

Curriculum Vitae

Youngguk Seo

Professor

Department of Civil and Environmental
Engineering

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I. EDUCATION AND EXPERIENCE

A. Education

- North Carolina State University, Ph.D., Transportation Materials, 08.2003
- Seoul National University, M.S., Structural Engineering, 02.1996
- University of Seoul, B.E., Civil Engineering, *Summa Cum Laude*, 02.1993

B. Experience

B.1 Academic Positions

- Professor, KSU, 08.2025 - present
- Associate Professor, KSU, 08.2020 – 07.2025
- Assistant Professor, KSU, 08.2014 – 07.2020
- Adjunct Professor, Kyonggi University, Korea, 03.2009 – 02.2010
- Part-time Lecturer, Kyonggi University, Korea, 08.2006 – 03.2009
- Part-time Lecturer, Sejong University, Korea, 08.2005 – 08.2006
- Part-time Lecturer, Chung-Ang University, Korea, 08.2005
- Part-time Lecturer, In-ha University, Korea, 03 2007

B.2 Research Positions

- Deputy Director, Georgia Pavement and Traffic Research Center, 06.2022 – Present
- Director, Georgia Pavement and Traffic Research Center, 09.2019 – 06.2022
- Pavement Engineer, Turner Fairbank Highway Research Center (TFHRC), Federal Highway Administration (FHWA)-SES Group, 02.2013 – 08.2014
- Deputy Research Director, Korea Expressway Corporation (KEC), 02.2006 – 02.2013
- Researcher, KEC, 10.1996 – 02.2006
- Junior Investigator, KEC, 02.1996 – 10.1996
- Postdoc Research Associate, North Carolina State University (NCSU), 08.2003 – 04.2004
- Graduate Research Assistant, NCSU, 01.2000 – 08.2003
- Graduate Research Assistant, Seoul National University, 03.1994 – 02.1996

B.3 Affiliated Positions

- Brain Pool Scholar, Korean Federation of Science and Technology Societies (KOFST), 05.2015 – 08.2015
- Visiting Scholar, Korea Institute of Construction Technology (KICT), 10.2015 – 03.2016

- Visiting Scholar, KICT, 01.2007 – 02.2007
- Civil Engineer, Massachusetts Institute of Technology (MIT), 10.1997 – 12.1997

II. AWARDS AND HONORS

- Fellow ASCE, 08.2025
- Distinguished Scholarship Award, SPCEET, KSU, 02.2022
- Outstanding Early Career Faculty Award. KSU Foundation, 11.2018
- Brain Pool Program Award, KOFST, 05.2015
- Korean Society of Civil Engineers (KSCE) Award, KSCE, No. 2010-257, 01.2011
- Best Paper Award, KSCE, No. 2008-120, 10.2008
- Best Paper Award, Korean Society of Road Engineers (KSRE), No. 08-20, 10.2008
- Best Young Researcher Award, KSCE, No. 346, 01.2007
- Best Researcher Award, Ministry of Construction and Transportation, 04.2006
- Ward K. Parr/Association of Asphalt Paving Technologists (AAPT) Scholarship, 07.2002

III. SCHOLARSHIP

A Research Funds and Development Supports After 2014

A.1 External Funds

- Affordable Materials Grants, R26: Transformation Grants, Affordable Learning Georgia, PI, \$17,000, 2024-2025
- Assessment of Durability and Functionality of Highway Porous Pavements, PI, KEC/KCL, KWN 67,200,000 (\$60,000), 2024-2026
- Guidelines for Incorporation of Cement Stabilized Reclaimed Base in Pavement Design, Co-PI, Georgia Department of Transportation, RP 20-14, \$163,000, 2020-2023
- Optimizing Winter Roadway Treatment for Georgia Pavements, PI, Georgia Department of Transportation, PI, RP 18-28 (Subaward) \$60,000, 2019-2020
- Full Depth Pavement Reclamation: Performance assessment and recommendations for best performance, Co-PI, Georgia Department of Transportation RP 18-22, \$89,998, 2018-2019
- Best Policies and Regulations for Performance Enhancement of Highway Pavement in Korea, PI, Korea Expressway Corporation, \$40,000, 2016-2017
- Development of Materials and Construction Technology for Cool and Porous Pavement, PI, Seoul Metropolitan Government, \$20,000, 2015-2016
- Energy Harvesting Technologies for Road Pavement, PI, Korean Federation of Science and Technology Societies, \$21,000, 05.2015-08.2015
- Effects of Reclaimed Asphalt Pavement (RAP) Contents and Sources on Dynamic Modulus (E^*) and Fatigue Performance of Asphalt Mixtures in Georgia, Co-PI, Georgia Department of Transportation, RP 14-12, \$127,500, 2014-2016

