

CURRICULUM VITAE

1. Biographical Information

Min-Wook Kang, Ph.D., P.E.
Associate Professor
Department of Civil, Coastal, & Environmental Engineering
University of South Alabama
Mobile, AL 36688
Office: (251) 460 – 7295;
Email: mwkang@southalabama.edu;
Website: www.southalabama.edu/colleges/engineering/ce/kang.html

2. Education

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|---------|-----------------------------------|----------------------------|-----------|
| • Ph.D. | Civil & Environmental Engineering | Univ. of Maryland, MD | 2003–2008 |
| • M.S. | Civil & Environmental Engineering | Univ. of Maryland, MD | 2003–2007 |
| • M.S. | Transportation System Engineering | Hanyang Univ., South Korea | 2001–2003 |
| • B.S. | Transportation System Engineering | Hanyang Univ., South Korea | 1994–2001 |

3. Appointments & Practices

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| • Associate Professor, University of South Alabama | 8/2018–Pre |
| • Assistant Professor, University of South Alabama | 1/2012–8/2018 |
| • Research Associate/Adjunct Professor, Morgan State University | 1/2010–12/2011 |
| • Senior Research Scientist, ATRC, Inc. | 9/2008–2/2010 |
| • Transportation Engineer, Brudis & Associates Inc. (BAI) | 1/2008–9/2008 |
| • Grad. Research Assist., National Center for Smart Growth Research & Edu. | 8/2007–1/2008 |
| • Grad. Research Assist., University of Maryland, College Park, MD | 9/2003–8/2007 |
| • Research Assistant, Korea Transport Institute, South Korea | Sum 2003 |
| • Graduate Research Assistant, Hanyang University, South Korea | 3/2001–2/2003 |
| • Undergrad. Research Assistant, Hanyang University, South Korea | 3/2000–2/2001 |
| • Active Duty, Korea Air Force, South Korea | 10/1995–4/1998 |

4. Research Areas of Interest

- Advanced traffic operations and congestion management
- Highway safety analysis and modeling
- Artificial intelligence in transportation geometric design and system optimization
- Driver behavior studies: distracted driving, fatigued driving, and dilemma zone
- Application of GIS for transportation problems

5. Professional Certification & Licenses

Professional Engineer (P.E.), No. 37343, Maryland 2011–Pre

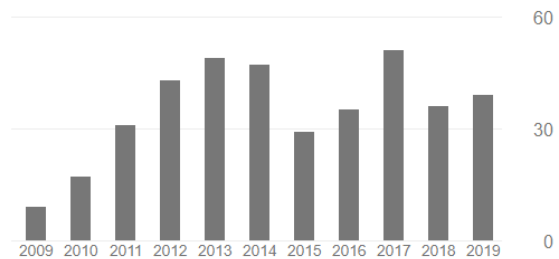
6. Summary of Scholarly Activities

- Published **20 refereed journal articles (10 while at USA; 10 before USA)**
- Published **14 refereed conference proceedings (7 while at USA; 7 before USA)**
- Published **4 refereed book chapters (2 while at USA; 2 before USA)**
- Published **2 refereed extended abstracts (2 while at USA)**
- Published **16 technical reports (2 while at USA; 14 before USA)**
- Submitted **2 research papers** to refereed journals
- Delivered **47 technical presentations (26 while at USA; 21 before USA)**
- Delivered **5 invited presentations** for professional organizations and universities
- Submitted **38 research proposals** as a PI, Co-PI, or collaborator (**31 while at USA; 7 before USA**)
- Awarded **\$981,167** from competitive grants/contracts (**\$936,167 while at USA; \$45,000 before USA**)
- Has been involving **10 research projects** as a PI, Co-PI, collaborator (9 while at USA; 1 before USA)
- Has been serving as an **invited reviewer of 10 refereed journals**
- Completed **review of 70+ research papers** for referred journals (**67+ while at USA; 6 before USA**)
- Supervised/advised **11 grad students** through research programs (**8 while at USA; 3 before USA**)
- Have made **14 publications & presentations with grad students (10 while at USA; 4 before USA)**
- Supervised and advised **13 undergraduate researchers** through research programs **while at USA**
- Have made **3 publications & presentations with undergraduate researchers while at USA**
- Received 2018 **ASCE ExCEED Fellow Award**
- Nominated (**4 times**) for the College of Eng. Excellence in Research Award at USA, 2014 – 2017
- **Established** Transportation Safety, Simulation, & Optimization (**TSSO**) **Lab** at USA CCEE Dept.
- Implemented a state-of-the-art **driving simulator system** at the USA TSSO Lab
- Has been actively collaborating with other researchers in the USA and outside the USA
- Member and friend of various professional organizations, including ASCE; TRB - ABJ70, AHB65, AP065, ANB20, ANB10; ALSITE; GRITS; KSEA; KOTAA
- Taught 10+ different courses while at USA

7. Scholarly Citation Indices

Source: Google Scholar (as of Aug. 2019)

	All	Since 2014
Citations	399	237
h-index	10	8
i10-index	10	7



8. Funded Research Projects (\$981,167.00)

While at USA (\$936,167)

External (\$929,279)

1. **Kang, M.-W. (PI)**, "Dilemma Zone Protection (DZP) Systems – Alabama Pilot Study: Implementation of DZP Systems at Seven Predetermined High-Speed, High-Risk Signalized Intersections in Rural Alabama" Sponsored by USDOT and ALDOT, **\$220,026**; June 6, 2019 – September 30, 2022.
2. **Kang, M.-W. (PI)** and Jones, Steven (Co-PI @ UA) "Flashing Yellow Arrow Left Turn Phasing by Time-of-Day Development of Design and Operational Guidelines," Sponsored by USDOT and ALDOT, **\$199,908**; May 2019 – Aug. 2021.
3. **Kang, M.-W. (PI)**, "Dilemma Zone Protection (DZP) Systems for Rural High-Speed, High Risk Signalized Intersections in Alabama: Optimizing DZP Boundaries and System Assessment," Sponsored by USDOT and ALDOT, **\$176,430**; January 2017 – January 2020.
4. Benton, R. G. (PI), Shropshire, J. D. (Co-PI), Glisson, W. B. (Co-PI), **Kang, M. W.**, Langley, R., Gillespie, M., Johnsten, T., Sobol, R., Wang, B., Borchert, G. M., Pastukh, V., Leavesley, S. J., Rich, T., Lahtinen, K. D., Chow, A., "MRI: Acquisition of Adaptive Cluster for Performance and Forensics Analysis of Distributed Machine Learning," Sponsored by National Science Foundation, External to the University, \$115,100. (October 1, 2017 - September 30, 2020).
5. **Kang, M.-W. (Co-PI)**, Lamondia, J. (PI @ Auburn), Anderson, M. (Co-PI @ UAH), "Development of a Roadway Congestion/Safety Improvement Tool based on the Surrogate Safety Assessment Model (SSAM)," Sponsored by USDOT and ALDOT, \$294,890 (Dr. Kang's share: **\$97,711**); Aug. 2015 – Aug. 2019. Note: Additional funding (**\$18,400**) from the USA Graduate School for 2 years of tuition support for a graduate research assistant.
6. **Kang, M.-W. (PI)**, "A Safety Study of Alabama Highways – Reducing Crashes Caused by Drowsy Driving: Focusing on Drowsy Driving Warning Signs & Roadside Rest Area Signs," Sponsored by USDOT and ALDOT, **\$208,798**. April 24, 2013 - July 31, 2015. Note: Additional funding (**\$8,006**) from the USA Civil Engineering Department to support a graduate research assistant.

