



# BUFFALOENGINEER

FALL 2009

## National Awards

- CAREER Award – Corso (CSE)
- CEISARE Earns National Designation
- ICDAR – CSE Researchers Top Two Sections

## SUNY Chancellor's Teaching Award

- DesJardin (MAE)
- Pados (EE)

## Student Awards

- Udall Scholar – Llop (EE)
- Barry M. Goldwater Scholar – Lochner (EE)
- Microsoft ImagineCup Award – Gentner & Williams (CSE)

## Development

- National Grid Gives Major Gift
- Cadigans Give and IBM Matches

## Alumni Awards

- Bansal, Gerhardt, Tak



## Engineering North Groundbreaking



## MCEER and Calspan Building New World-Class Bridge Testing Site

## Engineering Breaks New Ground

UB Engineering celebrated the ceremonial groundbreaking for the new Engineering North building, scheduled to house the departments of CSE and EE upon its completion in 2011.

Presiding over the ceremony was Dean **Harvey G. Stenger Jr.**, who introduced the speakers – the Honorable Robin L. Schimminger of the NYS Assembly 140th District; the Honorable Dale M. Volker of the NYS Senate 59th District; \***Gina Bronkie Hammond** (MS CS '73), Director in the Federal Sector, Defense Group, of Computer Sciences Corp.; **Dennis Elsenbeck** (M.Eng '96 and Dean's Advisory Council Chair), National Grid's Regional Executive Director of Energy Solutions Services; and UB President John B. Simpson. In attendance was Provost and Executive Vice President for Academic Affairs, CSE Professor **Satish Tripathi**.

The event's theme was gratitude for the generosity of donors to UB Engineering, and looking to the future for completion of the structure. While much of the planning and strategizing for the building is in the past, objectives to be met include development goals for appropriately furnishing the facility. Funding for the building was obtained through a public-private partnership between New York State and private donors, with UB Engineering continuing to raise additional funds from private donors.

Designed by renowned architects Perkins + Will, the 130,000-square-foot building will increase UB Engineering's facility space by nearly one-third, accommodating significant new growth in the Engineering School and fostering more collaboration within the school. The building will include a 5,000-square-foot "clean room," a particle-free environment in which researchers can do innovative work, such as research on powerful solar cells, ultra-sensitive biosensors, and disease-curing nanoparticles. The building also will feature a "cybertorium," or "smart" auditorium, outfitted with sophisticated communications devices and smart



technologies. Flexible research labs, classrooms and meeting areas will foster interdisciplinary work.

Numerous sustainable strategies will make it one of the most environmentally friendly buildings in the region, and earn it a Leadership in Energy and Environmental Design gold certification by the US Green Building Council. It will feature water- and energy-saving devices including lights that adjust according to the natural light in a room, and a green roof that will absorb storm water. A highly reflective, white roof will reduce the heat absorbed into the building.

Dean Stenger indicated that the new building's state-of-the-art facilities will further enhance the quality engineering education that students receive here, citing that "We work with nearly 200 Western New York companies each year and a significant number of our graduates embark on engineering careers within the state. The quality of our students has a direct impact on the local and regional workforce and economy."

For a rendering of the new building, please see the Development section.

## MCEER-Calspan to Partner on Full-Scale Bridge Testing

MCEER and Calspan are collaborating to build a new test facility on Calspan's 681-acre site in Ashford, NY. Dean **Harvey G. Stenger Jr.** said, "This opportunity with Calspan enables engineering researchers at MCEER and UB's CSEE department to once more push back the boundaries of discovery and develop solutions to address the urgent need for renewal, preservation, and protection of our nation's infrastructure from a variety of hazards and extreme real-world conditions."

The first project will test two full-scale, 250-ton, 72-foot long, single-lane bridges equipped with seismic isolation technology. The tests will take place over a period of five years. The full-scale bridges and their advanced protective technologies will be subjected to environmental and climatic as well as extreme natural hazard conditions, including man-made earthquake vibrations. The project's aim is intelligent renewal and improved resilience of bridges against the effects of such conditions, in response to the nation's need to renew, preserve, rebuild, and repair its aging infrastructure and protect it against a multiplicity of hazards.

Seismic isolation decouples a structure from its foundation, effectively isolating it from damaging ground vibrations. The initial test program will examine the change in properties of elastomeric or rubber isolation bearings in a wide range of temperature settings. Because the project takes place in a region with diverse weather conditions, the results can be applied to bridge code revisions throughout the United States and world.

CSEE's **George Lee**, SUNY Distinguished Professor, is principal investigator for the project, which is supported by funding from New York State and industry donations, including those by Hubbell Galvanizing of Utica, NY, and Dynamic Isolation Systems of McCarran, NV.

Results from the study will help address problems with America's aging infrastructure,

assigned a grade of "D" in a 2009 Report Card for America's Infrastructure, published by the American Society of Civil Engineers. The report also noted that over 26 percent of the nation's bridges are "either structurally deficient or functionally obsolete."

Beginning next summer, and once a week for five years, a device connecting the two spans at the Calspan site will push them apart and release them, simulating an earthquake. The performance of the bridges' bearings will be recorded, to understand how performance levels may change with weather and time. The weekly tests will be conducted and monitored remotely from MCEER facilities at the University at Buffalo in Amherst.

CSEE Professor and MCEER director **Andre Filiatrault** said this is the first project to monitor bearings on a real-life bridge over a period of time, noting that such tests cannot be performed in a lab, as the bridges will be subjected to the area's wide array of naturally occurring weather conditions.

(L to R): CSEE Professor and MCEER Director **Andre Filiatrault**, CSEE's SUNY Distinguished Professor **George Lee**, Calspan Executive Vice President **Thomas Pleban**, and Dean **Harvey G. Stenger Jr.**, at the new Ashford testing facility. Photo: **Doug Levere**