A.2 Internal Funds

- Development of waste embedded cement mixes for 3D concrete printing under chloride-loaded environment, SPCEET Faculty Scholarship Grant, \$9,990, 01.2024.
- Metal content and chemical analysis of recycled waste materials by TCLP and FTIR; Co-PI, Office of Undergraduate Research First Year Scholars Program Funding for J. Chen and A. Kebbeh, \$2,000, 08.2023

- Behavior of Cement Concrete Mixed with Recycled Waste Materials; PI, Office of Undergraduate Research First Year Scholars Program Funding for Cameron Ramsey, \$1,000, 08.2023
- Behavior of Cement Concrete Mixed with Recycled Waste Materials; Co-PI, Office of Undergraduate Research, \$6,000, 02.2023
- Cement Concrete Behavior Mixed with Waste Materials; Co-PI, Office of Undergraduate Research, \$3,000, 09.2022
- A Graphene-OGFC composite to heal the micro-cracks in interstate highways, PI, Office of Vice President of Research Award - FY20 OVPR Pilot/Seed Grant, \$11,526, 2019-2020
- Do our winter snow and ice control shorten the life of road pavements? PI, OVPR Award - FY19 Office of Vice President of Research Award Pilot/Seed Grant, \$14,979, 2018-2019
- The effect of anti-icing treatment on the premature failure of OGFC at cold temperature, PI, SPCEET special project, \$15,000, 2018
- Road roughness measurement and mapping using a smartphone-based crowdsourcing technology, PI, SPCEET, \$27,500, 2017

A.3 Research Development Funds (E: External, I: Internal, and D: Donated)

- The Zorn ZFP 3000 GPS - Light Weight Deflectometer, \$6,200 (I), 01.2024.
- HCM-500HA - Concrete Hydraulic Loading Machine, \$25,153 (I), 01.2024.
- HA-1701.3F SmartPave - Dynamic Shear Rheometer, \$47,850 (I), 02.2023.
- LIMAB, Precicura Texrough – two laser sensors, \$9,470 (I), 01.2024.
- Resipod - HMA-843 - Surface Resistivity, \$3,835 (E), 01.2024
- Olson Instruments - Impact Hammer Resonance Tester (RTG 1), \$9,990 (E), 01.2024.
- Purwheel – Indiana DOT, \$44,500 (D).
- British Pendulum – Portable Skid Resistance Tester, \$240 (I)
- HA-5300A – Immersion Hamburg Wheel Tracker, \$52,000 (I)
- SR-6XR250-100 Spectrometer – Ocean Optics, \$9,596 (I)

B Research Funds Before 2014

- Response and Performance of Inverted Pavement, Pavement Engineer, USDOT, FHWA, Turner Fairbank Highway Research Center, Pavement Engineer, 2013-2014
- Reconstruction of Asphalt Pavement Test Lanes, Pavement Engineer, 50(3), Pavement Engineer, USDOT, FHWA, Turner Fairbank Highway Research Center, \$250,000, 2013-2014
- Standardization of Construction Technologies with Warranty Specifications for Road Pavements (06 Building Infrastructure A01), PI, Korean Ministry of Construction and Transportation (MOCT), \$3,590,000, 2006-2011
- Long-term Performance Evaluation of Test Road subjected to Highway Traffic, PI, Korea Expressway Corporation (KEC), \$466,166, 2008-2010
- Development of Proactive Carbon-suppressing Techniques and Road Polices, Co-PI, \$208,333, KEC, 2009-2011
- Using High-Speed Weigh-In-Motion to Monitor the Characteristics of Heavy Truck Traffic on Highways, Co-PI, KEC, \$184,867, 2008-2010
- Design and Deployment of Noise-suppressing HMA pavements, Co-PI, \$57,000, 2005

