



THE UNIVERSITY OF  
**TENNESSEE**  
KNOXVILLE

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DEPARTMENT OF CIVIL &  
ENVIRONMENTAL ENGINEERING



## ITE STUDENT CHAPTER ANNUAL REPORT

Feb 16, 2015 – February 15, 2016

Department of Civil & Environmental Engineering – 325 John D. Tickle Building, Knoxville TN 37996

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Contents Approved by: Dr. Shashi Nambisan on 02/15/2016



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## President's Letter

On behalf of the current officers of the Student Chapter of the Institute of Transportation Engineers (ITE) at University of Tennessee (UT), I am pleased to provide our annual report for the 2015 -2016 academic year. This report would not have been completed without the great work and dedication of our immediate past officers: We appreciate their efforts and leadership.



The chapter had an engaging, exciting and hectic 2015-16 academic year. We welcomed 12 new members to our group. This represents a 14 percent growth in our membership. The inclusion of these new members with diverse cultural and social background has made our chapter more vibrant and well-informed of the latest development in transportation research, policies, and practices in this country and abroad. The joy of having new members was short-lived as we said farewell to 6 of our members who were part of last year's graduating class. It is noteworthy to say they are now pursuing careers in consulting, research, and teaching.

Within the past year, the chapter has provided varied opportunities to its members through professional, social, educational, and community-service activities. An important element of our efforts was our outreach to pre-college (K-12) students and teachers so as to alert, engage, and motivate them to consider educational and career opportunities in transportation. Other key activities included seminars at UT, field trips, and participation in conferences and professional development activities. We are grateful to our faculty, the department staff, the Center for Transportation Research, and the Southeastern Transportation Center for all their guidance, support, and collaborative. We also thank Brian Haas and Bryan Bartnik, our liaisons with the Tennessee State ITE (TSITE) chapter for their assistance, guidance, and support

During the 2015-2016 academic year, not only did several of our members earn accolades through competition, scholarship, and publications, but also they were honored with student paper awards at the TSITE and Southern District ITE annual meetings.

In 2015, our traffic bowl team participated in the in the Tennessee Section ITE and Southern District ITE traffic bowl competitions. We came first at the section level and second at the district level. We congratulate our representatives for making us proud.

Our chapter is pleased to share all of our accomplishments and activities undertaking in the past year with you. Enjoy as you read further!

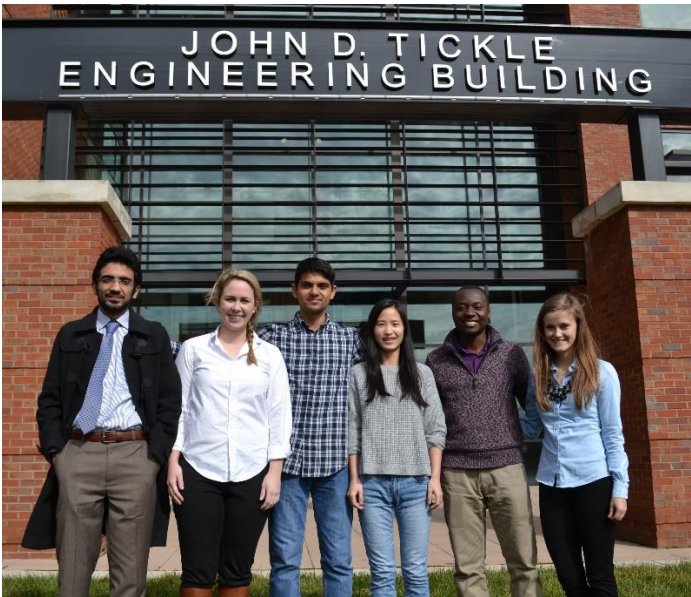
Sincerely,

Kwaku Boakye

## Chapter Business

This section presents a summary of the official business of our student chapter with respect to membership, chapter meetings, and goals for the current year (2016 – 2017).

