

Sunghwan Kim, PhD, PE	
Associate Director and Research Scientist, Program for Sustainable Pavement Engineering & Research (PROSPER) at Institute for Transportation (InTrans) Adjunct Assistant Professor, Civil, Construction and Environmental Engineering (CCEE) 24 Town Engineering Bldg. Iowa State University 813 Bissell Road Ames, IA 50011-1066	(515) 294-4698 sunghwan@iastate.edu IOWA STATE UNIVERSITY Institute for Transportation

EDUCATION

- PhD, Civil Engineering, Iowa State University, 2006
- MS, Civil Engineering, Iowa State University, 2004
- BS, Civil Engineering, Korea University, Seoul, South Korea, 1998

PROFESSIONAL EXPERIENCE

- Research Scientist, InTrans, Iowa State University, 2017–present
- Assistant Research Scientist, InTrans, Iowa State University, 2015–2017
- Associate Director of PROSPER, InTrans, Iowa State University, 2013–present
- Research Assistant Professor, CCEE, Iowa State University, 2013–2015
- Postdoctoral Research Associate, CCEE, Iowa State University, 2007–2012
- Civil/Civil Material Engineer, Hyundai Development Company Engineering & Construction, Seoul, South Korea, 1998–2002

SELECTED RESEARCH PROJECTS

- *Iowa Granular Road Structural Design Tool*, IHRB
- *Have Minnesota’s Warmer Winters Increased the Number of Freeze Thaw Cycles?–Phase 1*, MnDOT and LRRB
- *Development of a Smartphone-Based Road Performance Data Collection Tool*, IHRB
- *Development of Pavement Structural Analysis Tool (PSAT) for Iowa Local Roads*, IHRB
- *Investigation on Pavement ME Design Reflective Cracking, Faulting, IRI Prediction Models, Concrete Overlays Design Tool, and Performance Threshold Levels for Iowa Pavement Systems*, Iowa DOT
- *Development of Iowa Pavement Analysis Technique (IPAT)*, IHRB
- *Self-Heating Electrically Conductive Concrete Demonstration Project*, Iowa DOT/IHRB
- *Concrete Grinding Residue: Its Effect on Roadside Vegetation and Soil Properties*, MnDOT
- *Investigation into the Feasibility of Using Electrically Conductive Asphalt Cement Concrete for Heated Airport Pavements*, FAA Center of Excellence (COE)
- *Evaluation of Otta Seal Surfacing for Low-volume Roads in Iowa–Phase I and Phase II*, IHRB

- *Impact of Curling and Warping on Concrete Pavement—Phase I and Phase II*, Iowa DOT/IHRB
- *Evaluating Roadway Subsurface Drainage Practices—Phase I and Phase II*, IHRB

SELECTED PUBLICATIONS

- **Authored/co-authored more than 200 peer-reviewed publications and more than 100 technical presentations.**
- Chen, Y., Ceylan, H., Nlenanya, I., Kaya, O., Smadi, O. G., Taylor, P. C., Kim, S., Gopalakrishnan, K., and King, D. E. 2020. Long-term Performance Evaluation of Iowa Concrete Overlays. *International Journal of Pavement Engineering*, DOI:10.1080/10298436.2020.1766687.
- Gopiseti, L. S. P., Ceylan, H., Kim, S., Cetin, B., and Kaya, O. 2020. Sensitivity Index Comparison of Pavement Mechanistic-Empirical Design Input Variables to Reflective Cracking Model for Different Climatic Zones. *Road Materials and Pavement Design*, DOI: 10.1080/14680629.2020.1747523.
- Yang, B., Zhang, Y., Ceylan, H., and Kim, S. 2020. Evaluation of Bio-Based Fog Seal for Low-Volume Road Preservation. *International Journal of Pavement Research and Technology*, Vol. 13, pp. 303–312.
- Kaya, O., Ceylan, H., Kim, S., Waid, D., and Moore, B. 2020. Statistics and Artificial Intelligence Based Pavement Performance and Remaining Service Life Prediction Models for Iowa Flexible and Composite Pavement Systems. *Transportation Research Record: Journal of the Transportation Research Board*, Vol. 2674, pp. 448–460.
- Yang, S., Zhang, Y., Kaya, O., Ceylan, H., and Kim, S. 2020. Investigation of Longitudinal Cracking in Widened Concrete Pavements. *Baltic Journal of Road and Bridge Engineering*, Vol. 15, No. 1, pp. 211–231.
- Gushgari, S. Y., Zhang, Y., Nahvi, A., Ceylan, H., Kim, S., Arabzadeh, A., Jahren, C. T., and Øverby, C. 2019. Design, Construction, and Preliminary Investigation of Otta Seal in Iowa. *Transportation Research Record: Journal of the Transportation Research Board*, Vol. 2673, pp. 821–833.
- Luo, C., Wang, Z., Kordbacheh, F., Zhang, Y., Yang, B., Kim, S., Cetin, B., Ceylan, H., and Horton, R. 2019. The Influence of Concrete Grinding Residue on Soil Physical Properties and Plant Growth. *Journal of Environmental Quality*, DOI:10.2134/jeq2019.06.0229.
- Nahvi, A., Zhang, Y., Arabzadeh, A., Satvati, S., Gushgari, S. Y., Ceylan, H., Jahren, C. T., Gransberg, D. D., and Kim, S. 2019. Economics of Upgrading Gravel Roads to Otta Seal Surface. *Applied Economics*, pp. 1–13.
- Kim, S., Gopalakrishnan, K., Ceylan, H., and Steffes, R. F. 2014. Performance Evaluation of Roadway Subdrain Outlets in Iowa. *Transportation Research Record: Journal of the Transportation Research Board*, Vol. 2462, pp. 68–76.
- Kim, S., Gopalakrishnan, K., and Ceylan, H. 2012. Moisture Susceptibility of Subgrade Soils Stabilized by Lignin-Based Renewable Energy Co-product. *Journal of Transportation Engineering*, Vol. 138, No. 11, pp. 1283–1290.
- Kim, S., Gopalakrishnan, K., and Ceylan, H. 2011. Unbound Material Characterization with Nottingham Asphalt Tester (NAT). *Proc., ICE – Construction Materials*, Vol.165, No 6, pp. 355–365.

PROFESSIONAL AFFILIATIONS, HONORS, AND SERVICE

- Participated in developing new pavement structure assessment program using FWD deflection data for Iowa DOT

AWARDS, RECOGNITIONS

- Professional and Scientific Excellence Award, Iowa State University, Ames, Iowa, 2022
- Jimenez Faculty/Researcher Award, FAA PEGASAS, 2020