



INTERDISCIPLINARY TRANSPORTATION STUDIES (TIP-ITS) NEWSLETTER

We are pleased to announce the first annual newsletter of Savannah State University Targeted Infusion Program – Interdisciplinary Transportation Studies (TIP-ITS) program newsletter. The main mission of this program is to improve the STEM education at the undergraduate level in the area of transportation, and supporting disciplines like global logistics and geographic information systems, and prepare the students to conduct research in the interdisciplinary area of transportation.

Interdisciplinary Transportation Studies (ITS) certificate program which will officially start in spring 2017 is derived from well-articulated and established curricula in Civil Engineering Technology, Geographic Information Systems and Logistics and Supply Chain. The TIP-ITS certificate program will utilize the institution's intellectual depth, breadth, thoroughness, and experience in social science, technical, and business aspects of the transportation industry.

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Greetings from the Directors

Dr. Jonathan Lambright and Dr. Suman Niranjana

SSU students will be able to understand and respond to both local and global needs of the 21st century transportation industry and associated topics such as sustainability, intelligent systems, and smart transportation infrastructure. Transportation Studies certificate program students will have access to newly

developed state-of-the-art laboratory facilities and equipment, which will contribute to increased concept and content understanding, and will work closely with faculty researchers to conduct meaningful interdisciplinary research in transportation.

The TIP-ITS program is extremely proud of successfully conducting various activities during 2015-16 year.

About the Program

The College of Sciences and Technology at Savannah State University has developed and implemented a Targeted Infusion Project in Interdisciplinary transportation Studies (TIPS-ITS), and interdisciplinary undergraduate certificate program to educate students in STEM disciplines, in technical, logistical, policy, research and commerce related issues of the transportation industry. The primary goal of this program is to prepare students to think beyond current models and existing transportation infrastructure and to develop new paradigms and to conduct meaningful research to

TIP-ITS Program Activities

The most important activity was to establish and institutionalize Interdisciplinary Transportation Studies certificate program, the program has been approved at all levels within Savannah State University and currently is pending a letter of acceptance from Board of Regents-University System of Georgia and SACS approval, which is slated to be completed by end of spring 2017. Several activities such as guest speaker series, field trips, mentor guided summer research, and a high school bridge program in transportation have been conducted throughout the 2015-16. The TIP/ITS staff hopes that you will enjoy reading this newsletter which describes various activities of the program, contributing faculty and staff, faculty-student research and guest lectures which make this

help meet the changing transportation needs in 21st century. This certificate program is derived from well-articulated and established curricula in Civil Engineering Technology, Geographic Information Systems, Urban Planning and Global Logistics and Supply Chain Management. This program will begin in spring 2017 and students in this program will have access to newly developed state of the art laboratory facilities and equipment, which will contribute to increased concept and content understanding, and will work closely with faculty researchers to conduct meaningful interdisciplinary research in transportation.



TIP/ITS TEAM

PI

DR. JONATHAN LAMBRIGHT

Co-PI

DR. SUMAN NIRANJAN

SENIOR ASSOCIATES

DR. BRYAN KNAKIEWICZ

DR. MEHRAN MAZARI

Aug 2015 – Aug 2016

DR. ROXANA JAVID

Aug 2016 - Present

DR. DEDEN RUKMANA

May 2016 - Present

DR. DANIEL PIATKOWSKI

June 2015 – Apr 2016

DR. MOHAMAD MUSTAFA

PROGRAM ASSISTANT

MRS. SHILPA PRASAD

EXTERNAL CONSULTANT

DR. KARI WATKINS

Faculty Profiles

Dr. Jonathan Lambright:

Title: Full Professor, Dean of College of Sciences and Technology

Discipline: Mechanical Engineering

Research: Attracting and maintaining students in STEM disciplines

Dr. Suman Niranjan

Title: Associate Professor, College of Business Administration

Discipline: Operations Management/Logistics

Research: Interests lie in inventory control and optimization, supply chain optimization, applied discrete-event simulation, applied Monte Carlo simulation, reverse logistics, multi-variate statistical analysis, cross-cultural research, and entrepreneurship, while retaining and attracting STEM and Business students.

