

Spring 2018 Colloquium

Department of Physics & Astronomy, TAMU-Commerce

Mar 1, Thursday, 4-5 PM in Science Building 127

(coffee and cookies will be served at 3:50 PM)

Physics Education

From Undergraduate To Graduate Physics: Building A Strong Physics Community

Dr. Deepa Chari

Florida International University



Dr. Deepa Chari is a postdoctoral researcher at Florida International University (FIU), Miami. Her research is supported by American Physical Society's Bridge program. She is researching the admission practices of nationwide graduate physics departments to identify normative trends in admissions. She is also studying students' enculturation in graduate physics communities. Prior to FIU, Deepa conducted her postdoctoral research in mathematization project at Kansas State University. She examined students' physics problem-solving practices. She has earned an M.Phil. in medical physics and a Ph.D. in physics from Dublin Institute of Technology, Ireland

Abstract

Physics instructors play multiple roles in undergraduate education, as facilitators for learning physics to mentors for career decisions. An understanding of students' perspectives about learning physics and graduate careers is important to play these roles in better ways for individual students. In this talk, I will present a theoretical framework to understand students' sense-making or epistemic framing of mathematically rich physics problems. Students' epistemic framing knowledge is resourceful to develop constructive discourse dedicated to learning complex physics concepts through problem-solving. Similarly, students' perceptions about graduate education provide insight into why they choose and persist in graduate school. I will discuss results of recent surveys and interview studies on graduate education, and present the necessity of specific mentoring about admissions and enculturation practices.