

**Algebraic Topology in Applied Mathematics**  
**NSF/CBMS Regional Conference**  
**Aug 3 – Aug 7, 2009**

**MEALS**

Breakfast (Buffet): 7:45am–9:00am, Mather Mansion, Ground floor, Monday–Friday  
Lunch (Buffet): 12:00pm–1:30pm, Mather Mansion, Ground floor, Monday–Friday  
Coffee Breaks: As per daily schedule, Mather Mansion

**MEETING ROOMS**

**All lectures will be held on the second floor of Mather Mansion.**

**SCHEDULE**

**Sunday**

**6:00pm–11:00pm** Informal gathering in Game Room, Fenn Tower, 3rd floor

**Monday**

**7:45–9:00** Breakfast  
**9:00–10:00** Robert Ghrist, 1. Topology and its (engineering) applications  
**10:00–10:30** Coffee Break  
**10:30–11:30** Robert Ghrist, 2. The Euler characteristic and target counting via sensors  
**12:00–13:30** Lunch  
**14:30–15:30** Robert Ghrist, 3. Sheaves and network data aggregation  
**15:30–16:00** Coffee Break  
**18:00–23:00** Informal gathering in Game Room, Fenn Tower, 3rd floor

**Tuesday**

**7:45–9:00** Breakfast  
**9:00–10:00** Robert Ghrist, 4. Homology and coverage in sensor networks  
**10:00–10:30** Coffee Break  
**10:30–11:30** Robert Ghrist, 5. Persistence and high-dimensional data analysis  
**12:00–13:30** Lunch  
**14:30–15:30** Peter Bubenik, Algebraic Topology and Statistics  
**15:30–16:00** Coffee Break  
**16:00–17:30** Yuriy Mileyko, Tutorial on Computational Aspects  
**18:00–23:00** Informal gathering in Game Room, Fenn Tower, 3rd floor

**Wednesday**

**7:45–9:00** Breakfast  
**9:00–10:00** Robert Ghrist, 6. Morse theory and data reconstruction  
**10:00–10:30** Coffee Break  
**10:30–11:30** Robert Ghrist, 7. Index theory and experimental time-series data  
**12:00–13:30** Lunch  
**14:00–18:00** Excursion  
**18:00–23:00** Informal gathering in Game Room, Fenn Tower, 3rd floor

## Thursday

**7:45–9:00** Breakfast

**9:00–10:00** John Oprea, Lusternik–Schnirelmann Category

**10:00–10:30** Coffee Break

**10:30–11:30** Robert Ghrist, 8. LS-category and mode-counting in statistics

**12:00–13:30** Lunch

**14:30–15:30** Robert Ghrist, 9. Obstruction theory: synchronization, consensus, and motion-planning

**15:30–16:00** Coffee Break

**18:00–23:00** Informal gathering in Game Room, Fenn Tower, 3rd floor

## Friday

**7:45–9:30** Breakfast

**9:30–10:30** Robert Ghrist, 10. Configuration spaces and robot motion planning

**10:30–11:00** Coffee Break

**11:00–12:00** Lunch