

# Department of Mathematics

The University of Texas at San Antonio



## Dr. Peter Polacik

University of Minnesota

### Colloquium Topic:

Propagating Terraces in the Dynamics of Front-like Solutions of Parabolic Equations

### Abstract:

We consider semilinear parabolic equations on the real line. By a front-like solution we mean a solution  $u(x, t)$  which has limits as  $x \rightarrow \pm\infty$  equal to constant steady states  $\pm\gamma$ . In many well studied cases, the behavior of such solutions is governed by a traveling front connecting the steady states  $\gamma$  and  $-\gamma$ . However, in general, such a traveling front does not exist. We explain in the lecture how a more general concept, a propagating terrace, or a stacked system of traveling fronts, can be used to describe the large time-behavior of front-like solutions.

### Event Details

#### Date

- Friday, April 22, 2016

#### Time:

- 3:00pm – 4:30 pm

#### Location:

- FLN 4.1.20 Conference Room

#### For More Information

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\*Dr. Polacik's primary field of research is in  
Partial Differential Equations