### Student Chapter Officers



Chapter officers: From left: Behram, Alexandra, Pankaj, Meng, Kwaku and Kristina

President	Kwaku Boakye
Vice President	Alexandra Boggs
Secretary	Behram Wali
Treasurer	Pankaj Dahal
Webmaster	Meng Zhang
ASCE Liaison	Kristina King
Social Director	Xiaobing Li

### Student Chapter Membership

Number of students eligible to be student members of the institute: 21

Number of current Faculty ITE members: 5

### Student Body Enrollment Type

Number of undergraduates in academic department:

Full Time: 304

Part Time: 0

Does your curriculum allow undergraduate students to major or minor in transportation? Yes

Number of graduate students in transportation

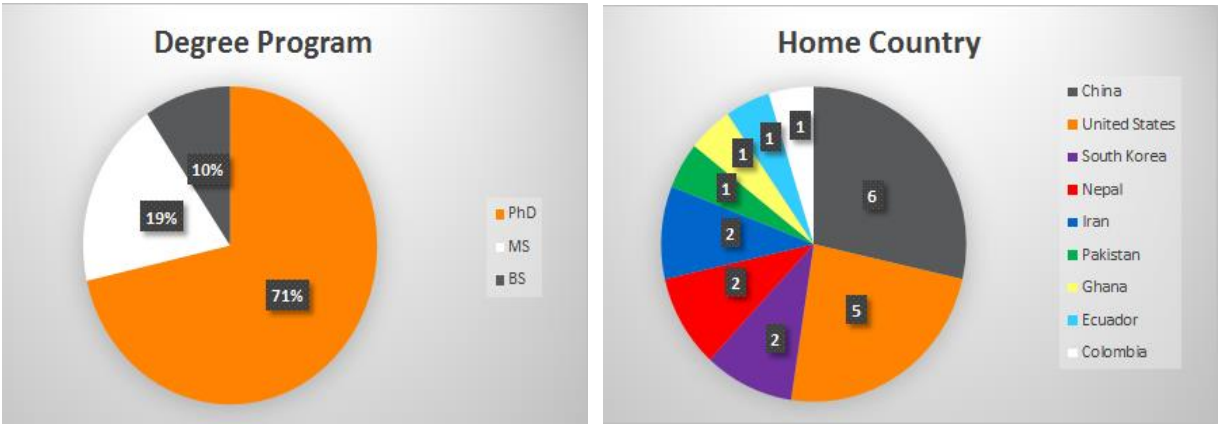
Full time: 22

Part time: 30



## Membership Profile

Currently, the University of Tennessee’s (UT) Institute of Transportation Engineering Student Chapter has 21 members who have a diverse background, originating from nine countries. Our members comprised of 12 males and 9 females, with 71% pursuing a doctoral degree, 19% being master students, and 10% being undergraduates.



During 2015, we had to say goodbye to six students who graduated. Our recent graduates have gone on to secure successful positions in the industry and academia.



## Recent Graduates and Their Current Professions




Name	Graduation Term	Degree	Thesis/Dissertation Title	Advisor	Current Profession
Stephanie Hargrove	Spring 2015	Doctor of Philosophy	Self-Learning License Plate Matching Algorithm: Some Enhancements and Its Role in Travel Time Ground Truth Measurements	Dr. Lee D. Han	Post-Doctoral Researcher at Oak Ridge National Laboratory
Jun Liu	Spring 2015	Doctor of Philosophy	Driving Volatility in Instantaneous Driving Behaviors: Studies Using Large-Scale Trajectory Data	Dr. Asad J. Khattak	Post-Doctoral Researcher at University of Texas-Austin
Jianjiang Yang	Spring 2015	Doctor of Philosophy	Spatio-Temporal Dynamics of Short-Term Traffic	Dr. Lee D. Han	Quantitative Finance Analyst, Bank of America (Charlotte, NC)
Ranjit Khatri	Fall 2015	Master of Science	Modeling Route Choice of Utilitarian Bikeshare Users from GPS Data	Dr. Christopher Cherry	Seeking full-time position
Hunter McCracken	Fall 2015	Master of Science	The Economic Implications of Evolving Aviation Funding Policy in Tennessee	Dr. Christopher Cherry	Research Associate at Battelle (Washington, DC)
Luis Taboada	Fall 2015	Master of Science	Non-residential Pedestrian Access to Transit Systems: A GIS Modeling Application	Dr. Christopher Cherry	Transportation Analyst at Kimley-Horn (Miami, FL)

Though we had six students leave our chapter, we added 12 new members. This represents a 14 percent growth in our membership. Key information about our new members follows.