Internal (\$6,888)

7. **Kang, M.-W. (Mentor)**, Caldwell, T., "Assessing USA Campus Parking Management," Sponsored by UCUR - University of South Alabama, **\$2,000**. April 2014 - June 2014.
8. **Kang, M.-W. (Mentor)**, Noland, T., "Assessing Traffic Delay and Pedestrian Safety Risk of USA Main Campus," Sponsored by UCUR - University of South Alabama, **\$2,388**. April 2014 – May 2014.
9. **Kang, M.-W. (Mentor)**, Corliss, D., "Feasibility of Roundabout Implementation at the Intersection of USA Drive N. and Health Services Drive, Using Microscopic Traffic Simulation Approaches," Sponsored by UCUR - University of South Alabama, **\$2,500**. April 2013 - Oct 2013.

Before Arriving at USA (\$45,000)

10. **Kang, M.-W. (PI)**, Schonfeld, P. (Co-PI), Jha, M. (Co-PI) "Alternative Alignments Development and Evaluation for the US 220," Sponsored by State Highway Administration (SHA) of Maryland DOT, **\$45,000**. Oct. 2010 - April 2011.

9. Publications (58)

9.1 Refereed Journal Articles (20)

While at USA (10) – Since 2012

1. Jagirdar, R., Lee, J., Kim, K., and **Kang**, M.-W. (2019), Development and Evaluation of Traffic Count Sensor using Low-Cost LiDAR and Continuous Wavelet Transform: Initial Results, *Transportation Research Record: Journal of Transportation Research Board*, the National Academies of Science. <https://doi.org/10.1177/0361198119853564>
2. Mahbub, M., **Kang**, M.-W. and Lee, J. (2019), Protected–Permissive Left Turn Phasing with Flashing Yellow Arrow Signal: Study of Red Intervals for an Effective Phase Transition, *Canadian Journal of Civil Engineering*, Canadian Science Publishing. Vol. 46, Issue 8, pp. 732-741. <https://doi.org/10.1139/cjce-2018-0381>
3. **Kang**, M.-W. and Momtaz, S. (2018), Assessment of Driver Compliance on Roadside Safety Signs with Warning Sounds from Road Surface - A Driving Simulator Study, *Journal of Traffic and Transportation Engineering – Elsevier*, Vol. 5, Issue 1, pp. 1-13
4. **Kang**, M.-W., Momtaz, S., and Barnett, T. (2015), Crash Analysis and Public Survey for Drowsy Driving Advisory Systems, *Journal of Transportation Engineering – ASCE*, Vol. 141, Issue 9.
5. Kim, E., Jha, M.K., and **Kang**, M.-W. (2015). A Sensitivity Analysis of Critical Genetic Algorithm Parameters: Highway Alignment Optimization Case Study, *International Journal of Operations Research and Information Systems*. Vol. 6, Issue 1, pp. 30-48.
6. **Kang**, M.-W., Jha, M.K., and Buddharaju, R. (2014), A Rail Transit Route Optimization Model for Rail Infrastructure Planning and Design: Case Study of St Andrews, Scotland, *Journal of Transportation Engineering – ASCE*, Vol. 140, No. 1, pp. 1-11.
7. Mishra, S., **Kang**, M.-W., and Jha, M.K. (2014). An Empirical Model with Environmental Considerations in Highway Alignment Optimization, *Journal of Infrastructure Systems – ASCE*, Vol. 20, No. 4, pp. 1-12.
8. Yang, N., **Kang**, M.-W., Schonfeld, P., and Jha, M.K. (2014) Multi-objective Highway Alignment Optimization Incorporating Preference Information, *Transportation Research Part C – Emerging Technology*, Vol. 40, March 2014, pp. 36-48.
9. **Kang**, M.-W. Shariat, S., and Jha, M.K. (2013), New Highway Geometric Design Methods for Minimizing Vehicular Fuel Consumption and Improving Safety, *Transportation Research Part C – Emerging Technology*, Vol. 31, June 2013, pp. 99-111.
10. **Kang**, M.-W., Jha, M.K., and Schonfeld, P. (2012), Applicability of Highway Alignment Optimization Models, *Transportation Research Part C – Emerging Technology*, Vol. 21, Issue 1, pp. 257-286.

Before Arriving at USA (10)

11. **Kang**, M.-W., Jha, M.K., and Hwang, D. (2011), A GIS-Based Simulation Model for Military Path Planning of Unmanned Ground Robots, *International Journal of Safety and Security Engineering*, Vol. 1, No. 3, pp. 248-264.
12. **Kang**, M.-W., Yang, N., Schonfeld, P., and Jha, M.K. (2010), Bilevel Highway Route Optimization, *Transportation Research Record: Journal of the Transportation Research Board*, No. 2197, Transportation Research Board of National Academy of Sciences, Washington, D.C., pp.107-117.
13. **Kang**, M.-W., Schonfeld, P., and Yang, N. (2009), Prescreening and Repairing in a Genetic Algorithm for Highway Alignment Optimization, *Computer-Aided Civil and Infrastructure Engineering*, Vol. 24, No. 2, pp. 109-119.
14. Jha, M.K. and **Kang**, M.-W. (2009), GIS-Based Model for Highway Noise Analysis, *Journal of Infrastructure Systems-ASCE*, Vol. 15, No. 2, pp. 88-94.

15. Yang, N., Schonfeld, P., and **Kang**, M.-W. (2009), A Hybrid Methodology for Freeway Work Zone Optimization with Time Constraints, *Public Works Management & Policy*, Vol. 13, No. 3, pp. 253-264.
16. **Kang**, M.-W., Schonfeld, P., and Jong, J.-C. (2007), Highway Alignment Optimization through Feasible Gates, *Journal of Advanced Transportation*, Vol. 41, No. 2, pp. 115-144.
17. Jha, M.K., Davis, C., and **Kang**, M.-W. (2007), State-of-the-art Intelligent Road Design Model with Genetic Algorithms, Geographic Information Systems, and CADD, *Advances in Transportation Studies-An International Journal, Section A*, Issue 13, pp. 41-52.
18. **Kang**, M.-W., Son, B., and Doh, T.W. (2003), Development of A Dividing Method and Accident Estimation Models for Highway Horizontal Curve Sections Based on Geometric Characteristics, *Journal of Eastern Asia Society for Transportation Studies*, Vol. 5, pp. 2695-2707.
19. **Kang**, M.-W., Son, B., and Doh, T.W. (2002), Development of Accident Prediction Models Based on Roadway Geometric Characteristics at Freeway Curve Sections, *Journal of The Korean Society of Civil Engineers*, Vol. 22, No. 6-D, pp.1077-1088.
20. **Kang**, M.-W., Doh, T.W., and Son, B. (2002), Fitting Distribution of Accident Frequency of Freeway Horizontal Curve Section & Development of Negative Binomial Regression Model, *Journal of Korean Society of Transportation*, Vol. 20, No. 7, pp. 197-204.

