

# Purdue University Mathematics Department Graduate Research Day

November 19, 2016

Purdue Graduate Student Center, conference room 105  
504 Northwestern Avenue, inside the Northwestern parking garage



## Morning Session

10:15am Nate Veldt,

Detecting local graph clusters with the  
min-cut max-flow theorem

10:45am Avi Steiner,

Basics of algebraic analysis

11:15am Yingwei Wang,

Two-level spectral methods for nonlinear elliptic  
equations with multiple solutions

## Breakfast

9:45-10:15am

Coffee and Mary

Lou Donuts

## Lunch

12:00pm at

Puccini's Smiling  
Teeth

## Afternoon Session

1:45pm Jacob Shapiro,

Semiclassical resolvent bounds in dimension two

2:15pm Yiqi Gu,

A spectral solver for elliptic PDEs in irregular  
domains

2:45pm Mark Pengitore,

Precise residual finiteness of lattices in nilpotent  
Lie groups