## New Members

Name	Picture	Degree Pursuing/Position Held	Previous Institution	Advisor(s)
Ali Marie Boggs		Doctor of Philosophy	Florida Institute of Technology	Dr. Shashi Nambisan
Pankaj Dahal		Master of Science	Tribhuvan University	Dr. Shashi Nambisan
Nirbesh Dhakal		Master of Science	Tribhuvan University	Dr. Christopher Cherry
Mohsen Kamrani		Doctor of Philosophy	University of Technology Malaysia	Dr. Asad J. Khattak/Dr. Shashi Nambisan
Xiaobing Li		Doctor of Philosophy	Jiangnan University	Dr. Asad J. Khattak
Yuandong Liu		Doctor of Philosophy	Dalian University of Technology	Dr. Lee D. Han
Alexander Pawlowski		Doctor of Philosophy	University of Virginia	Dr. Derek Splitter

## New Members (Continuation)

Name	Picture	Degree Pursuing/Position Held	Previous Institution	Advisor(s)
Maria Stand		Doctor of Philosophy	Carson Newman University	Dr. Shashi Nambisan
Saman Tabrizi		Master of Science	University of Science and Technology of Iran	Dr. Christopher Cherry
Jackeline Rios-Torres		Post-Doctoral Researcher	Clemson University	Dr. Asad J. Khattak / Dr. Shashi Nambisan
Behram Wali		Doctor of Philosophy	National University of Science and Technology Islamabad	Dr. Asad J. Khattak
Brandon Whetsel		Master of Science	University of Tennessee	Dr. Lee D. Han



## Chapter Meetings

Several meetings were organized during the Fall and Spring academic semesters. Our objective was to promote academics, research, and career development by inviting professionals in the transportation industry to give a talk. Our transportation engineering faculty together with faculty members from other departments had the opportunity to feature as speakers in our seminars and meetings. The photos below are illustrative of seminars where the attendance ranged from 15 to 30 individuals. The following table also summarizes the ITE meetings and transportation seminars that were organized since out 2015 Annual report



## List of ITE Meetings and Seminars (Mar. 2015 – Feb. 2016\*)

No.	Date	Speaker	Topic
1	Mar. 2	Amanda Snowden, PE - TDOT Cindy Pionke, PE - Knox County	How to Manage Work-Life Balance (Joint meeting with the Society of Women Engineers)
2	Mar. 26	Andy Alden -Virginia Tech Transportation Institute	Virginia Green Highway Initiative
3	Mar. 30	Jessica G. Rich, PE - FHWA	Career Development Strategies; Opportunities with FHWA
4	Apr. 2	Dr. Kari Edison Watkins - Georgia Institute of Technology	Real-time Transit Information: Enablers, Impacts, and Implications
5	Apr. 9	Dr. Deo Chimba - Tennessee State University	Assessment of the Impact of Disabled and Abandoned Vehicle Incidents on Tennessee Highways
6	Apr. 13	Chris Kirby, PE - CDM Smith	
7	Apr. 16	Dr. Ram M. Pendyala - Georgia Institute of Technology	Understanding and Modeling University Student Travel Demand- New Insights and Frameworks
8	Aug. 27	Dr. Subhadeep Chakraborty - University of Tennessee	Driving Volatility in a Connected and Cooperative Vehicle Environment: Algorithms for Driver Warnings and Control Assists
9	Aug. 31	Dr. Stephanie Hargrove Dr. Jun Liu, Dr. Jianjiang Yang	How to Survive Graduate School
10	Sep. 3	Dr. David L. Greene - University of Tennessee	On-Road and Test Cycle Fuel Economy: Is the Gap Growing?
11	Sep. 14	Jeff Hammond, PE - RPM Transportation Consultants	
12	Sep. 17	Professor Mike Walton, P.E. Uni. Texas, Austin	Driverless Vehicles: Should We be Careful What We Ask For? ( <b>Attendance ~100</b> )
13	Sep. 24	Andreas A. Malikopoulos, PhD - Oak Ridge National Laboratory	Decentralized Optimal Control of Connected and Automated Vehicles
14	Sep. 28	Michael D. Conger, PE - Knoxville Regional TPO	Overview of Metropolitan Planning Organizations (and Where Transportation Engineers Fit In)
15	Sep. 28	Michael D. Conger, PE - Knoxville Regional TPO	Overview of Metropolitan Planning Organizations (and Where Transportation Engineers Fit In)
16	Oct. 1	Qing Charles Cao - University of Tennessee	Efficient Algorithms for Networked Data Processing Challenges in Connected Vehicle Networks
17	Oct. 8	Zhenhong Lin, PhD - Oak Ridge National Laboratory	Rethinking Energy Transition with the Oak Ridge National Laboratory Transportation Energy Evolution Modeling (TEEM) Program
18	Oct. 22	Jackeline Rios-Torres, PhD - University of Tennessee / ORNL	Energy Management, Eco-driving and Traffic Coordination Systems: Paths to Address Transportation Efficiency
19	Oct. 26	Casey Langford, PhD Nick Weander, MPA, PTP - TDOT	
20	Oct. 29	Professor David S. Bunch - University of California at Davis	Incorporating Behavioral Effects from Vehicle Choice Models into Bottom-Up Energy Sector Models
21	Nov. 9	Qiang Yang - Amazon	
22	Nov. 11	Dr. Jun Liu, Hyeonsup Lim Ranjit Khatri, Kwaku Boakye	Current Research by Transportation Students at University of Tennessee
23	Nov. 23	Don R. Moore - Engineering Forensics Group	Accident Reconstruction
24*	Jan. 7	Bryce Anderson, Atlanta	Your Driving While Texting Pays for My Ferrari
25*	Feb. 1	UT Student Chapter members	Summary of Activities and Experiences with Attending the 2016 TRB Annual meeting
26*	Feb. 15	Karen Anderson, P.E. Project Traffic Engineer, Arcadis	Private Sector Perspective in the Area of Transportation Engineering