9.2 Manuscripts Submitted and in Preparation (2)

1. **Kang**, M. W., Rahman, M. (under review). Safety Evaluation of Drowsy Driving Advisory System: Alabama Case Study. Paper submitted for publication in *Advances in Transportation Studies an international journal*. www.atsinternationaljournal.com
2. **Kang**, M. W., Rahman, M., Lee, J. (under review). Dilemma Zone Length and Location: Safety Measure of Rural High-Speed Signalized Intersections. Paper submitted for presentation at the 99th TRB Annual Meeting and publication in *Transportation Research Record: Journal of the Transportation Research Board (TRB)*. www.editorialmanager.com/trr/default.aspx

9.3 Refereed Conference Proceedings (14)

While at USA (7) – Since 2012

1. Jagirdar, R., Lee, J., Kim, K., and **Kang**, M.-W. (2019), Development and Evaluation of Traffic Count Sensor using Low-Cost LiDAR and Continuous Wavelet Transform, In *Proceedings of 98th Annual Meeting of Transportation Research Board of National Academy of Sciences*, Paper No. 19-03050
2. Momtaz, S. and **Kang**, M.-W. (2017). Auditory Warning Signals: Improving Driver Compliance to Roadside Safety Signs, In *Proceedings of 2017 Road Safety & Simulation Conference (RSS2017)*, Paper No. 116.
3. **Kang**, M.-W. and Schonfeld, P. (2017), Analysis of Seasonal Variation of Upper Mississippi River Towboat Traffic, In *Proceedings of 96th Annual Meeting of Transportation Research Board of National Academy of Sciences*, Paper No. 17-02212
4. Mishra, S., **Kang**, M.-W., and Jha, M.K. (2014), A Tri-Level Model with Environmental Considerations in Highway Alignment Optimization, In *Proceedings of 93rd Annual Meeting of Transportation Research Board of National Academy of Sciences*, Paper No. 14-0376 on CD-ROM.
5. Jha, M.K., **Kang**, M.-W., Mishra, S., Samanta, S., and Lyons, N. (2014), Urban Rail Transit Planning and Design: Discussion of Practical Issues and Analytical Modeling Techniques, In *Proceedings of 93rd Annual Meeting of Transportation Research Board of National Academy of Sciences*, Paper No. 14-5309 on CD-ROM.

6. Buddharaju, R., Jha, M.K., **Kang**, M.-W., Mishra, S., and Ponnada, M. (2013), Predicting Road Accidents and Prioritizing Road Safety Improvement Measures in India Using Adapted Traffic Conflict Techniques, In *Proceedings of 92nd Annual Meeting of Transportation Research Board of National Academy of Sciences*, Paper No. 13-5157 on CD-ROM.
7. **Kang**, M.-W., Jha, M.K., and R. Buddharaju. (2012), A Rail Transit Route Optimization Model for Rail Infrastructure Planning and Design: Case Study of St Andrews, Scotland, In *Proceedings of 91st Annual Meeting of Transportation Research Board of National Academy of Sciences*, Paper No. 12-2060 on CD-ROM.

Before Arriving at USA (7)

8. **Kang**, M.-W., Wang, S., Jha, M.K., Chen, C.-C., and Schonfeld, P. (2011), A Simulation Framework for the Path Planning of Unmanned Autonomous Systems, In *Proceedings of Vulnerability, Uncertainty, and Risk: Analysis, Modeling, and Management*, B. Ayyub (ed.), ISBN: 9780784411704, pp. 129-137.
9. **Kang**, M.-W., Yang, N., Schonfeld, P. and Jha, M.K. (2010) Bi-Level Highway Route Optimization, In *Proceedings of 89th Annual Meeting of T Transportation Research Board of National Academy of Sciences*, Paper No. 10-1330 on CD-ROM.
10. Yang, N., **Kang**, M.-W., Schonfeld, P., and Jha, M.K. (2010) Multiple Objective Optimization of Highway Alignments Incorporating Preference Information, In *Proceedings of 89th Annual Meeting of Transportation Research Board of National Academy of Sciences*, Paper No. 10-1128 on CD-ROM
11. Burnier, C., Clifton, K.J., Huang, S., **Kang**, M.-W., and Schneider, R. (2008) A Meso-Scale Model of Pedestrian Demand, In *Proceedings of ACSP-AESOP 4th Joint Congress*
12. **Kang**, M.-W., Jha, M.K., and Schonfeld, P. (2006) Three-Dimensional Highway Alignment Optimization for Brookeville Bypass, In *Proceedings of 85th Annual Meeting of Transportation Research Board of National Academy of Sciences*, Paper No. 06-1023 on CD-ROM
13. **Kang**, M.-W., Kim, T., and Doh, T.W. (2005) A New Methodology to Determine Length of Highway Horizontal Curve Sections for Accident Estimation Model, In *Proceedings of 84th Annual Meeting of Transportation Research Board of National Academy of Sciences*, Paper No. 05-2691 on CD-ROM
14. **Kang**, M.-W. and Doh, T.W. (2001) Optimization Strategy with External Metering on Urban Network: a Simulation Study, In *Proceedings of 50th Korean Society of Civil Engineers Annual Conference*, pp. 131-134.

9.4 Refereed Extended Abstract (2)

While at USA (2) – Since 2012

1. **Kang**, M.-W. and Rahman, M.M. (2019), Drowsy Driving Advisory System: Alabama Case Study, *98th Annual Meeting of Transportation Research Board of National Academy of Sciences*, Paper No. 19-03502.
2. Mahbub, M., **Kang**, M.-W. and Lee, J. (2019), Determining Length of Red Intervals for Effective Protected-Permissive Left Turn Phase Operation with Flashing Yellow Arrow Signal, *98th Annual Meeting of Transportation Research Board of National Academy of Sciences*, Paper No. 19-00205

9.5 Refereed Book Chapters (4)

While at USA (2) – Since 2012

1. Corliss, D. and **Kang**, M.-W. (2013) Roundabout Feasibility for Improving a University Campus Intersection, Using Microscopic Traffic Simulation Approaches, In *Recent Researches in Urban*

Sustainability, Architecture and Structures, O. Owolabi and M. Jha (ed.), ISBN: 978-960-474-331-5, pp. 58-65, WSEAS Press.

2. Jha, M.K., Djiki, B., **Kang**, M.-W., and Kim, E. (2013), Cost-Benefit Analysis in Applying Design Flexibility and Context Sensitive Solutions: A Case Study of Alternative Alignment of MD 43 Extension, in *Highways: Construction, Management, and Maintenance*, Samantha R. Jones (ed.), ISBN: 978-1-61728-862-3, pp. 133-147, Nova Science Publishers, Inc.

Before Arriving at USA (2)

3. **Kang**, M.-W., Jha, M.K. and Karri, G. (2010) Determination of Robot Drop Locations for Military Path Planning Using GIS Application, In *Recent Advances in Computer Engineering and Applications*, S. Lagakos, L. Perlovsky, M. Jha, B. Covaci, A. Zaharim, N. Mastorakis (eds.), ISBN: 978-960-474-151-9, pp. 194-200, WSEAS Press.
4. Jha, M.K., Karri, G., and **Kang**, M.-W. (2010), A Military Path Planning Algorithm Using Visualization and Dynamic GIS, In *Recent Advances in Computer Engineering and Applications*, S. Lagakos, L. Perlovsky, M. Jha, B. Covaci, A. Zaharim, N. Mastorakis (eds.), ISBN: 978-960-474-151-9, pp. 188-193, WSEAS Press.

9.6 Other Technical Reports (16)

While at USA (2) – Since 2012

1. **Kang**, M.-W. and Momtaz, S. (2016). *A Safety Study of Alabama Highways – Reducing Crashes Caused by Drowsy Driving: Focusing on Drowsy Driving Warning Signs & Roadside Rest Area Signs*. Final Report prepared for Alabama Department of Transportation, Research Project No: 930-856R, University of South Alabama.
2. Corliss, D. and **Kang**, M.-W. (2013), *Feasibility of Roundabout Implementation at the Intersection of USA Drive N and Health Service Drive, Using Analytical and Microscopic Traffic Simulation Approaches*, USA UCUR Summer Undergraduate Research Program. Mobile, AL.