Current Research Projects:

Dr. Niranjan is working on three research projects that involves undergraduate students in the area of logistics and transportation: (i) leads a team of two undergraduate students working on inventory optimization, optimal gate assignment for shipments, and flow optimization with IKEA Distribution Center –Savannah, (ii) Optimal dispatch rules for field service problem, and (iii) importance of information sharing among partners in pharmaceutical cold chain management.

Dr. Mohamad Mustafa



Dr. Mehran Mazari



Faculty Profiles

Title: Full Professor, Department Chairperson of Engineering Technology

Discipline: Civil Engineering Technology

Research: Sensor Applications in Civil Engineering

Title: Assistant Professor, Engineering Technology

Discipline: Civil Engineering Technology

Research: His main research interests are in Resilient Transportation Infrastructure, Transportation Geotechnics and Infrastructure Materials and Pavements including Nondestructive Testing (NDT) and Evaluation (NDE) of Transportation Infrastructure

Current Research Projects:

Impact of moisture variation on stiffness of unbound pavement materials

The performance of a pavement depends on many factors such as the structural adequacy, the properties of the materials used, traffic loading, climatic conditions and the construction method. Since earthwork and unbound aggregates, collectively called compacted geomaterials hereafter, may be a significant portion of the construction of pavements, much of the distress, particularly for flexible pavements, can be traced to problems in these materials.

Evaluating the Optimum Location of Bike-Sharing Stations in Downtown Savannah

Bike-share systems typically operate independently of local transit authorities. However, most bike-share docking stations can be found near local public transportation stops (transit bus, commuter rail, heavy rail, light rail, and transit ferry). These locations offer modal choice and the opportunity to connect between modes.

Dr. Deden Rukmana



Title: Associate Professor, Coordinator of Program of Urban Studies and Planning

Discipline: Political Science

Research: His interests lie in homelessness, poverty, housing and community development, international planning and development, urbanization, spatial analysis and transportation.

Current Research Projects: Dr. Rukmana is currently working on 2 projects; 1) Rapid urbanization and transportation problems in Jakarta and 2) Association on the Built Environment and Access to Public Transportation with Physical activity and Obesity among residents of low income neighborhoods: A case of low income neighborhoods in Savannah, GA

Dr. Bryan Knakiewicz



Title: Assistant Professor, Engineering Technology

Discipline: Civil Engineering Technology

Research: His interests lie in AASHTO pavement design, sustainable civil engineering design and materials, testing of concrete, steel and glass, and 3D modeling/printing

Current Research Projects: His main research interests are in Sustainable pavement design, Pavement fatigue, Asphalt and concrete mix design, Building Information Modeling (BIM), Sustainability in site planning and site design and Innovations and technology in Engineering Technology education

Dr. Roxana Javid



Dr. B Knakiewicz Research Students



Brandon Davis



Jakari Dean



Jamelle Jaudon

Title: Assistant Professor, Engineering Technology

Discipline: Civil Engineering Technology

Research: Her four years in research focused on sustainable transportation and transportation infrastructure. In particular, she investigates the contribution of road transportation to global warming, as well as the integration of diverse data sources to discover the role of sustainable transportation policies in emission mitigation.

Current Research Interests: Dr. Roxana's main areas of interest are in Big data statistical analysis, Sustainable policy evaluation, Transportation planning, Climate Change, Transportation and Public Health, Alternative Fuel vehicle adoption, and High Occupancy Vehicle (HOV) lanes.

Student Research

Through the TIPS program, 10 students are involved in the research as part of an internship under the direction of the faculty member. Students will be actively involved in writing research papers for Geographic Information Systems, Multimodal Transportation Systems and Critical Infrastructure Protection. Each student will be writing a research paper with preliminary results and two students will be selected based for further research depending on the quality of the paper.

