

SUMMARY OF 2014 UB NATIONAL SUMMER TRANSPORTATION INSTITUTE

July 7 – 11, 2014



**New York State
Department of
Transportation**



**Federal
Highway
Administration**



**UB School of
Engineering and
Applied Sciences**



University at Buffalo

The State University of New York

Closing Remarks



Gary F. Dargush

Associate Dean for Research and Graduate Education, School of Engineering and Applied Sciences, and
Professor of Department of Mechanical and Aerospace Engineering



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2014 UB NSTI Program Curriculum

- 4 academic lectures
- 5 projects with lectures
- 3 enhancement activities
- 3 field trips to visit 5 places



NSTI Program Curriculum

1 University Tour	
4 Lectures (45 min each)	Career Opportunities in Transportation
	Ralph Wilson Stadium Traffic Impact Study
	Hazmat Transportation and Safety
	Transportation Practice in NY State
5 Projects with lectures (1 hr – 3 hr each)	Bridge Design
	Traffic Data Collection and Signal Optimization
	Human Factors and Driving Simulator
	Multi-modal Traffic Signal Control
	Travel Demand Analysis
3 Field trips (3.5 hr each), 5 hosts	Land transportation.
	· Bus garage at Niagara Frontier Transportation Authority (NFTA)
	· Traffic operation center at Niagara International Transportation Technology Coalition (NITTEC)
	Water transportation.
	· Erie canal cruise at Lockport
	Air transportation
	· Air Control Tower at Buffalo Niagara International Airport
	· Field Tour of Buffalo Niagara International Airport
3 Enhancement activities (1.5 hr each)	College Preparation and Admission Process
	Creative Problem Solving
	Computer lab and PowerPoint Presentation Preparation

University Campus Tour (Mon)



Academic: Lectures

• Career Opportunities in Transportation (Mon)

Athena Hutchins

Executive Director

Niagara International Transportation
Technology Coalition (NITTEC)



- Discuss various opportunities within the transportation career, including government, industry and academia.
- How to become an engineer
- What is Professional Engineer (PE)



Academic: Lectures

- Ralph Wilson Stadium Traffic Impact Study (Wed)

Mike Asklar

Traffic Safety Engineer

Erie County, Department of Public Works

Jonathan Sowinski

Urban and Transportation Planning

Hatch Mott MacDonld

- Introduce how we control traffic for Bills game using VISSIM simulation tools



Academic: Lectures

- Safety in Hazmat Transportation (Wed)

Changhyun Kwon

Assistant Professor

Department of Industrial & Systems Engineering, UB

- Introduce what are the hazardous materials.
- Learn the current status of hazmat transportation, and how transportation engineers can help reduce risk
- How to select route for hazmat transportation



Academic: Lectures

- Transportation Practice in NY State (Thu)

Susan Surdej

Assistant to the Regional Director
Regional Public Information Officer
NYS Department of Transportation -
Region 5

- Introduce mission, current transportation practice and future development of NYS Department of Transportation
- Lots of project pictures in incident management, winter operations, etc.



Academic: Lectures and Projects

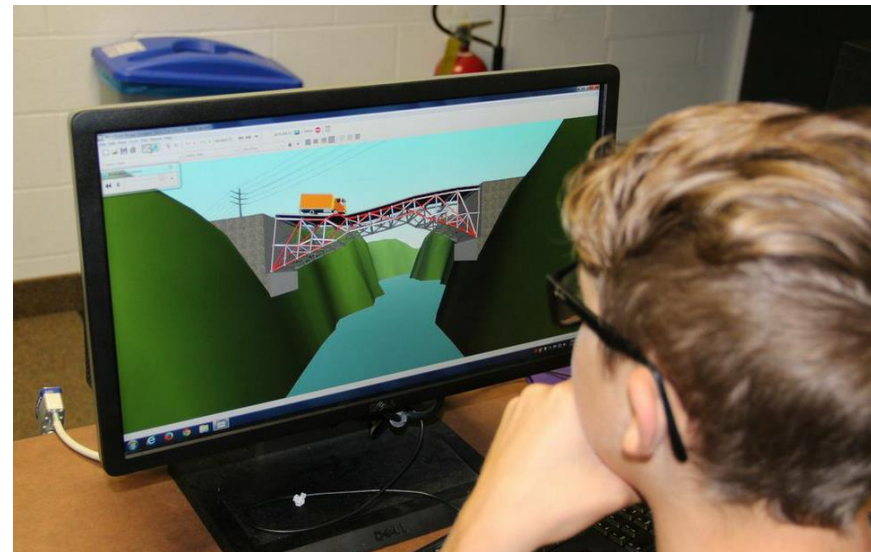
- Construction and Transportation Infrastructure (Mon)
 - Project: Bridge Design

