

# **NIST TIP Project “Cyber-enabled Wireless Monitoring Systems for the Protection of Deteriorating National Infrastructure Systems”**

## **Schedule for the Annual Y1 Meeting**

July 7-8, 2010, Ann Arbor, Michigan

### Day 1 (NIST team arrives before Noon)

12:00-2:00pm **Lunch Meeting with NIST and Administrative Team (2355 GGB)**

*Jean-Louis Staudenmann, Jerry Lynch, Thomas Zdeba, Bryan van Sickle, April Miller, Linda Fink, Claudia Hill*

2:00-2:10pm **Welcome and Introductions (2355 GGB)**

*Jerry Lynch, Nancy Love, Peter Sweetman*

2:10-2:45pm **Presentation #1: Introduction (Lead: Jerry Lynch)**

- Project Overview (*Jerry Lynch*)
- Key Year Milestones and Achievements (*Jerry Lynch*)

2:45-3:45pm **Presentation #2: Decision Support Strategies (Lead: Mohammed Ettouney)**

- Damage Detection Methods (*Mohammed Ettouney*)
- Life Cycle Analysis (*Mike Lepech*)
- Decision Support Tools (*Sharada Alampalli/ Mohammed Ettouney*)

3:45-4:00pm Coffee Break

4:00-4:40pm **Presentation #3: Model Development of Bridge Systems (Lead: Alex Krimotat)**

- High Fidelity Modeling (*Alex Krimotat*)
- Optimal Sensor Placement (*Abbas Emami*)

4:40-5:30pm **Presentation #4: Cyberinfrastructure Development (Lead: Atul Prakash)**

- In-network Data Processing (*Mingyan Liu*)
- Model Databases and ICE Architecture (*Gwen van der Linden*)
- Sensor Database and Wiki Development (*Atul Prakash*)

### Day 2 (NIST team departs campus 4pm)

8:00-9:00am **Presentation #5: Multifunctional Materials for Sensing (Lead: Jerry Lynch)**

- Self-Sensing ECC (*Victor Li*)
- Multifunctional CNT Appliques (*Jerry Lynch*)
- Corrosion Sensors (*Amit Ghosh*)

9:00-10:00am **Presentation #6: Wireless Sensor Nodes (Lead: Dennis Sylvester)**

- Phoenix Processor for WISP (*Dennis Sylvester*)
- IEEE802.15.4 Transceiver for WISP (*Mike Flynn*)
- Self-Structuring Antenna (*Tayfun Ozdemir*)

- 10-10:15am Coffee Break
- 10:15-11am **Presentation #7: Power Harvesting Technology (Lead: Khalil Najafi)**  
- AM Radio-based Power Harvesting (*Amir Mortazawi*)  
- Vibration-Based Power Harvesting (*Khalil Najafi/Becky Peterson*)
- 11-12:00pm **Laboratory Demonstrations Session #1 (EECS Labs)**  
- Phoenix Processor and Low-Power Radio (EECS 4344)  
- AM and Vibration Power Harvesting (EECS 2005)
- 12:00- 1pm Lunch (Catered)
- 1:00-1:40pm **Presentation #8: Interactions with Bridges (Lead: Vineet Kamat)**  
- Vehicle-Structure Interaction: Dynamic Load Estimation (*Tim Gordon*)  
- Inspector-Bridge Interaction Tools (*Vineet Kamat*)
- 1:40-2:30pm **Presentation #9: Field Demonstrations (Lead: Masa Kurata)**  
- New Carquinez Bridge (*Masa Kurata*)  
- Telegraph Road Bridge (*Jerry Lynch*)  
- Zilwaukee Bridge (*Mohammed Ettouney*)
- 2:30-3:15pm **Laboratory Demonstrations Session #2 (1000 GGB)**  
- Self-Structuring Antennas (*Masa Kurata and Tayfun Ozdemir*)  
- Narada-Cyberinfrastructure (*Masa Kurata, Atul Prakash, Gwen van der Linden*)  
- Inspector-Sensor Interaction (*Vineet Kamat*)
- 3:15-4:15pm **Presentation #10: Conclusions (Lead: Jerry Lynch)**  
- Y2 Outlook (*Jerry Lynch*)  
- Impact and Commercialization (*Jerry Lynch*)