# COLLOQUIUM
# UNIVERSITY OF PITTSBURGH
# FRIDAY, NOVEMBER 1, 2013

## 704 THACKERAY HALL

### 3:30 P.M.

## ERIK VAN VLECK

### DEPT. OF MATHEMATICS
### UNIVERSITY OF KANSAS

### TRAVELING WAVES UNDER DISCRETIZATION

**ABSTRACT:**    In this talk we consider the impact of spatial and temporal discretization on traveling wave solutions of bistable reaction–diffusion equations. We focus on finite difference discretization in space and time discretization using Backward Differentiation Formulas (so–called BDF methods). In this talk we illustrate the impact of discretization on the wave speed, the dependence of the wave speed on the direction of propagation in higher space dimensions, and on the stability of solutions. Of particular interest is the stability of plane wave solutions for spatial discretizations of bistable PDEs in two space dimensions.

**Refreshments served at 3:00 p.m.**
**in the Math Dept. COMMON ROOM, Thackeray 705**