Mettupalayam V. Sivaselvan

Assistant Professor

Department of Civil, Structural and Environmental Engineering, UB

- Introduce basic knowledge of building a bridge
- Design your own bridge with lowest costs



Academic: Lectures and Projects

- Highway Transportation (Tue)
 - Project: Traffic Simulation and Signal Optimization

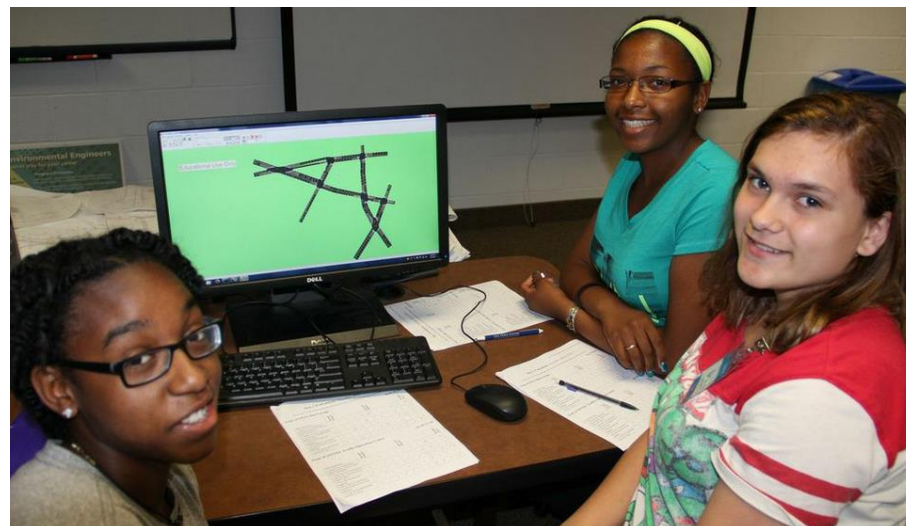
Andrew Bartlett

PhD Candidate

Civil, Structural and Environmental Engineering, UB



- Collect real-world traffic volume data at an intersection on campus
- Design and optimize traffic signal plans by SYHCRON



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Academic: Lectures and Projects

- Traffic Safety and Human Factors (Wed)

- Project: Driving Simulator

Hernan and Julie

- Learn how researchers use driving simulation laboratories to safely conduct human factors research,
- Develop and test “driving” scenarios using UB’s state-of-the-art driving simulator.