Before Arriving at USA (14)

3. **Kang**, M.-W., Jha, M.K. and Schonfeld, P. *Alternative Alignments Development and Evaluation for the US 220 Project in Maryland*. Final Report for Maryland State Highway Administration, MD-11-SP009B49, Maryland Department of Transportation, June 2011.
4. **Kang**, M.-W., Jha, M.K., and Hwang, D., *A GIS-Based Simulation Model for Positioning & Routing Unmanned Ground Vehicles*, Part I – Phase II Final Report of Software-Simulated Test and Evaluation of Military Missions Using Positioning and Routing Algorithms, Submitted to Test & Evaluation/Science and Technology (T&E/S&T), Test resource Management Center (TRMC), US. Department of Defense, June 2010.
5. **Kang**, M.-W., Yang, N., Schonfeld, P., and Jha, M.K. *A MultiObjective Bilevel Approach to Highway Alignment Optimization*. Phase-IB Final Report for U.S. National Science Foundation (NSF) STTR Program, NSF-STTR-074098, July 2009.
6. **Kang**, M.-W., Yang, N., Schonfeld, P., and Jha, M.K. *A MultiObjective Bilevel Approach to Highway Alignment Optimization*. Phase-I Final Report for U.S. National Science Foundation (NSF) STTR Program, NSF-STTR-074098, January 2009.
7. Giering, G., Xiao, Q., **Kang**, M.-W., and Warren, D. *Engineering Countermeasures for Reducing Speeds: A Desktop Reference of Potential Effectiveness*, Prepared for FHWA Office of Safety, May 2009. Available on-line at http://safety.fhwa.dot.gov/speedmgt/ref_mats/eng_count
8. **Kang**, M.-W. *An Alignment Optimization Model for A Simple Highway Network*. Ph.D. Dissertation, University of Maryland, College Park, May 2008
9. Giering, G. and **Kang**, M.-W. *Feasibility Study for Widening of MD State Highway 272*. Final Report

- for Maryland State Highway Administration, Maryland Department of Transportation (MDOT), 2008.
10. Clifton, K.J., Burnier, C., Huang, S., **Kang**, M.-W., and Schneider, R. *Pedestrian Demand Model and Crash Analysis Protocol*, Prepared for Office of Traffic and Safety, Maryland State Highway Administration, Maryland Department of Transportation, June 2008.
 11. Clifton, K.J., Burnier, C., Huang, S., **Kang**, M.-W., and Schneider, R. *Pedestrian Demand Model for Evaluating Pedestrian Risk Exposure*. Final Report for Office of Traffic and Safety, Maryland State Highway Administration, Maryland Department of Transportation, June 2008.
 12. **Kang**, M.-W., Schonfeld, P., Jha, M.K., and Karri, G. *Improved Alignment Optimization and Evaluation*, Final Report for Maryland State Highway Administration, MD-07-SP608B4P, Maryland Department of Transportation, June 2007.
 13. **Kang**, M.-W. and Schonfeld, P. *Analysis of Towboat Operating Areas*, Final Report for the Institute for Water Resources (IWR), IWR Report 06-NETS-R-04, US Army Corps of Engineers, *Navigation Economic Technologies (NETS) News*, Vol. II, Issue 3, March 2006.
 14. **Kang**, M.-W. and P. Schonfeld, *Prescreening and Repairing in Highway Alignment Optimization*, TSC Report 2006-23, University of Maryland, College Park, August 2006.
 15. **Kang**, M.-W., Jha, M.K., and Schonfeld, P. *3D Highway Alignment Optimization for Brookeville Bypass*. Final Report for Maryland State Highway Administration, MD-04-XXX, Maryland Department of Transportation, November 2004.
 16. **Kang**, M.-W. *Development of Accident Prediction Models Based on Roadway Geometric Characteristics at Freeway Curve Sections*. Master's Thesis, Hanyang University, Korea (South), February 2003.

10. Professional Presentations (47)

While at USA (26) – Since 2012

1. **Kang**, M.-W. and Rahman, M.M. Drowsy Driving Advisory System – Alabama Case Study. *98th Annual Meeting of Transportation Research Board of National Academy of Sciences*, Washington DC, January 2019. [poster].
1. Mahbub, M, **Kang**, M.-W., and Lee, J. Determining Length of Red Times for Effective Protected-Permissive Left Turn Phase Operation with Flashing Yellow Arrow Signal. *98th Annual Meeting of Transportation Research Board of National Academy of Sciences*, Washington DC, 2019. [poster].
2. Jagirdar, R., Lee, J., Kim, K., and **Kang**, M.-W. Development and Evaluation of Traffic Count Sensor using Low-Cost LiDAR and Continuous Wavelet Transform. *98th Annual Meeting of Transportation Research Board of National Academy of Sciences*, Washington DC, 2019. [platform].
3. Momtaz, S. and **Kang**, M.-W. Auditory Warning Signals: Improving Driver Compliance to Roadside Safety Signs, 2017 Road Safety & Simulation Conference (RSS2017), Hague, NL, Oct. 17 – 19, 2017. [platform]
4. **Kang**, M. W. Drowsy Driving Advisory Systems: Educating Road Users and Preventing Drowsy Driving Crashes, *KSEA (Korean-American Scientists and Engineers Association)*, University of Virginia, Charlottesville, VA. February 17, 2017. [Skype Presentation]
5. **Kang**, M. W. Drowsy Driving Advisory Systems in Alabama, *60th Alabama Annual Transportation Conference*, Montgomery, Alabama. February 9, 2017. [platform]
6. **Kang**, M.-W. and Schonfeld, P. Analysis of Seasonal Variation of Upper Mississippi River Towboat Traffic, *96th Annual Meeting of Transportation Research Board of National Academy of Sciences*, Washington DC, January 2017. [platform]
7. **Kang**, M.-W. Dilemma Zone Protection (DZP) Systems: Dilemma Zone Protection (DZP) Systems: Characterizing Driver Behavior and Optimizing DZP Boundaries, *Research Meetings with ALDOT Design and Maintenance Bureaus and Research Advisory Committee (RAC)*, Montgomery, AL, April 2016; July 2016. [platform]
8. **Kang**, M.-W. Crash Analysis and Public Survey for Drowsy Driving Advisory System Development, *Joint Alabama Section Institute of Transportation Engineers (ALSITE)-DSITE 2015 Annual Meeting*, Gulf Shores, AL, June 3-5, 2015
9. **Kang**, M.-W., Momtaz, S., Caldwell, T., Ellzey, J. Crash Analysis and Public Survey for Drowsy Driving Advisory Systems, USA – 22nd Annual Graduate Research Forum, The Graduate School of University of South Alabama, Mobile, AL, March 16, 2015. [poster]
10. Momtaz, S., **Kang**, M.-W., Caldwell, T., Ellzey, J. Effectiveness of Audible Pavement Treatments on Drivers' Compliance to Roadside Safety Signs - A Driving Simulator Study, USA – 22nd Annual Graduate Research Forum, The Graduate School of University of South Alabama, Mobile, AL, March 16, 2015. [poster]
11. **Kang**, M.-W., Anderson, M. Assessing Safety and Operational Aspects of Interstate Highway Guide Signs, Research Meeting with ALDOT Maintenance Bureau, Alabama Department of Transportation (ALDOT), Montgomery, AL, February 2, 2015. [platform]
12. Lamondia, J., **Kang**, M.-W., and Anderson, M. Safety Improvement Program: Using the Surrogate Safety Assessment Model (SSAM) to Identify Impacts of Traffic-Promoting Roadway Characteristics on Crash Occurrence, *Research Meeting with ALDOT Maintenance Bureau*, Montgomery, AL, Oct. 2014. [platform]
13. Mishra, S., **Kang**, M.-W., and Jha, M.K. "A Tri-Level Model with Environmental Considerations in Highway Alignment Optimization," *93th Annual Meeting of Transportation Research Board of the National Academy of Sciences*, Washington DC, January 2014. [poster]