- Development of Mechanistic-Empirical Pavement Design Guides (MEPDG) Suitable for Roads in Korea, Co-PI, KEC-KICT-KSRE, MOCT, \$849,272, 2005-2006
- Building Pavement Response and Performance Database using Test Road Data Acquisition Systems, PI, KEC, \$320,000, 2005-2007
- Analysis and Evaluation of Highway Traffic Noise, PI, KEC-Pusan National University, KEC, \$100,000, 2005
- Evaluation of Waterproofing Layers and Steel Deck Designs to Amplify the Durability of Flexible Bridge Deck Pavements, Co-PI, \$106,275, KEC, 2005
- Development of the Asphalt Pavement Performance Prediction Methodology Based on the Viscoelastoplastic Continuum Damage Theory, PI, KEC-NCSU, PA 06-18, \$348,605, 2004-2006
- Impact of Price Reductions on the Long-Term Pavement Performance of HMA Mixes in North Carolina, Postdoc, NCDOT HWY-2002-09, \$271,742, 2001-2003
- Advanced Characterization of Asphalt Concrete Using Fracture Mechanics Approach, Graduate Assistant, NCHRP (National Cooperative Highway Research Program) 9-19, \$212,496, 2000-2003
- Development of Ultrasonic Sensors for Non-destructive Evaluation of Fracture Critical Steel Bridges, Co-PI, KEC – Massachusetts Institute of Technology NDE laboratory, KEC 97-59-45, \$249,750, 1996-1997
- Structural Analyses for the Design and Build of Suspension Bridges Subjected to Seismic Motions, Co-PI, KEC, \$64,250, 1998-1999
- Feasibility Study of Highway Steel Bridges with Steel Decks, Junior Investigator, KEC-Han-yang University, KEC, \$110,523, 1998
- Design Automation Systems for Steel Box-girder Highway Bridges, Junior Investigator, KEC, \$137,500, 1999
- Structural Design Standardization for Steel Composite Box-girder Bridges, Junior Investigator, KEC, \$136,666, 1997-1998

C Special Research Projects (Pro bono)

- Fatigue Cracking: An experimental and numerical synthesis from the mid-1990 to 2016, AAPT, Invited Author of Section 5.2.5, 2016
- Survey for Evaluation Methods and Current Status of the Report Card for America's Infrastructure and Recommendations for the Development of the Korea Report Card, KICT, Invited Author of Pavement Infrastructure, 2015-2016

D Publication

D.1 Peer-reviewed Journal Articles

- Karim, M.A., Seo, Y., Alamayreh, I., Suttle, S. Optimizing the Use of Fly Ash as Partial Replacement of Fine Aggregate and Cement in Portland Cement Concrete Mixes. *CivilEng* 6(33), <https://doi.org/10.3390/civileng6030033> (06.2025)
- Seo, Y. and Kim, J.H. Synergistic Impact of Entrained Air and Fly Ash on Chloride Ingress in Concrete Pavement: An Electrical Resistivity Model Approach. *Buildings* 15 (1215). <https://doi.org/10.3390/buildings15081215> (04.2025)
- Karim, M.A., Seo, Y., Vargas, B., Rosales, K., Parra, Kyle, C., Henry, M., and Yun, A. Optimum use of recycled waste materials as partial replacement of fine aggregate in Portland cement concrete mixes, *Journal of Waste Management & Recycling Technology*,