Most of the seminars have been recorded and are archived for access by the general public. Tee URL is: <http://sf.ites.utk.edu/utk/Catalog/Full/cc99b2bd0baa43d197cf9cad1bdb755f21>

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## Future activities

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Several events have been outlined for the 2016-2017 academic year. As usual, we plan to continue our bi-weekly ITE meetings and the weekly transportation seminars. Some of our immediate events are

- To participate in TSITE Winter Meeting which will be held at University Club of Nashville on February 25, 2016. During the meeting, we will field a team to participate in the 2016 TSITE Traffic Bowl competition.
- To participate in outreach and recruiting activities at UT. Examples include,
  - Feb 17, 2016: Freshman Engineering fair
  - Feb 21-22: Graduate student recruitment
- To volunteer for the TESP group in setting up a new mini traffic engineering management center on campus
- To organize or participate in transportation education programs for pre-collegiate students in Knoxville.
- To volunteer to support a pedestrian/bicycle facilities planning and design studies at UT

Several social events have been planned to bring our members and others together for unforgettable reunions.



## Professional Activities

There were numerous opportunities during this past academic year for members to engage with transportation industry. The following section highlights our attendance to various meetings and presentations. We gained in breadth of knowledge, as well as in networking, by actively participating in these activities.

### Presentations and Conferences

#### Transportation Research Board Conference 2016

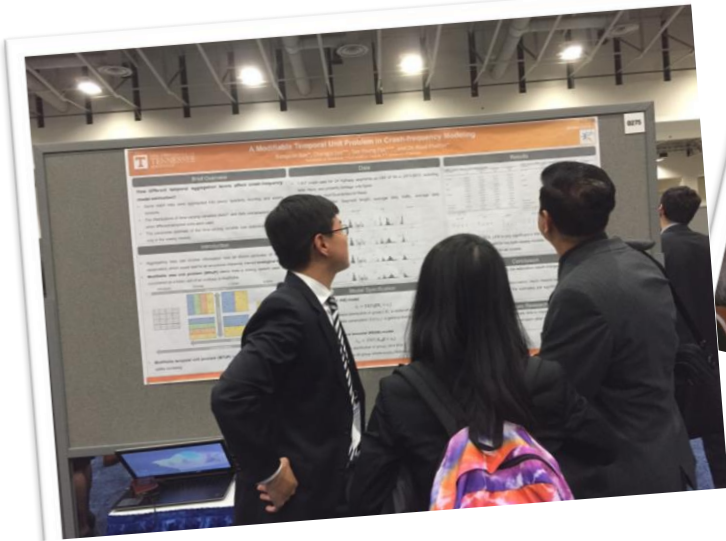
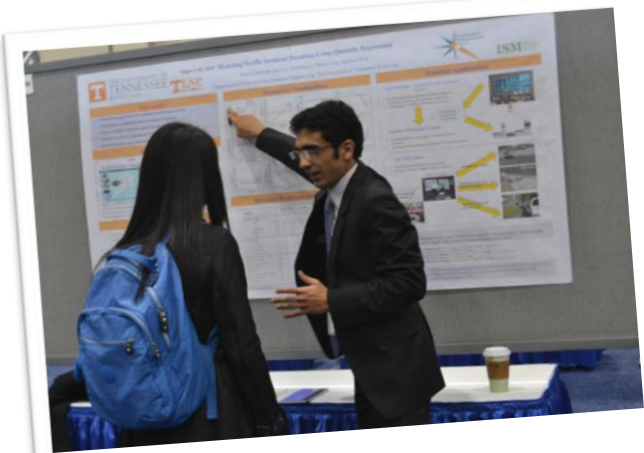
A total of 19 members of the ITE UT Knoxville student chapter went to Washington DC to attend the 95<sup>th</sup> Transportation Research Board (TRB) annual meeting. We drove in vans together from Knoxville to DC. Student members attended exhibits, presentation sessions, poster sessions and committee meetings, closely associated with their concentrations of study. Seven chapter members presented their research in either poster sessions, committee meetings or lecture sessions for a total of 17 presentations. TRB continues to serve as the single largest opportunity to showcase our research and network with peers in the field of transportation.