14. Jha, M.K., **Kang**, M.-W., Mishra, S., Samanta, S., and Lyons, N. "Urban Rail Transit Planning and Design: Discussion of Practical Issues and Analytical Modeling Techniques," *93th Annual Meeting of Transportation Research Board of National Academy of Sciences*, Washington DC, January 2014. [poster]
15. Corliss, D. and **Kang**, M.-W. Roundabout Feasibility for Improving a University Campus Intersection, Using Microscopic Traffic Simulation Approaches, *2nd International Conference on Sustainable Cities, Urban Sustainability and Transportation (SCUST '13)*, Baltimore MD, September 2013. [platform]
16. **Kang**, M.-W. Reducing Crashes Caused by Drowsy & Fatigued Driving, *ALDOT Research Advisory Committee Meeting*, Montgomery, AL, April 2013. [platform]
17. **Kang**, M.-W. Introducing Transportation Engineering Research at University of South Alabama. *ALDOT / ADEM Meeting*. Mobile, AL, January 2013. [platform]
18. Raju, R., Jha, M.K., **Kang**, M.-W., and Mishra, S. "Predicting Road Accidents and Prioritizing Road Safety Improvement Measures in India Using Adapted Traffic Conflict Techniques," *92th Annual Meeting of Transportation Research Board of the National Academy of Sciences*, Washington DC, January 2013. [poster]
19. **Kang**, M.-W. Finding Minimum-Cost Alignments of Existing/Planned Highways in Alabama, using HAO Model, *ALDOT Research Advisory Committee Meeting*, Montgomery, AL, October 2012. [platform]
20. **Kang**, M.-W. Alabama Hurricane Evacuation Route Development: An Optimization Approach, *Research Meeting with ALDOT Transportation Planning Bureau*, Montgomery, AL, September 2012. [platform]
21. **Kang**, M.-W. Discussion to Improve Traffic Operation and Safety of Airport Blvd, *Research Meeting with City of Mobile Traffic Engineering Office*, Mobile, AL, September 2012. [platform]
22. **Kang**, M.-W., Schonfeld, P., and Jha, M.K. A Simulation Model for Energy Efficient and Safe Train Operation for Rail Transit Lines, *Research meeting with Maryland Transit Authority (MTA) Red Line Team*, Baltimore, MD, September 2012. [platform]
23. **Kang**, M.-W. Customizing HSM Predictive Models for AL Highways, *ALDOT Research Advisory Committee Meeting*, Montgomery, AL, July 2012. [platform]
24. **Kang**, M.-W. Optimizing Cost-effective & Sustainable Highways, *ALDOT Research Meeting*. Mobile, AL. June 2012. [platform]
25. **Kang**, M.-W. Bi-Level Highway Route Optimization, *ASCE – Mobile Branch Meeting*. Mobile, AL. May 2012. [platform]
26. **Kang**, M.-W., Jha, M.K., and R. Buddharaju. "A Rail Transit Route Optimization Model for Rail Infrastructure Planning and Design: Case Study of St Andrews, Scotland," *91th Annual Meeting of Transportation Research Board of National Academy of Sciences*, Washington DC, January 2012. [poster]

Before Arriving at USA (21)

27. **Kang**, M.-W. Genetic Algorithm-based Cost-effective Highway Alignment Optimization, *Invited talk at the University of Virginia – Civil and Environmental Engineering Seminar Series*. Charlottesville, VA. April 2011. [platform]
28. **Kang**, M.-W., Wang, S., Jha, M.K., Chen, C.-C., and Schonfeld, P. "A Simulation Framework for the Path Planning of Unmanned Autonomous Systems," *ASCE - International Conference on Vulnerability and Risk Analysis and Management (ICVRAM)/Fifth International Symposium on Uncertainty Modeling and Analysis (ISUMA-2011)*, Hyattsville, MD, April 2011. [platform]
29. **Kang**, M.-W. and Shariat, S. Highway Vertical Alignment Optimization based on Fuel Efficiency, Safety and Earthwork, *Morgan Innovation Day*, Annapolis MD. February 2011. [poster]

30. **Kang**, M.-W., Jha, MK, and Raju, R. A Bi-Level Multi-Objective Optimization Model for Sustainable Green Highway Infrastructure Design, *Morgan Innovation Day*, Annapolis MD. February 2011. [poster]
31. **Kang**, M.-W., Jha, M.K., Buddharaju, R., and Hunter, J. "An Equilibrium Traffic Assignment Model for Minimizing Pollutions Derived from the Vehicular Traffic on Road Infrastructures." *International Symposium on Advances in Transport Sustainability (ISATS2010)*, Arizona State University, Tempe Campus, Nov. 17-19, 2010. [platform]
32. **Kang**, M.-W., Jha, M.K., and Karri, G. "Determination of Robot Drop Locations for Military Path Planning Using GIS Application." *4th WSEAS International Conference on Computer Engineering and Applications (CEA '10)*, Harvard University, Cambridge, Jan. 2010. [platform]
33. Jha, M.K., Karri, G., and **Kang**, M.-W. "A Military Path Planning Algorithm Using Visualization and Dynamic GIS." *4th WSEAS International Conference on Computer Engineering and Applications (CEA '10)*, Harvard University, Cambridge, Jan. 2010. [platform]
34. **Kang**, M.-W., Yang, N., Schonfeld, P., and Jha, M.K. "Bi-Level Highway Route Optimization." *89th Annual Meeting of Transportation Research Board of National Academy of Sciences*, January 2010, Washington DC. [platform] [poster]
35. Yang, N., **Kang**, M.-W., Schonfeld, P., and Jha, M.K. "Multiple Objective Optimization of Highway Alignments Incorporating Preference Information." *89th Annual Meeting of Transportation Research Board of National Academy of Sciences*, January 2010, Washington DC. [platform]
36. **Kang**, M.-W. Multi-objective Bi-Level Highway Alignment Optimization, *Invited talk at the Korea Transportation Institute*. Seoul, Korea. March 2009. [platform]
37. Burnier, C., Clifton, K.J., Huang, S., **Kang**, M.-W., and Schneider, R. "A Meso-Scale Model of Pedestrian Demand." *ACSP-AESOP 4th Joint Congress*, in Chicago, Illinois, 2008 [platform]
38. Schonfeld, P., **Kang**, M.-W, and Jha, M.K. "Optimizing Highway Alignments with Genetic Algorithms and GIS." *Research Meeting with Pennsylvania Department of Transportation*, Harrisburg PA, November, 2008. [platform]
39. Schonfeld, P., **Kang**, M.-W, and Jha, M.K. "Highway Alignment Optimization with Genetic Algorithms and GIS." *Research Meeting with Virginia Department of Transportation*, Richmond VA, October, 2008. [platform]
40. Karri, G., Jha, M.K., **Kang**, M.-W., and Schonfeld, P. "Application of GIS in Highway Alignment Optimization." *TUgis07: 20th Annual Geographic Information Science Conference*, Towson, MD, March 2007. [platform]
41. Schonfeld, P., **Kang**, M.-W, and Jha, M.K. "Improved Alignment Evaluation and Optimization Model," *Intermediate Research Meeting with Maryland State Highway Administration*, Baltimore MD, June, 2006. [platform]
42. Schonfeld, P., **Kang**, M.-W, and Jha, M.K. "Improved Alignment Evaluation and Optimization Model," *Interim Research Meeting with Maryland State Highway Administration*, Baltimore MD, March, 2006. [platform]
43. **Kang**, M.-W., Jha, M.K., and Schonfeld, P. "3D Highway Alignment Optimization for Brookeville Bypass." *85th Annual Meeting of Transportation Research Board of National Academy of Sciences*, Washington DC. January 2006. [poster]
44. **Kang**, M.-W., Kim, T., and Doh, T.W. "A New Methodology to Determine Length of Highway Horizontal Curve Sections for Accident Estimation Model." *84th Annual Meeting of Transportation Research Board of National Academy of Sciences*, Washington DC. January 2005. [poster]
45. Schonfeld, P. and **Kang**, M.-W. "Innovative Highway Alignment Optimization Methods," *Research Meeting with FHWA-Turner Fairbank*, McLean, VA, April, 2005. [platform]
46. **Kang**, M.-W., Son, B., and Doh, T.W. "Development of a Dividing Method and Accident Estimation

