergraduate material):**
Many attendees reported that this exam was used as a diagnostic tool to decide whether to recommend to students that they take remedial undergraduate courses.

**Comprehensive exam (most problems based on advanced undergraduate material):**
Most institutions represented in the session had this exam structure.

**Comprehensive exam (on graduate-level core courses):**
Very few had this exam structure.

**Comprehensive exam (oral):**
Majority of participants had such an exam but based on research.

The moderator then presented the attendees with a series of questions:

*What is the current status of exams in your department?*
*Has your department recently reviewed the exam structure?*
*Are there any plans to change the structure?*
*When is the exam given?*

The following discussion was mostly related to the comprehensive exam and addressed these and other questions – see below. Most attendees reported that they required their students to take a written comprehensive exam. Most had anonymous grading, had a traditional exam structure (for the comprehensive exam), many had a two-tiered structure for the exam and allowed students to have multiple tries with a provision for partial pass, some participants brought up whether these exams are fair to experimentalists, and there was an extended discussion in which participants discussed how decisions to pass students were made, especially how students in the “grey zone” were handled. In addition, possible alternatives to the exam were also briefly discussed.

**How to assess research potential? What measures research performance?**
Some reported that they had instituted formal means of tracking progress such as assigning a committee of faculty to monitor student progress, to require a written professional development plan, and periodic talks by the student. Another option was to have students rotate through labs in order to find a right fit.
Who has tried to change graduate school requirements?
Overall, it was clear that the question of how to structure the comprehensive exam is being discussed in many departments. There is substantial amount of diversity in the exam design and in the rules that go along with it. Most schools have no plans to get rid of the exam but are exploring ways to make it a better diagnostic tool for assessing research potential and linking exams outcomes more tightly with research potential.

Scribe: Abhijit Sarkar  
Physics Department  
Catholic University of America  
620 Michigan Ave NE  
Washington, DC 20064  
sarkar@cua.edu