## UT ITE Student Chapter Presentations at the TRB Annual Meeting, Washington, DC, January 2016

No.	MEMBER'S NAME	TITLE (type)
1	Jun Liu, Meng Zhang	<i>"What Role do Pre-crash Driver Actions Play in Work Zone Crashes? Application of Hierarchical Models to Crash Data"</i> (Paper)
2	Jun Liu, Behram Wali	<i>"Modeling Traffic Incident Duration Using Quantile Regression"</i> (Paper)
3	Jun Liu, Meng Zhang	<i>"Structuring and Integrating Data in Metropolitan Regions to Explore Multilevel Links Between Driving Volatility and Correlates"</i> (Paper)
4	Jun Liu	<i>"How On-Road Fuel Economy Varies with Vehicle Cumulative Mileage and Daily Use"</i> (Paper)
5	Jun Liu	<i>"A comparative study of passenger satisfaction with Bus Rapid Transit with and without awareness of travel information?"</i> (Paper)
6	Jun Liu	<i>"Delivering Improved Alerts, Warnings, and Control Assistance Using Basic Safety Messages Transmitted Between Connected Vehicles"</i> (Paper)
7	Jun Liu	<i>"Is There Evidence for a Gap Between On-road and Test-Cycle Fuel Economy"</i> (Paper)
8	Taekwan Yoon	<i>"Migrating Toward Using Electric Vehicle on Campus-Proposed Method for Fleet Optimization"</i> (Paper)
9	Jianjiang Yang	<i>"A Spatial-Temporal Approach for High Resolution Traffic Flow Imputation"</i> (Paper)
10	Jianjiang Yang, Stephanie Hargrove	<i>"Impacts of HOV Violations: Simulation-Based Study in Tennessee"</i> (Paper)
11	Ranjit Khatri	<i>"Modeling Route Choice of Bikeshare Users with GPS Data"</i> (Paper)
12	Kwaku Boakye, Ebony Lemons	<i>"An Overview and Preliminary Assessment of a Summer Transportation Experiential Learning Program for Ninth Graders"</i> (Paper)
13	Stephanie Hargrove, Hyeonsup Lim	<i>"Empirical Study of the Evaluation of Travel Speed Data Accuracy"</i> (Paper)
14	Stephanie Hargrove, Hyeonsup Lim	<i>"Enhancement to Self-Learning License Plate Matching Algorithm: Derived Association Matrixes"</i> (Paper)
15	Hyeonsup Lim	<i>"The Impact of Narrow Lane on Safety of the Arterial Roads"</i> (Paper)
16	Bumjoon Bae	<i>"Modifiable Temporal Unit Problem in Crash- Frequency Modeling"</i> (Paper)
17	Ranjit Khatri	<i>"Modeling Route Choice of Bikeshare Users with GPS Data"</i> (Paper)



## Summary of UT ITE Student Chapter Presentations at Various Events

MEMBER'S NAME	TITLE (type)	EVENT
<b>Jun Liu, Ziwen</b> <b>Ling, Meng</b> <b>Zhang</b>	<i>2015 Road Safety &amp; Simulation International Conference</i> (Presentation)	Orlando, FL
<b>Bumjoon Bae</b>	9 <sup>th</sup> UTC Spotlight Conference on Connected and Autonomous Vehicles	Washington DC
<b>Behram Wali</b>	UTC Student Spotlight Conference, 3 Minutes Thesis Competition 2016	Washington DC
<b>Kwaku Boakye</b>	UTC Student Spotlight Conference, 3 Minutes Thesis Competition 2016 (won Second prize)	Washington DC
<b>Hyeonsup Lim</b>	Impacts of Geospatial Zoning and Road Network Resolutions on Large-scale Traffic Simulations, 2015 Road Safety & Simulation International Conference, October 7, 2015	Orlando, FL
<b>Hyeonsup Lim</b>	A Property of Harmonic Mean Over Sample Size: A Possibility of Overestimation of Space Mean Speed”, Tennessee Section of the Institute of Transportation Engineers (TSITE) Summer meeting, July 29, 2015	Knoxville, TN
<b>Hyeonsup Lim</b>	The Impact of Narrow Lane on Safety of the Arterial Roads”, Tennessee Section of the Institute of Transportation Engineers (TSITE) Summer meeting, July 29, 2015	Knoxville, TN

