Room #213
Title: Computing and Information Processing in Support of Basic Science and Engineering
Session Chair: Marty Gelfand (Physics)
Participants: Anderson (CS), Bartels (ECE), Bohm (CS), Burns (VPRIT), Hulpke (Math), McConnell (CS), Siegel (ECE & CS), Simmons (Biology), Szamel (Chem), Tavener (Math), Willson (ME).
Scribes: TBA
Topics:
- High performance computing, clusters, grids, compilation, distributed operating systems, fundamental algorithms, portals and infrastructure.
- Applications in biology, nano-technology, fluid mechanics, mechanics, geotechnics, chemical reactions, quantum mechanics, molecular dynamics, high energy physics, climate modeling.
- Neuroscience, ion channel models.

Room #214
Title: Dense Networks for Sensing, Computing, and Communicating
Session Chair: Edwin Chong (ECE & Math)
Participants: Butler (Stat), Chen (ECE), France (CS), Hannig (Stat), Jayasumana (ECE), Rajopdhye (CS & ECE), Webb (Biology), Whitley (CS), Yao (Stat)
Scribes: TBA
Topics:
- Sensing, computing, and communicating in networks of dense, randomly dispersed assets for commerce, environmental monitoring, politics, policy, weather, homeland security, and surveillance.
- Alternative models of sensing, computing, and communicating in networks. Quantum computing.
- Network information theory and internet optimization.
- Automatic hardware organization and programming. Defect repair and tolerance in large networks.

Room #216
Title: Imaging, Tracking, and Computing
Session Chair: Michael Kirby (Math & CS)
Participants: Beveridge (CS), Dangelmayr (Math), Draper (CS), Dudek (Biomed Sci), Kley (Math), DeMiranda (Education), Lee (Stat), Scharf (ECE & Stat), Troup (Psych), Wang (Stat)
Scribes: TBA
Topics:
- Generalized imaging (transformations) for managing large data sets: linear and nonlinear dimension reduction for search, classification.
- Connections between tracking, superposition of states, sum over all paths, and probabilistic reasoning about large imprecise data sets.
- Automatic image, text, and speech recognition for multimodal interfaces and search engines. Biomimetics.
- Space-time processing for optics, radar, and sonar in unattended sensor arrays.