Models for Highway Horizontal Curve Sections Based on Geometric Characteristics." *5th Eastern Asia Society for Transportation Studies (EAST) Conference*, Fukuoka, Japan. November 2003. [platform]

47. **Kang**, M.-W. and Doh, T.W. "Optimization Strategy with External Metering on Urban Network: a Simulation Study." *50th Korean Society of Civil Engineers Annual Conference*, Seoul, Korea. 2001. [platform]

11. Scholarly & Professional Activities

11.1 Editorial and Review Activities

- Invited reviewer of *Sensors – Open Access Journal* 2016–Pre
- Invited reviewer of *Engineering Optimization – Taylor & Francis* 2016–Pre
- Invited reviewer of *Transportmetrica A: Transport Science – Taylor & Francis* 2016–Pre
- Invited reviewer of *Journal of Advanced Transportation – Wiley* 2015–Pre
- Invited reviewer of *Canadian Journal of Civil Engineering* 2014–Pre
- Invited reviewer of *Transportation Research: Part C – Elsevier* 2013–Pre
- Invited reviewer of *ASCE – Journal of Transportation Engineering* 2012–Pre
- Invited reviewer of *KSCE – Journal of Civil Engineering* 2012–Pre
- Invited reviewer of *Journal of Transportation Research Board (TRB)* 2009–Pre
- Conference organization committee: World Scientific and Engineering Academy and Society (WSEAS) Series of International Conferences at Baltimore, MD 2010; 2013

11.2 Participation in Professional Organizations

- Member, Gulf Region Intelligent Transportation Society (GRITS) 2013–Pre
- Member, ASCE - Transportation & Development Institute (TDI) 2012–Pre
- Member, National Society of Professional Engineers (NSPE) 2011–Pre
- Member, American Society of Civil Engineers (ASCE) 2008–Pre
- Friend, Transp. Research Board (TRB) - ABJ70, AHB65, AP065, ANB20, ANB10 Committees 2007–Pre
- Member, Korean-American Scientists and Engineers Association (KSEA) 2003–Pre
- Member, Korean Transportation Association in America (KOTAA) 2003–Pre
- General secretary of KOTAA 2006–2008

11.3 Invited Speakers

- Invited speaker at the 60th Alabama Transportation Conference, Montgomery, AL Feb 2017
- Invited speaker for Korean-American Scientists and Engineers Association (KSEA)'s Central Virginal Chapter Seminar Series, Skype Presentation Feb 2017
- Invited speaker at ALSITE 2015 Summer Meeting, Gulf Shores, AL June 2015
- Invited speaker at ASCE Mobile Branch Meeting, Mobile, AL May 2012
- Invited speaker at Univ. of Virginia – Civil Engineering Graduate Seminar Series Apr. 2011

11.4 Workshops & Conferences Organized and Involved

- Session Chair of 2nd International Conference on Sustainable Cities, Urban Sustainability and Transportation (SCUST '13); Maryland, September 17-19, 2013
- Conference Organization Committee; World Scientific and Engineering Academy and Society (WSEAS) Series of International Conferences; Morgan State University, Nov. 7-9, 2009.

11.5 Other Professional Development Activities

- Transportation Research Board (TRB) Annual Meetings, Washington D.C. 2003–Pre
- Annual Alabama Transportation Conference, Montgomery, AL 2012–Pre
- ASCE Alabama – Mobile Branch Meetings, Mobile, AL 2012–Pre
- USA ILC workshops, Mobile, AL 2012–Pre
- USA ILC – 2017 Conference on Teaching and Learning (CoTL), Mobile, AL May 2017
- Railway Engineering Education Symposium (REES 2016) by AREMA at UIUC, IL July 2016
- USA ILC – Summer Academy (a three day workshop), Mobile, AL July 2015
- ALSITE – DSITE 2015 Annual Workshop, Gulf Shores, AL June 2015

- NSF CAREER Proposal Workshop - CMMI Division Focus, Univ. of Maryland, MD April 2014
- Designed and offered a highway safety education program for USA students and local K-12 students (*Risk of Texting While Driving and Drowsy Driving*) Mar. 2014
- USA UCUR Program at University of South Alabama. 2014; 2013
- RESTORE Act Mixer, Mobile, AL 2013; 2012
- GRITS 2013 Fall Workshop at USA, Mobile, AL Nov. 2013
- ASCE Alabama 2013 Wither Meeting, AL Mar. 2013
- Half-Day Faculty Research Orientation at USA, Mobile, AL Nov. 2012
- Made presentations to discuss engineering approaches to improve traffic operation & safety of Airport Blvd, City of Mobile - Traffic Eng. Division, Mobile, AL Sept. 2012
- NSF – Transportation Engineering Educators Workshop, Seattle, WA July 2012
- USA – Grants in Focus Meeting at USA, Mobile, AL Feb. 2012

11.6 Synergistic Activities

- Invited speaker of 60th Annual Transportation Conference, Montgomery, AL 2017
- Invited speaker of Korean-American Scientists and Engineers Association (KSEA)'s Central Virginal Chapter Seminar Series, University of Virginia, VA 2017
- Volunteering judge for Mobile Regional Science & Engineering Fair, Mobile, AL 2014-Pre
- Invited speaker at ALSITE 2015 Summer Meeting, Gulf Shores, AL 2015
- Designed and offered a highway safety education program for USA students and local K-12 students (*Risk of Texting While Driving and Drowsy Driving*) 2014
- Involved in ALDOT-ATS Tour Video Presentation Development, Mobile, AL 2014
- Served as a mentor of UCUR Program at University of South Alabama. 2014, 2013
- Made presentations to discuss engineering approaches to improve traffic operation & safety of Airport Blvd, City of Mobile - Traffic Eng. Division, Mobile, AL 2012
- Invited speaker at ASCE Mobile Branch Meeting 2012
- Invited speaker for a graduate research seminar at Univ. of Virginia – Civil Engineering Graduate Seminar Series 2011
- Served as a general secretary of KOTAA 2006–2008

12. Graduate Student Guidance

12.1 Graduate Thesis Committee Chair or Member While at USA (11) – Since 2012

USA Students (8)