The research students gave a presentation on their topics in summer to 3 faculty members and students. Both the faculty members and their team evaluated the presenters which has been documented. All their efforts have also been documented.

Dr. Suman Niranjani's Research Students



Phuong Mata



Corliss Best

Dr. M Mazari Research Students



Sarah Dillard



Mark Thomas



Jimmy Swan



Daniel Parker

Student Testimonials:

Vishnya Forbes



Vishanya Forbes, a student from Urban Studies says “To play an integral role in any organization affiliated with effecting social change has always been an interest of mine. Based on weekly assignments received and carried out this research project is aimed at doing just that. Despite the extremely

tedious data analysis, working on this research has helped me to close an understanding gap between how the engineering and designs of transportation systems within cities and communities really affect social equity of each individual. A comprehension unlikely to be acquired without a hands on experience such as this. After the past two months on this project I am able to decipher decisions made by various levels of government that seems to make sense economically in the creation of wealth for a city or community, but fails to benefit equity or the environment. Being a part of this research has been an experience that I have already come to appreciate and love. The continuous encouragement from my faculty mentor Dr. D. Rukmana for work done, keeps my focus on always producing quality work. The journey thus far has made it clear that this research is not an end-state but rather a process to correcting choices made in previous developments and I am grateful to be on board. This growing appreciation has been paving a clearer career path in Urban Planning and Studies for when I complete my master’s program. With each passing week, we get one step closer to effecting a change within the city of Savannah that will be a blueprint for generations to come.”

Vishanya Forbes says, “cities are said to be built around transportation, it is the corner stone for a city to create its wealth”.

Corliss Best



The Savannah State University Interdisciplinary Transportation Certificate (ITS) Program is relevant for professionals that are considering a career in global logistics and international business, engineering, and business to name a few disciplines. Initially, I was not aware of the significance

of global logistics (transportation specialty) until I participated in research with Dr. Niranjana through the National Science Foundation (NSF) grant on Transportation. Since my involvement, the information shared from guest industry speakers and from Dr. Niranjana has revolutionized my comprehension of how movement of products impacts economies locally, regionally, nationally, and internationally. This element alone shows the importance of warehouse space and capacity planning among other aspects. I would highly recommend that both undergraduate and graduate students participate in the activities sponsored by the NSF grant on Transportation, and to enroll in the certificate program since beginning professionals are likely to experience knowledge expansion on how transportation affects their interested focus area.

Phuong Mata, a student from College of business administration says ““Through this program, I am provided with various insights that I have never acknowledged before. Learning about the small details that make a great difference within transportation has been quite fascinating. The process to reach the ultimate goal has been met with many obstacles, but I believe keeping an open mind will make it successful.”

Robert W. Grooves High School



Woodville-Tompkins High School



Summer Bridge Program for High School Students

A summer bridge program for high school students has been planned which will include civil engineering, urban planning and supply chain and logistics. This summer bridge course will focus on engaging high school students with both hands off and hands on activities that will improve students technical knowledge as well as support development of problem solving skills requires to pursue a career in transportation and STEM disciplines.

This bridge program has been designed keeping in mind the convenience as well as effectiveness of the program. So, this program will take place half at Tompkins Technical School in Fall 2016 and Groves High School in Spring 2017. The other half of the program will be held at Savannah State University. When the students will be at our campus, they will get an opportunity to use high end transportation equipment's which will help them to get a hands on experience.

Guest Lectures By Industry Experts

We had 9 guest speakers come to the university to speak to our students and Faculty. We had a blend of both people from industry and from academia which helped students to get two different perspectives of transportation.



