



## **IREE Grantees' Conference 2007**

# **Multi-scale Smart Sensing for Monitoring Civil Infrastructure\***

B.F. Spencer, Jr.

University of Illinois at Urbana-Champaign

**\*National Science Foundation Grant CMS 0600433,  
Dr. S. C. Liu, program manager.**

# IREE Participants

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Technology Laboratory  
October 2007



- Ryan Kent Giles
  - Ph.D. student in Civil Engineering
  - Visited the Civil Engineering Department at Shantou University
  - May – Aug, 2007



- Jennifer Rice
  - Ph.D. student in Civil Engineering
  - Visited the Bridge and Structures Laboratory in the Department of Civil and Environmental Engineering at the University of Tokyo
  - April – June, 2007



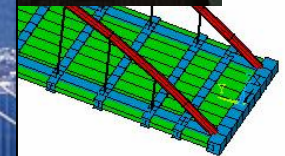
# Background

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or  
on

- Why host



# Experience

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## Living Conditions



- Lived in on-campus foreign student housing
- Dorm food
- Convenient to office
- Far from city center

- Lived in a “weekly mansion” that is a cross between an apartment and an extended stay hotel
- Close to campus walking or by subway
- Expensive and small but that is to be expected in Tokyo

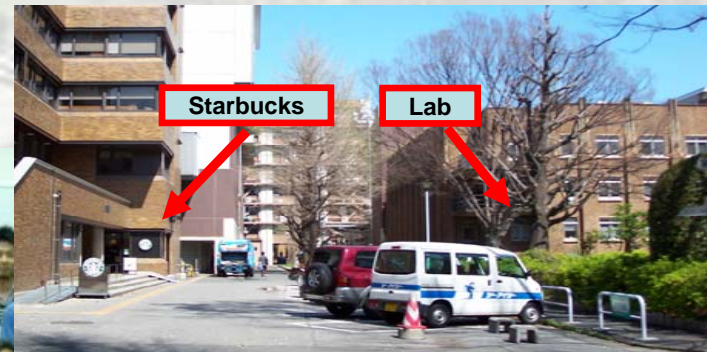
# Experience

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## Research and Professional Environment

- Ideal Conditions
  - Highly international laboratory
  - English official language or at least widely spoken
  - Sufficient resources to conduct research
  - Daily contact with colleagues working on similar project
  - Weekly meetings with entire lab generating a lot of feedback
  - Starbucks next to Laboratory
  - Proper air conditioning (?)



# Lessons Learned

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- Partner institution
  - Make contact early
  - Establish relationship between mentors prior to the trip
  - Pre-visit trip is desirable
- Region of the world
  - Choose a region conducive to research goals
  - e.g., Asia is hotbed of cutting-edge civil engineering research and construction
- Topic
  - Carefully define the goals of the research
  - Ensure that everyone understands objectives of visit (student and both mentors), but be flexible and realistic
- Preparation/orientation
  - Designate a representative at the foreign institution to be responsible for visitor logistics (housing, visas, etc)
  - If possible, take a language course prior to trip



# Impact on Research

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- Both trips have and will continue to result in improvements to the quality of the funded research

- How?



- Accelerated the pace of the research through interaction with top experts



- Ryan became the “expert” in the lab in Shantou

- Broader Impact

- Both participants gained valuable experience in international research and collaboration which they will carry with them into their future research careers

# The Future



- How will you leverage this IREE grant to sustain the collaboration?
  - Joint NSFC-NSF research proposal
  - Chinese Ph.D. student from Shantou University arrives in Illinois on Saturday to spend six months at UIUC



- US-Japan sensor initiative funded by jointly by NSF and JSPS
- Japanese researchers are making tentative plans to visit Illinois to continue collaboration on full-scale testing

# NSF's EAPSI & IRES

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Brian Phillips  
TITech, Tokyo

Stephen Schmitt  
BRI, Tsukuba

Tomonori Nagayama  
University of Tokyo



Jennifer

Lauren Linderman  
University of Tokyo