Admissions Criteria and Diversity in STEM Graduate Programs

Casey W. Miller
Associate Professor at Rochester Institute of Technology

Colorado State University
Thursday, September 29 at 3:00 pm
Location: TILT Room 221

Abstract

The National Academies have suggested that increasing diversity in Science, Technology, Engineering, and Math will be critical to the future competitiveness of the US in these areas [1], and both the National Science Foundation [2] and the American Physical Society [3] are taking this seriously. In this talk, I will discuss several opportunities that may help move toward meeting this goal, and, importantly, the potential benefits to programs and individual investigators willing to take on these challenges. The most universally applicable and implementable actions regard perturbing graduate admissions policies and practices [4, 5], and employing key features of successful Bridge Programs into graduate programs [6]. Despite the prevalent use of minimum acceptable scores by admissions committees, there is no correlation between GRE scores and research ability. I will remind the community that the use of minimum acceptable GRE scores for admissions is in opposition to ETS’s Guide to the Use of GRE Scores, and I will present data showing that this practice will have (has had?) a negative impact on diversity in graduate programs. I will conclude by discussing non-cognitive competencies and their role in student selection processes [7].


**Biographical Sketch**

Casey W. Miller is an Associate Professor at the Rochester Institute of Technology, where he is now Director of the Materials Science and Engineering program. He is an experimental physicist focusing on nanoscale magnetic materials and related devices. He served as Director of the University of South Florida’s APS Bridge Site, which was created by the American Physical Society in 2013. He graduated *summa cum laude* from Wittenberg University in 1999 with University and Physics Departmental Honors, where he was also elected to ΦΒΚ. He earned his PhD from the University of Texas at Austin in 2003, earning the Department’s Best Dissertation Award for work combining Magnetic Resonance Imaging with Scanning Probe Microscopy. His post-doctoral work at the University of California, San Diego, focused on quantum tunnelling of electrons in MgO-based magnetic tunnel junctions. He is recipient of the prestigious NSF-CAREER and AFOSR-Young Investigator Awards.