1. Doctor of Science (D.Sc.) Committee **Chair**, “Characterizing Dilemma Zones at High-Speed Signalized Intersections: Study of Traffic, Traffic Mix, and Roadway Geometric Conditions” System Engineering: Transportation Engineering Focus (January 6, 2019 – present). Advising: **MD Moynur Rahman Rahman**
2. Master's Thesis Committee Member, “Modeling Transversal Support from Nanofiber Z-Threads to a Carbon Fiber by Finite Element Analysis of Multiple Carbon Fiber Reinforced Plastic (CFRP) Composite Unit Cells – a Potential Mechanism to Enhance Carbon Fiber Compressive,” Mechanical. (July 2018 – Mar. 2019). Advised: Keonhyeong Kim.
3. Master's Thesis Committee **Chair**, “Dilemma Zone Location and Length: Safety Measure of High-Speed Signalized Intersections” Civil. (January 2, 2017 – Dec. 2018). Advising: MD Moynur Rahman
4. Master's Thesis Committee Member, “Numerical Modeling of Carbon Nanofiber Z-Threaded Carbon Fiber Reinforced Polymer Composites,” Mechanical. (Jan. 2017 – April 2018). Advised: Fariborz Bayat.
5. Master's Thesis Committee **Chair**, “Study of All Red Times for Safe and Efficient Operations of Left-Turn and Opposing Through Movements at Intersections Operated with Protected-Permissive Left-Turn (PPLT) Mode,” Civil. (January 2, 2016 – Present). Advising: Mahbub Mahbub
6. Master's Thesis Committee Member, “Development of Safety Performance Functions (SPF) and Crash Modification Factors (CMF) for Rural Local Roads in Alabama,” Civil. (January 2, 2016 – Present). Advising: Grace Paola Toledo Nieto
7. Master's Thesis Committee **Chair**, “Effectiveness of Audible Pavement Treatments on Drivers' Compliance to Roadside Safety Signs – A Driving Simulator Study,” Civil. (January 2, 2014 – July 11, 2015). Advised: Salah Momtaz
8. Master's Thesis Committee Member, “Finite Element Analysis of the Interaction between a Crack and Clusters of Speed Signalized Intersections Inclusions in Aligned CNF Composites under Quasi-Static Loading Conditions,” Mechanical. (August 2013). Advised: Sungmin Kim.

Students in Other Institutions while at USA (3)

9. Ph.D. Dissertation Committee Member, “*Strategies to Improve the Efficiency of a Multimodal Interdependent Transportation System in Disaster*,” Civil. (2009–Present). Advised: Francis Udentia at Morgan State Univ.
10. Ph.D. Dissertation Committee Member, “*Modeling Gap Acceptance and Driver Behavior at Stopped Controlled Intersections (Priority Intersections)*,” Civil. (2008 – December 2012). Advised: Rene Lord-Attivor at Morgan State Univ.
11. Ph.D. Dissertation Committee Co-Chair “*Sight Distance Analysis on Highway Alignment Optimization*,” Civil. (2009 – 2011). Advised: Shaghayegh Shariat at Morgan State Univ.

12.2 Publications & Presentations with Graduate Students (14)

While at USA (10) – Since 2012

Note: *graduate students

1. Mahbub*, M., Kang, M.-W., and Lee, J. (2019), Protected–Permissive Left Turn Phasing with Flashing Yellow Arrow Signal: Study of Red Times for an Effective Phase Transition. Canadian Journal of Civil Engineering, 46(8), 732-741. doi.org/10.1139/cjce-2018-0381
2. Jagirdar*, R., Lee, J., Kim, K., and Kang, M.-W. (2019), Development and Evaluation of Traffic Count Sensor using Low-Cost LiDAR and Continuous Wavelet Transform, *Transportation Research*

Record: Journal of the Transportation Research Board (TRB). doi.org/10.1177/0361198119853564

3. Kang, M.-W. and Rahman*, M.M. Drowsy Driving Advisory System – Alabama Case Study. *98th Annual Meeting of Transportation Research Board of National Academy of Sciences*, Washington DC, January 2019. [poster].
4. Mahbub*, M, Kang, M.-W., and Lee, J. Determining Length of Red Times for Effective Protected-Permissive Left Turn Phase Operation with Flashing Yellow Arrow Signal. *98th Annual Meeting of Transportation Research Board of National Academy of Sciences*, Washington DC, 2019. [poster].
5. Jagirdar, R., Lee, J., Kim, K., and Kang, M.-W. Development and Evaluation of Traffic Count Sensor using Low-Cost LiDAR and Continuous Wavelet Transform. *98th Annual Meeting of Transportation Research Board of National Academy of Sciences*, Washington DC, 2019. [platform].
6. Kang, M.-W. and Momtaz*, S. (2018), Assessment of Driver Compliance on Roadside Safety Signs with Warning Sounds from Road Surface - A Driving Simulator Study, *Journal of Traffic and Transportation Engineering – Elsevier*, Vol. 5, Issue 1, pp. 1-13
7. Momtaz*, S. and Kang, M.-W. (2017). Auditory Warning Signals: Improving Driver Compliance to Roadside Safety Signs, In *Proceedings of 2017 Road Safety & Simulation Conference (RSS2017)*, Oct. 2017, Hague, NL.
8. Kang, M.-W. and Momtaz*, S. (2016). *A Safety Study of Alabama Highways – Reducing Crashes Caused by Drowsy Driving: Focusing on Drowsy Driving Warning Signs & Roadside Rest Area Signs*. Final Report prepared for Alabama Department of Transportation, Research Project No: 930-856R, University of South Alabama.
9. Kang, M.-W., Momtaz*, S., and Barnett, T. (2015), Crash Analysis and Public Survey for Drowsy Driving Advisory Systems, *Journal of Transportation Engineering – ASCE.*, Vol. 141, Issue 9.
10. Momtaz*, S. and Kang, M.-W., Caldwell, T., and Ellzey, J. “Effectiveness of Audible Pavement Treatments on Drivers’ Compliance to Roadside Safety Signs - A Driving Simulator Study”, Poster Presentation (Mar. 16, 2015) at USA – 22nd Annual Graduate Research Forum, Mobile, AL

Before Arriving at USA (4)

Note: *graduate students

11. Kang, M.-W., Jha, M.K., and Buddharaju*, R. (2014), A Rail Transit Route Optimization Model for Rail Infrastructure Planning and Design: Case Study of St Andrews, Scotland, *Journal of Transportation Engineering – ASCE*, Vol. 140, No. 1, pp. 1-11.
12. Jha, M.K., Kang, M.-W., Mishra, S., Samanta, S., and Lyons*, N. (2014), Urban Rail Transit Planning and Design: Discussion of Practical Issues and Analytical Modeling Techniques, In *Proceedings of 93rd Annual Meeting of Transportation Research Board of National Academy of Sciences*, Paper No. 14-5309 on CD-ROM
13. Kang, M.-W. Shariat*, S., and Jha, M.K. (2013), New Highway Geometric Design Methods for Minimizing Vehicular Fuel Consumption and Improving Safety, *Transportation Research Part C – Emerging Technology*, Vol. 31, June 2013, pp. 99-111.
14. Buddharaju*, R., Jha, M.K., Kang, M.-W., Mishra, S., and Ponnada, M. (2013), Predicting Road Accidents and Prioritizing Road Safety Improvement Measures in India Using Adapted Traffic Conflict Techniques, In *Proceedings of 92nd Annual Meeting of Transportation Research Board of National Academy of Sciences*, Paper No. 13-5157 on CD-ROM.