## Student Publications

1. **Khattak, A., J. Liu, X. Li, M. Ng & B. Wali.** Modeling Traffic Incident Duration Using Quantile Regression. Forthcoming in Transportation Research Record: Journal of Transportation Research Board, 2016.
2. **J. Rios-Torres** and A. A. Malikopoulos, “Automated and Cooperative Vehicle Merging at Highway On-Ramps,” IEEE Transactions in Intelligent Transportation Systems., (To appear), 2016.
3. **Boakye, K .F.,** E. J. Fitzsimmons, S. D. Schrock, and T. E. Lindheimer. Value of Confirmation Lights and Their Unintended Impact on Driver Compliance and Deterrence to Running a Red Light. In Transportation Research Record: Journal of the Transportation Research Board, No. 2516, Transportation Research Board of the National Academies, Washington, D.C., 2015
4. **Ling, Z.,** C. Cherry, H. Yang, L. Jones (2015) From e-bike to car: A study on factors influencing motorization of e-bike users across China. Transportation Research Part D: Transport and Environment.
5. **Ling, Z.,** C. Cherry, Y. Ni, K. Li (2015) Pedestrian Level of Service at Signalized Intersections in China Using an Intercept Survey Method. Transportation Research Record: Journal of the Transportation Research Board.
6. **Liu, J.,** Bartnik, B., Richards, S. H., & Khattak, A. J. (2015). Driver Behavior at Highway Rail Grade Crossings with Passive Traffic Controls: A Driving Simulator Study. Journal of Transportation Safety & Security, (just-accepted)



7. **Liu, J.**, Khattak, A., & Wang, X. (2015). The role of alternative fuel vehicles: Using behavioral and sensor data to model hierarchies in travel. *Transportation Research Part C: Emerging Technologies*, 55, 379-392.
8. **Liu, J.**, Khattak, A., & Wang, X. (2015). The role of alternative fuel vehicles: Using behavioral and sensor data to model hierarchies in travel. *Transportation Research Part C: Emerging Technologies*, 55, 379-392.
9. Wang, X., Khattak, A. J., **Liu, J.**, Masghati-Amoli, G., & Son, S. (2015). What is the level of volatility in instantaneous driving decisions?. *Transportation Research Part C: Emerging Technologies*, 58, 413-427.
10. **Liu, J.**, Khattak, A. J., Richards, S. H., & Nambisan, S. (2015). What are the differences in driver injury outcomes at highway-rail grade crossings? Untangling the role of pre-crash behaviors. *Accident Analysis & Prevention*, 85, 157-169.
11. **Liu, J.**, Khattak, A., & **Zhang, M.** (2016). What Role Do Pre-crash Driver Actions Play in Work Zone Crashes? Application of Hierarchical Models to Crash Data. *Transportation Research Record: Journal of the Transportation Research Board*, (2555), 1-11. (Accepted)

## Student and Chapter Awards

1. Lifesavers Conference Traffic Safety Scholarship Award February 2016 (**Kwaku**)
2. President of Pakistan Gold Medal Award for Outstanding Graduate, Jan 2016 (**Behram Wali**)
3. 2<sup>nd</sup> place in the 3MT STC student competition Jan 2016 (**Kwaku**)
4. ITSTN Student Scholarship 2015 (**Bumjoon Bae**)
5. Frank Richter AARS Scholarship (**Bumjoon Bae**)
6. Transportation Research Forum Best Paper (Int'l) (**Jianjiang Yang**)
7. Engineering VOLunteers for Ninth Graders (eVOL9) Recognition Award June 2015 (**Kwaku**)
8. Engineering VOLunteers for Ninth Graders (eVOL9) Recognition Award June 2015 (**Ebony**)
9. Tennessee Section Institute of Transportation Engineers (TSITE) Scholarships 2015 (**Kwaku Boakye, Kristina King, Ziwen Ling, Hunter McCracken, Luis Taboada**)
10. 2015 TSITE Undergraduate Scholarship (\$2,000) (**Kristina King**)
11. 2015 Middle TN section of the American Society of Highway Engineers John Harper Memorial Scholarship (\$1,000) (**Kristina King**)