Dr. Frank Ciarallo



Mr. Olli Himbert



Mr. Spencer Davis



Ms. Whitney Shephard



List of Speakers

Speaker	Name	Designation	Industry	Date
	Olli Himbert	Capital Projects Manager and Facilities Engineer	Georgia Ports Authority	Jan 22 2016
	Spencer Davis	Senior Project Manager, Savannah District	US Army Corps of Engineers	Jan 28 2016
	Dr. Frank Ciarallo	Associate Professor in College of Engineering and Computer Science	Wright State University	Feb 12 2016
	Dr. Srinivasa Thoppul	Technical Specialist	Gulfstream Aerospace	Feb 12 2016
	Rhett Willis	CEO	DJ Powers	March 24 2016
	Dr. Kevin Krizek	Professor and Director, Program in Environmental Design	University of Colorado	April 1 2016
	Nick Helmholdt	Director of Planning	CAT	April 7 2016
	Whitney Shephard	PE, LEED AP, M.ASCE	Transport Studio	April 7 2016
	Dr. Rodrigo Mesa Arango	Assistant Professor	Florida Institute of Technology	April 14 2016



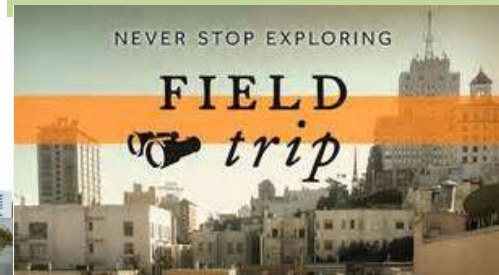
Trip to IKEA

The students of Global Business Logistics class visited IKEA distribution center where the operations manager and the store manager explained the students about how the distribution center functions.

The students toured the facility and found the automatic guided vehicles (SILO) very exciting, and were amazed at the amount of state-of-art technology in a distribution center. Learnt how the inbound and outbound operations happen, how the storage takes place traditionally as well as using the automated guided vehicle. Overall, it was a fun learning trip and students learned a lot about how a distribution center functions from this trip.

Trip to Georgia Ports

University toured the Garden City Terminal, Georgia Ports Authority (GPA) in Savannah. The students learned how the containers move from the ship to the yard and back from yard to the ship using the large cranes operated by longshoreman. They were excited to see how sustainability was one of the top priorities of GPA where, the rubber wheel gantry crane traditionally operated through a diesel engine is now replaced using electric gantry crane. Overall it was an exciting learning experience outside the textbooks and classroom, the students thoroughly enjoyed and loved it.



FIELD TRIPS

Through this grant, field trips will be organized for interested students. These trips will improve student academic motivation, empowerment, success and situational and individual interest. During Fall 2016 two field trips were taken. One to IKEA distribution center and one to Georgia Ports.







Guest lecture by Dr. Kari Watkins



UPDATES

Dr Kari Watkins, who is the external consultant of the grant visited the campus twice in this year and gave feedback regarding the courses which are offered for the certification and the content of each course. The feedback has been considered and needed changes have been made in the course. Also, on her first visit she gave a very informative guest lecture on “Future of Transportation” to faculty and students.

Academic Year 2016-17 speaker sessions

Speaker	Name	Designation	Industry	Date
	Dr. Kofi Obeng	Professor	North Carolina A&T State Univeristy	09/15/2016
	Thomas L Thomson	Executive director of Chatham county	Director of Chatham county	10/19/2016
	Dr. Maranda McBride	Director of Tranportation Institute and Associate Professor	North Carolina A&T State Univeristy	10/24/2016
	Mr. Grady Smith	Transportation Systems Director	VHB	11/04/2016

Future Speakers

Speaker Name	Designation	Industry	Date
Dr. Sunil Chopra	Professor of operations	Northwestern University	02/24/2017
Dr. Martin Savelsbergh	Professor and Chair	Georgia Tech	TBD

Resource Capability

Through this grant, a variety of software and equipment was purchased to include in the transportation engineering laboratory in order to implement the transportation certificate program courses and also to conduct faculty mentored research by students. Some of the software's purchased are PTV's Vision Traffic Suite, Mctrans's Highway Capacity Software, STATA and ARENA.