1023-Z1-1448 **Richard J. Marchand*** (richard.marchand@sru.edu), Department of Mathematics, Slippery Rock University, 229 Vincent Science Hall, Slippery Rock, PA 16057. *Visualizing Elastic Wave Interactions with Multiple Interfaces.*

This talk will present the mathematics associated with elastic wave interactions. Visualization of the wave dynamics will be done using Mathematica. A brief analysis of travelling waves on strings and their reflections at boundaries will be presented initially. This will be followed by a discussion of the dynamic behavior of vibrating strings in the presence of multiple interfaces where incident waves are repeatedly reflected and transmitted. Finally, the results will be extended to waves in three-dimensional bodies in which longitudinal and transverse waves occur simultaneously. Applications related to geophysics and other natural sciences will be also be presented. (Received September 26, 2006)