12. Tennessee Section Institute of Transportation Engineers (TSITE) Student Paper Awards 2015  
(**Jun Liu, Jianjiang Yang, Hyeonsup Lim**)
13. Helene M. Overly Memorial Scholarship by Women's Transportation Seminar Central Virginia Chapter  
(**Ziwen Ling**)
14. University of Tennessee Chancellor Fellowship  
(**Alexandra Boggs**)
15. Chancellor's Fellowship, UTK (**Hyeonsup Lim**)
16. KOTAA Travel Grant Award, Korean Transportation Association in America (**Hyeonsup Lim**)
17. GSS Travel Grant Award, Graduate Student Senate, UTK (**Hyeonsup Lim**)
18. 1<sup>st</sup> Place in TSITE Traffic Bowl (**Traffic Bowl Team**)
19. 2<sup>nd</sup> Place in SDITE Traffic Bowl (**Traffic Bowl Team**)
20. 1st Place in Outstanding Achievement in the Class III Exhibits of Engineers Day (**ITE student chapter**)



*Traffic Bowl Team*

## Campus and Community Outreach

Our chapter in the past years has been committed to services on campus and in our communities. During the academic year, we were engaged in engineering education outreach programs to create awareness among K-12 and college students about careers in the engineering profession. Several of our chapter members were also involved in many activities of other student organizations with the intent to network and share ideas on how to make student groups attractive and engaging.

### Engineers Day

For more than a century now, the College of Engineering at the UT has hosted “Engineer’s day,” an event organized for university students and faculty to spend time high school students who express interest in pursuing degree programs in engineering. The purpose of this event is to provide the avenue for pre-collegiate students to explore and learn about the various aspects of engineering through discussions, project demonstrations and exhibits prepared by UT engineering student clubs and societies. The program is organized each year in the month of October and attracts thousands of high school students from across this region. In 2015, the program hosted about 1,300 students from 49 high schools.



In the 2015 Engineer’s day event, our ITE chapter had an opportunity to engage and excite the participants in several transportation engineering activities. Participants were given a brief introduction about transportation engineering and the many opportunities that await students who pursue studies in the field. Our 2015 exhibits included four interactive displays and a game, namely, (1) an electric bicycle used in UT Knoxville’s electric bicycle sharing project called “Cycle U Share,” (2) a driving simulator, (3) a demonstration of a real time license plate recognition display which allowed students to try to ‘outsmart’ the technology by racing license plates down the hallways, (4) an interactive game involving finding the least number of trips for a flight, (5) and display of several kinds of transportation simulation software packages. Our chapter was awarded first place in student organization exhibits for the 2015 Engineers Day event.

## Summer Transportation Education Programs

In Summer 2015, different transportation educational activities were organized by the Transportation Engineering & Science Program (TESP) at the University of Tennessee for both teachers and middle and high school students. Some of our chapter members participated and made immense contributions to the successes of those education programs. Details of the programs are discussed below:

### Program 1: Transportation Systems STEM Summer Academy for Teachers

This program was ran for 13 selected high school teachers in East Tennessee. The program included a brief “in-class” overviews of transportation systems, logistics and supply chain management, followed by “Site” or “Field” visits to a variety of real-life settings such a state Department of Transportation (DOT), Traffic Management Center, an air-traffic control tower, a commercial airport and airfield, a traffic signal systems laboratory, and a crash-reconstruction study site. Teachers also had the experience of using a driving simulator operated by TESP on UT campus.



### Program 2: A Summer Transportation Education Program for Ninth Graders (eVOL9)

The primary foci of this program were first to introduce 30 ninth grade students to aspects of transportation engineering, particularly on how human and vehicle factors impact the design and operation of roadways and secondly, to educate teenagers on why road safety should be of value and priority to them. Specific activities included the following:

- Lecture sessions on topics related to road infrastructure, vehicle and road users
- Experimental design of how “stopping sight distance” impact the design of road infrastructures.
- In class activity on how vehicle loads impact the design of roadway pavement.
- Evaluations were made through a before and after in-class and online survey. Results of the surveys showed a positive impact of the program.



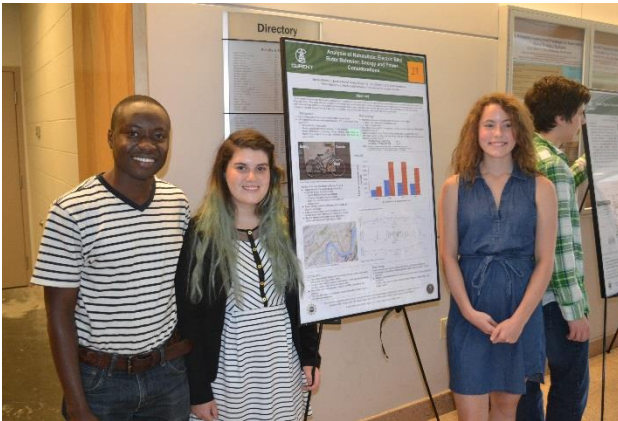


### Program 3: CURENT & TESP Summer Research Program for High School Students

In this program two high school students were mentored by professors and graduate students to conduct research related to transportation and energy. This program was a 6-week joint effort organized by TESP and CURENT (Center for Ultra-Wide-Area Resilient Electric Energy Transmission Network), a national Engineering Research Center sponsored by the National Science Foundation. The topic the students researched on was “Analysis of Naturalistic Electric



