BALANCE
Bioengineering Approaches for Lifestyle Activity and Nutrition Continuous Engagement

BALANCE is an NIH funded project to provide a medically validated up-to-the-moment display of your caloric balance

- Mobile Sensing Platform detects activities and provides calibrated caloric expenditures
- Users get credit for calories burned
- Food interface on the phone allows users to enter what they’ve eaten
  - Interface allows you to define custom favorites
  - Design meals composed of multiple food items
- Calories are tracked in terms of CHIPs (approximately 100 calories each)

Exercise Laboratory Study (n=10)

- Activities: Walking and Jogging at various speeds and inclines
- Results
  - 88% accurate at computing walking speed
  - 87% accurate at predicting expended calories
    - Measured against medical ‘gold standard’ VO₂

Ongoing Work

- User studies to improve user interface
- Paper prototype sessions to improve the UI
- Focus groups with multiple users who take phones with the application home for several days
- Additional laboratory and field studies to collect caloric expenditure data (n=60)
- New opportunities to use online data sources/historical actions to make food entry easier