

School of Mathematics and Applied Statistics
2014 Colloquium Series

Title: Marine mammal and earthquake localization using parabolic equation solutions

Speaker Scott Frank (Marist College)

Time and Date: 3:30pm, Friday, 10 January 2014

Location: 6-210

Abstract: Parabolic equation solutions have long been used to study underwater acoustic propagation. The nature of parabolic equation solutions will be discussed along with the derivation of starting fields. Solutions generated using these seismic sources are being used to improve accuracy of marine mammal tracking techniques. Elastic versions of the parabolic equations characterize the effect of source frequency, material wave speeds, and material density on the generation and propagation of oceanic T -waves and Rayleigh-type waves at the interface between the ocean and the elastic ocean bottom. Both types of waves are relevant to seismic source localization.