Bike Rider Behavior: Energy and Power Considerations”. At the end of the program, the students made PowerPoint and poster presentations at a fair hosted by CURENT.



## Campus Leadership

Last year, some of our group members participated in several on-campus activities which included the following:

- Graduate student representative on UT Knoxville’s Traffic and Parking Authority
- Society of Women Engineers outreach program
- UTK Go Green Fair
- Freshman Engineering Fundamentals Fair
- UT Police Department safety showcase of Seatbelt Convincer

## Social Events

In order to bring a balance to our engaged and structured days at the lab and office as well as in our daily life, our group organizes dinners, outings, and gatherings at each other's homes and outdoor locations. This chapter is a work and enjoyable family for each one of us in transportation, and the only family many of us have in Knoxville, TN.

Our Knoxville setting offers an array of food and beverage establishments that we frequently visit (such as The Copper Cellar, Sunspot, and the Casual) for some of our social activities. One of those benefits of these events is the academic, work, social and all other experiences of our senior fellows within the same academic area. Some photos from these events follow.



*Group picture for our Student Chapter at Luis's Graduation party & Jun's Promotion party*

Aside from our intensive academic research life, we also organize some of the ball games, including soccer, badminton, etc. Usually we visit some of our local parks and enjoy the beautiful scenery, cultural, and religion of our local communities. Also some of our group members are actively engaged in local cultural organizations, such as dancing, etc. Following are some of the pictures representing our active participation within our local communities.



*Jun with one of the local dancing group*





*Student Chapter at Concord Park, Knoxville, for outdoor games*



*Snow tubing at Ober Gatlinburg Ski Area & Amusement Park*

Come and join us for the success of an academic career together with a wonderful life!!!

## Roster of Members

No	Name	Email	Degree	Graduation	Previous Institution Location	ITE International Member
1	Bumjoon Bae	bbae1@vols.utk.edu	PhD	Spring 2018	S. Korea	Yes
2	Kwaku Boakye	kboakye@vols.utk.edu	PhD	Fall 2019	Kansas	Yes
3	Alexandra Boggs	aboggs6@vols.utk.edu	PhD	Spring 2019	Florida	Yes
4	Pankaj Dahal	pdahal@vols.utk.edu	MS	Spring 2017	Nepal	Yes
5	Nirbesh Dhakal	ndhakal@vols.utk.edu	MS	Spring 2017	Nepal	No
6	Mohsen Kamrani	mkamrani@utk.edu	PhD	Spring 2019	Malaysia	No
7	Kristina King	kking38@vols.utk.edu	B.S.	Spring 2016	Tennessee	Yes
8	Xiaobing Li	xli77@vols.utk.edu	PhD	Summer 2018	China	Yes
9	Hyeonsup Lim	hlim@utk.edu	PhD	Summer 2017	S. Korea	Yes
10	Ziwen Ling	zling@vols.utk.edu	PhD	Spring 2017	China	Yes
11	Yuandong Liu	Yliu140@vols.utk.edu	PhD	Spring 2019	China	No
12	Alex Pawlowski	apawlows@vols.utk.edu	PhD	Spring 2018	Virginia	No
13	Jackeline Rios-Torres	jriostor@utk.edu	PD*	N/A	South Carolina	No
14	Maria Stand	mstand@vols.utk.edu	PhD	Spring 2019	Tennessee	Yes
15	Saman Tabrizi	stabrizi@vols.utk.edu	MS	Spring 2018	Iran	Yes
16	Behram Wali	bwali@vols.utk.edu	PhD	Fall 2019	Pakistan	Yes
17	Marquise Webb	mwebb25@utk.edu	B.S.	Spring 2016	Tennessee	No
18	Brandon Whetsel	bwhetsel@vols.utk.edu	MS	Spring 2017	Tennessee	No
19	Jingjing Xu	xjj087@gmail.com	VS*	N/A	China	No
20	Meng Zhang	mzhang27@vols.utk.edu	PhD	Spring 2018	China	Yes
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