Universal Few-Body Physics: from Nuclear Physics to the Ultracold

Prof. Chris Greene

Department of Physics and JILA, University of Colorado, Boulder

This colloquium addresses questions that have sparked great interest in nuclear physics, atomic and molecular physics, and condensed matter physics. One of those questions is how a few free particles can coalesce out of a gas to create bound states, molecules, or clusters. Also of interest is simply to figure out which of these quantum systems should generally form stable bound states and which of their properties are universal. Exciting headway has emerged in this subject in the last few years, through concerted efforts in both experiment and theory. This talk will give an overview of those developments and also touch on some of our most recent theoretical results bearing on universality and the Efimov effect.