12.3 Comp. Exam Committee Chair or Member While at USA (7) – Since 2012

1. Vijaya Satya Lohitha Mukkamala, Civil Engineering. (Mar. 2018). Committee Member
2. Varun Kumar Nagelli, Civil Engineering. (Dec. 2016). Committee **Chair**
3. Surya Prakash Rao Puttamraju, Civil Engineering. (May 2016). Committee **Chair**
4. Anusha Mandadi, Civil Engineering. (May 2016). Committee Member

5. Ranadeep Ravula, Civil Engineering. (May 2016). Committee Member
6. Jayaprakash Nalluri, Civil Engineering. (Dec. 2015). Committee **Chair**
7. Jenfier Buttler, Civil Engineering. (May 2013). Committee Member

13. Undergrad Researcher Guidance

13.1 Undergraduate Researchers Supervised While at USA (13) – Since 2012

1. Levi Ta, Civil Engineering. "Protected and Permissive Left Turn (PPLT) Mode with 4-Section FYA Sinal," (Feb 18, 2019 – Present)
2. Ellis McDaniel, Civil Engineering. "Assessing Safety and Performance of Recently Improved Corridors, using Surrogate Safety Assessment Model (SSAM)," (Feb 4, 2019 – Present)
3. Kolby Kirk, Civil Engineering. "Driver Behavior with Dilemma Zone at High-Speed Signalized Intersections," (Jan 7, 2018 – Present)
4. Thomas Calhoun, Civil Engineering. "USA Main Campus Shelby Hall Parking Lots: Restriping and Traffic Operation Design," (July 7, 2016 – Dec. 2, 2016)
5. Ryan Brainard, Civil Engineering. " Identifying High-Risk, High-Speed Signalized Intersections in Rural Alabama - Dilemma-Zone Crash Focus," (May 1, 2015 – August 15, 2016)
6. Jessie Parfait, Civil Engineering. "Modeling a Simulation Network of Airport Blvd and University Blvd, using VISSIM," (July 1, 2015 – Mar. 7, 2016).
7. Jonathan Ellzey, Civil Engineering. "Assessing USA Main Campus Parking," (March 14, 2014 – Aug. 2014).
8. Jonathan Ellzey, Civil Engineering. "Public Survey for Drowsy Driving Advisory Safety Messages," (May 19, 2014 – July 31, 2014).
9. Timothy Caldwell, Civil Engineering. "Assessing USA Main Campus Parking Management", 2014 UCUR Summer Research (March 14, 2014 - June 23, 2014).
10. Tyler Noland, Civil Engineering. "Assessing Traffic Delay and Pedestrian Safety Risk of USA Main Campus", 2014 UCUR Summer Research (March 14, 2014 - April 14, 2014).
11. Timothy Caldwell, Civil Engineering. "Developing Driving Simulation Scenarios of Rural Interstate Highways," (August 2013 – May 2014).
12. Daniel Corliss, Civil Engineering. "Feasibility of Roundabout Implementation at the USA Main Campus", 2013 UCUR Summer Research (May 2013 - October 2013).
13. Andrew Patch, Civil Engineering. "Investigating Current State of Rest Area Information Signs on Alabama Interstate Highways," (May 2013 – Aug. 2013).

13.2 Publications & Presentations with Undergrads While at USA (3) – Since 2012

Note: *undergraduate students

1. Momtaz, S. and Kang, M.-W., Caldwell*, T., and Ellzey*, J. "Public Survey for Drowsy Driving Advisory Safety Messages", Poster Presentation (Mar. 16, 2015) at USA – 22nd Annual Graduate Research Forum, Mobile, Alabama
2. Daniel Corliss (mentored by Kang, M.-W.), "*Feasibility of Roundabout Implementation at the Intersection of USA Drive N and Health Service Drive, Using Analytical and Microscopic Traffic Simulation Approaches*" 2013 UCUR Symposium, Mobile, AL, Oct., 2013
3. Corliss*, D. and Kang, M.-W. (2013), Roundabout Feasibility for Improving a University Campus Intersection, Using Microscopic Traffic Simulation Approaches, In *Recent Researches in Urban Sustainability, Architecture and Structures*, O. Owolabi and M. Jha (ed.), ISBN: 978-960-474-331-5, pp. 58-65, WSEAS Press.

14. Awards

14.1 Awards & Honors

While at Univ. of South Alabama (USA) – Since 2012

- Received 2018 ASCE ExCEED Fellow Award
- Received Faculty Travel Grant for Railway Engineering Education Symposium (REES 2016); Sponsored by American Railway Engineering and Maintenance-of-Way Association (AREMA), University of Illinois, Urbana-Champaign, IL, July 12-14, 2016
- Nominated (4 times) for the College of Engineering Excellence in Research Award at University of South Alabama, 2014 - 2017
- Received Faculty Travel Grant for NSF – Transportation Engineering Educators Workshop, Seattle, WA, July, 2012.
- Daniel Corliss (mentored by Dr. Kang) was selected as a finalist of the 2013 UCUR Symposium, representing the USA College of Engineering, Oct., 2013

Before Arriving at USA

- Received National Graduate Fellowship, Korea National Research Foundation (NRF), 2003–2005
- Received Travel Grants for TRB Annual Meetings of National Academy of Sciences, Korean Transportation Association in America (KOTAA). January 2005, 2007, 2008 (3 times).
- 2nd Place, Univ. of Maryland Poster Competition at 83th TRB Annual Meeting, 2004
- Received (4 times) outstanding Graduate Scholarship, Hanyang University, 2001 – 2003
- Received (7 times) outstanding Undergrad Scholarship, Hanyang Univ., 1994 – 1995; 1998 – 2000

14.2 Highly Cited Journal Articles by Dr. Kang

- **Kang, M.-W., Jha, M.K., and Schonfeld, P. (2012), Applicability of Highway Alignment Optimization Models, *Transportation Research Part C – Emerging Technology*, Vol. 21, Issue 1, pp. 257-286. IF: 5.775; Cited 73 times**
- **Kang, M.-W., Schonfeld, P., and Yang, N. (2009), Prescreening and Repairing in a Genetic Algorithm for Highway Alignment Optimization, *Computer-Aided Civil and Infrastructure Engineering*, Vol. 24, No. 2, pp. 109-119. IF: 6.208; Cited 71 times**

15. List of Courses Taught

While at USA – Since 2012

- CE 102: Intro. to Civil Engineering: every Fall & Spring since 2012
- CE 352: Transportation Engineering: Spring 2014; Fall 2015, 2016, 2017, 2018, 2019
- CE 353 (previously named CE 452): Transportation Geometric Design: Since Spring 2013
- CE 490: Special Topic – Highway Safety: Spring 2012; Fall 2013
- CE 490: Special Topic – Traffic Engineering: Fall 2012, 2014, 2018
- CE 551: Traffic Engineering: Fall 2012; Fall 2014; Fall 2017
- CE 552: Highway Geometric Design: Spring 2013, 2015, 2016, 2017, 2019
- CE 590: Advanced Highway Safety: Spring 2012; Fall 2013
- CE 592: Simulation-based Traffic Analysis: Sum 2015
- CE 592: Advanced Highway Engineering/Design: Spring 2013; Spring & Sum 2014;
- CE 599: Thesis: Sum & Fall 2014
- EG 501: Research Integrity & Seminar: Fall 2013

Before Arriving at USA

- CEGR 670: Highway Safety: Fall 2011
- CEGR 656: Transportation Models and Simulation Analysis: SP 2011
- CEGR 467: Civil Engineering Systems and Optimization: SP 2011
- CEGR 697: Geographic Information System for Transportation: Fall 2010
- CEGR 651: Computer Aided Highway Engineering Design: SP 2010