Current Research Areas

- Tactile Communication of Speech with Charlotte M. Reed (MIT)
- Human Responses to Motorcycle Handlebar with George Chiu & Luc Mongeau (ME)
- Haptic Texture Perception and Rendering

Recent Results

- Tactile Communication of Speech
  - Demonstrated information transmission rate of 12 bits/sec (normal speech is 24 bits/sec)
  - Slow motions and vibrations are perceptually separable for encoding speech information
- Human Responses to Motorcycle Handlebar
  - Constructed a handlebar vibration emulator
  - Human subject study is currently in progress
- Haptic Texture Perception and Rendering
  - Created real and virtual textures

Future Directions

- Tactile Communication of Speech
  - Goal is to use tactile cues to supplement lip-reading
  - Coding schemes
  - User training and evaluation
- Human Responses to Motorcycle Handlebar
  - Goal is to predict human responses from engineering measurements
  - Assessment of comfort, fatigue and annoyance
- Haptic Texture Perception and Rendering
  - Goal is to reproduce the feel of surface textures
  - Still a very long way to go