- 2(5), [http://doi.org/10.47363/JWMRT/2024\(2\)135](http://doi.org/10.47363/JWMRT/2024(2)135) (09.2024)
- Kim, J.H., Kwon, O.S., Cho, W.Y., Kim, K., and Seo, Y. Introducing the rubber plate impact method: A versatile alternative to close proximity test for tire-pavement noise characterization on highways, *Discover Civil Engineering* <http://doi.org/10.1007/s44290-024-00074-y>, ISSN 2948-1546 (09.2024)
 - Kwon, J., Seo, Y., Kaplan, A. Assessment of full-depth reclamation (FDR) pavement performance: A case study in Georgia, *Case Studies in Construction Materials*, Volume 20, e02910, <https://doi.org/10.1016/j.cscm.2024.e02910>, ISSN 2214-5095 (07.2024)
 - Seo, Y. and U.J. Seo. Ground source heat pump (GSHP) systems for horticulture greenhouses adjacent to highway interchanges: A case study in South Korea, *Renewable and Sustainable Energy Reviews* 135, <https://doi.org/10.1016/j.rser.2020.110194> (08.2021).
 - Kwon, J., Seo, Y., Kaplan, A., and Yang, Y. Field and numerical investigation of full-depth reclamation with Portland cement in Georgia, *Transportation Geotechnics* 27, <https://doi.org/10.1016/j.trgeo.2020.100465> (02.2021).
 - Seo, Y., J.H. Kim, and U.J. Seo. Eco-friendly snow melting systems developed for modern expressways, *ASTM Journal of Testing and Evaluation* 47(5): 3432–3447 (02.2019)
 - Seo, Y., U.J. Seo, and J.H. Kim. Economic feasibility of ground sourced heat pump system deployed in expressway service area. *Geothermics* 76: 220-230 (07.2018)
 - Oh, H.J., Cho, Y.K., Seo, Y., and Kim, S.M. Experimental analysis of curling behavior of continuously reinforced concrete pavement, *Construction and Building Materials*, 128: 57-66 (12.2016)
 - Oh, H.J., Cho, Y.K., Seo, Y., and Kim, S.M. Experimental evaluation of longitudinal behavior of continuously reinforced concrete pavement depending on base type, *Construction and Building Materials* 114: 374-382 (07.2016)
 - Seo, Y. and Kim, S.M. Estimating greenhouse gas emissions from road traffic: A case study in Korea. *Renewable and Sustainable Energy Reviews* 28: 777-787 (12.2013)
 - Seo, Y. and Kim, S.M. Estimation of greenhouse gas emitted from road constructions in Korea, *Renewable and Sustainable Energy Reviews* 26: 625-631 (07.2013)
 - Seo, Y., Kim, S.M., and Lee, J.H. Operation of the first full-scale road test facility in Korea and lessons learned from 8 years of experience. *KSCE, Journal of Civil Engineering* 17(5): 1023-1029 (08.2013)
 - Seo, Y. and Kim, S.M. Longitudinal cracking at transverse joints caused by dowel bars in jointed concrete pavements. *KSCE, Journal of Civil Engineering* 17(2): 395-402 (05.2013)
 - Seo, Y., Baek, C, and Kim. Y.R. Fatigue crack characterization of asphalt concrete pavement on the bridge deck. *ASTM, Journal of Testing and Evaluation* 40(6): 1-15 (09.2012)
 - Seo, Y. and Lee, J.H. Development of strain gauge installation methods for asphalt concrete pavement and their in-site validations. *ASCE, Journal of Transportation Engineering* 138(6): 690-699 (07.2012)
 - Seo, Y., Eum, J.Y., Ku, B.S., Lee, J.G., Kong, Y., and Kang, H.J. Low carbon technology in the transport and construction sectors in Korea. *Road Engineering Association of Asia & Australia (REAAA) Journal* 17: 66-75 (03.2012)
 - Seo, Y., Seo, U.J., Eum, J.Y., and Lee, S.J. Development of geothermal snow melting

system for highway overlays in Korea. *ASTM, Journal of Testing and Evaluation* 39(4): 592-602 (07.2011)

- Seo, Y. A full-scale in-situ evaluation of strain anisotropy at flexible highway pavements. *ASTM, Journal of Testing and Evaluation* 38(4): 383-389 (07.2010)
- Lee, S.Y., Seo, Y., and Kim, Y.R. Effect of hydrated lime on the dynamic modulus of asphalt- aggregate mixtures in the state of North Carolina. *KSCE, Journal of Civil Engineering* 14(6): 829-837 (11.2010)
- Seo, Y., Jeong, U.Y., and Cho, J.S. Simplified finite element dynamic analysis for cable-supported structures subjected to seismic motions. *KSCE, Journal of Civil Engineering* 14(4): 579-588 (07.2010)
- Lee, S.J., Seo, Y., and Kim, Y.R. Nondestructive fatigue damage analysis of a thin asphalt concrete course using the wavelet correlation method. *ASTM, Journal of Testing and Evaluation* 38(3): 324-331 (05.2010)
- Yeo, H., Seo, Y., Suh, Y.C., and Jeong, J.H. Performance indicator and the threshold value of national highway jointed concrete pavements. *Journal of KSCE* 30(30D): 279-288 (05. 2010)
- Seo, Y. Distress evolution in flexible highway pavements: a 5-year study at the KHC test road. *ASTM, Journal of Testing and Evaluation* 38(1): 32-41 (01.2010)
- Seo, Y. Application of pay adjustment regulation for flexible highway pavements. *Journal of KSRE* 11(3): 1-15 (09.2009)
- Choi, J.H., Seo, Y., and Suh, Y.C. Validation of permanent deformation model for flexible pavement using accelerated pavement testing. *Journal of KSCE* 29(4D): 491-497 (07.2009)
- Park, S.W., Hwang, K.Y., Jeong, M.K., and Seo, Y. Evaluation of traffic load and moisture-induced nonlinear in-situ stress on pavement foundation layers. *Journal of KGS* 25(7): 47- 54 (07.2009)
- Yun, D.J., Seo, Y., and Kim, S.M. Numerical analysis of T-shape cracking in jointed concrete pavements. *Journal of KSRE* 11(2): 141-149 (06.2009)
- Seo, Y., Baek, C.M., Kim, Y.R., and Lim, J.H. ViscoElastic Continuum Damage (VECD) Finite Element (FE) analysis on asphalt pavements. *Journal of KSCE* 28(6D): 809-817 (11.2008)
- Kim, Y.R., Lee, J., Seo, Y., and El-Haggan, O. Determination of price reduction factors for density deficient asphalt pavements. *ASTM, Journal of Testing and Evaluation* 36(4): 335-344 (07.2008)
- Jo, M.H., Kim, N., and Seo, Y. Asphalt concrete pavement response to moving load and viscoelastic property. *Journal of KSCE* 28(4D): 485-492 (07.2008)
- Seo, Y. and Kim, Y.R. Using acoustic emission to monitor fatigue damage and healing in asphalt concrete. *KSCE, Journal of Civil Engineering* 12(4): 237-243 (04.2008)
- Cho, D.S., Seo, Y., and Choi, T.M. Field evaluation of tire-road noise using a new close proximity method. *ASTM, Journal of Testing and Evaluation* 36(1): 1-7 (01.2008)
- Underwood, S., Kim, Y.R., Seo, Y., and Lee, K.H. Development of ViscoElastoPlastic Continuum Damage (VEPCD) model for response prediction of HMAs under tensile loading. *Journal of KSCE* 28(1D): 45-55 (01.2008)
- Seo, Y. and Kwon, S.M. Performance evaluation of asphalt concrete pavements at Korea Expressway Corporation Test Road. *Journal of KSCE* 28(1D): 35-43 (01.2008)
- Seo, Y., El-Haggan, O., King, M., Lee, S.J., and Kim, Y.R. Air void models for the

