

Fall  
2016

*Mathematical Sciences/  
Inverse Problems Center  
Colloquium*

**"Fast Algorithms for Mathematical Modeling  
and Inversion in Geophysical Exploration"**

*Geophysical exploration delineates the depth and structures of natural-resources related geological formations by collecting and analyzing the Earth echoes from passive and active sources. Mathematical geophysics utilizes a variety of modeling and inversion tools to reveal subsurface structure quantitatively from these response data. Since a typical 3-D seismic survey yields several terabytes (TBs) data, fast algorithms are essential for processing these data. Over the years we have developed a range of fast algorithms aimed at mathematical problems arising from geophysical exploration. I will put these algorithms into both mathematical and geophysical perspectives by demonstrating various examples.*

**Professor Jianliang Qian**

**(Michigan State University)**

**Monday, October 31, 2016**

**4:00-5:00PM**

**Lally 104**

**Host: Joyce McLaughlin/Rongjie Lai**