Academic: Lectures and Projects

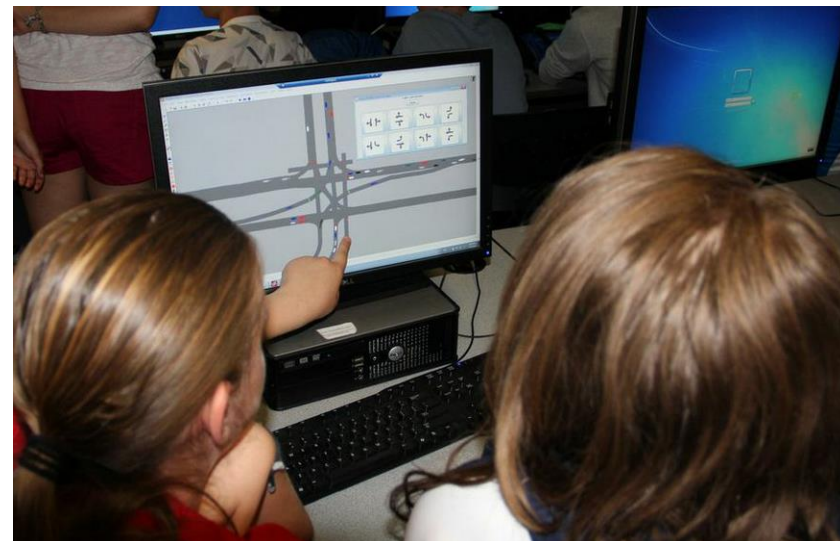
- Multi-modal Traffic Signal Control (Wed)
 - Project: Manual multi-modal signal control

Nan Ding

Ph.D. Candidate

Department of Industrial & Systems Engineering, UB

- Learn how to behave like a police officer!
- Control multimodal traffic at an intersection, including pedestrians, buses and passenger cars.
- Compete with results from police officer



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Field Trips

- Trip 1: Land transportation (Tue):
 - Bus garage at Niagara Frontier Transportation Authority (NFTA)
 - Traffic operation center at Niagara International Transportation Technology Coalition (NITTEC)



Field Trips

- Trip 2: Water transportation (Wed):
 - Erie canal at Lockport
 - “Locking through” and being raised the 49 ft. elevation



Field Trips

- Trip 3: Air transportation (Thu)
 - Airport Control Tower

Brady Zdrojewski
Support Specialist



Field Trips

- Trip 3: Air transportation (Thu)
- Airport Tour

Steve, Airfield Supervisor



Enhancement

- College Preparation and Admission Process (Mon)

Dan LaRosa

Admissions Advisor

Office of Admissions, UB



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Enhancement

- Creative Problem Solving (Fri)

Jude Butch & Terri Budek
Leadership Programming
Coordinator
Center for Student Leadership
& Community Engagement



Enhancement

- Computer lab and PowerPoint Presentation Preparation (Fri)

Julie and Hernan
NSTI Staff



Student Presentation

NO	First	Last
1	Towa	Adegboyega
2	Drew	Baginski
3	Lizzie	Codick
4	Juliana	Colwell
5	Adam	Czech
6	Austin	Dodge
7	Max	Dudek
8	John	Emslie
9	Maia	Gallagher
10	John	Gallivan
11	Abby	Grabowski
12	Cam	Hall
13	Ryan	James
14	Kasey	Malikowski
15	Josh	Maroney

16	Lauren	Mason
17	Nick	McCartney
18	James	McGlue
19	Jamison	Mercurio
20	Ben	Michalowski
21	Alec	Otminski
22	Zach	Paquette
23	Mason	Phibbs
24	Nick	Schreiber
25	Ian	Sprole
26	Eric	Szafranski
27	Tailynn	Thompson
28	Alana	Zakroczemski
29	Maria	Ziaja
30	Will	Zink



Group Competition in NSTI

- Three projects (each 3 points)
 - Traffic Simulation and Signal Design
 - Multi-modal Traffic Signal Control
 - Traffic Demand Analysis
- (1st place: 3 pts, 2nd place: 2pts, 3rd place 1pt)
- Three field trips (each 1 points)
 - NFTA and NITTEC
 - Erie Cruise
 - Airport
- (1st place: 1 pt)



The Winner Team is ...

- Group A2

A2	Alana Zakroczemski	12	F	Amerst Central High School
				Williamsville South High School
A2	Ian Sprole	12	M	
A2	James McGlue	11	M	Clarence High School
A2	Jamison Mercurio	11	M	East Aurora High School
A2	John Gallivan	10	M	City Honors School
				Niagara-Wheatfield Sr High School
A2	Josh Maroney	10	M	
A2	Maia Gallagher	11	F	Buffalo Seminary
A2	Mason Phibbs	11	M	Lancaster High School



Thanks to Julie and Hernan!





See you soon at UB!