dynamic modulus, fatigue cracking, and rutting of asphalt concrete. *ASCE, Journal of Materials in Civil Engineering* 19(10): 874-883 (10.2007)

- Seo, Y. A design guide to minimize frost heave in unbound pavement layers over box culverts. *Journal of KSRE* 9(3): 111-121 (09.2007)
- Chehab, G.H., Seo, Y., and Kim, Y.R. Viscoelastoplastic damage characterization of asphalt-aggregate mixtures using digital image correlation. *ASCE, International Journal of Geomechanics* 7(2): 111-118 (04.2007)
- Lee, S.J., Seo, Y., Kim, Y.R. Validation of material-level performance models: using the third-scale model mobile loading simulator. *Journal of Transportation Research Board* 1949: 75-82 (12.2006)
- Seo, Y. and Lee, K.H. The behavior of asphalt pavement subjected to a moving vehicle I: the effect of vehicle speed, axle-weight, and tire inflation pressure. *Journal of KSCE* 26(5D): 831-838 (09.2006)
- Jo, M.H., Kim, N., Jeong, J.H., and Seo, Y. Pavement response in flexible pavement using nonlinear tire contact pressure and measured tire contact area. *Journal of KSCE* 26(4D): 601-608 (07.2006)
- Seo, Y., Kim, Y.R., and Zhang, Z. Laboratory evaluation of CCM parameters for mode-I cracks in HMAs. *KSCE, Journal of Civil Engineering* 10(3): 201-206 (05.2006)
- Seo, Y., Kwon, S.M., and Lee, J.H. Field evaluation of traffic wandering effect on asphalt pavement responses. *Journal of KSCE* 26(3D): 453-459 (05.2006)
- Kim, Y.R., Seo, Y., King, M., and Momen, M. Dynamic modulus testing of asphalt concrete in indirect tension mode. *Journal of Transportation Research Board* 1891: 163-173. (12.2004)
- Seo, Y., Kim, Y.R., Schapery, R.A., Witzak, M.W., and Bonaquist, R. A study of crack-tip deformation and crack growth in asphalt concrete using fracture mechanics. *Journal of the Association of Asphalt Paving Technologists* 73: 697-730 (03.2004)
- Seo, Y., Kim, Y.R., Witzak, M.W., and Bonaquist, R. Application of digital image correlation method to mechanical testing of asphalt-aggregate mixtures. *Journal of Transportation Research Board* 1789: 162-172 (12.2002)

D.2 Book Chapter

- Chapter 5 of *Modeling of Asphalt Concrete*, Kim, Y.R., Seo, Y., and Momen, M. pp. 121-138, McGraw-Hill, ISBN 9780071464628, 2009

D.3 Patents

- Seo, Y. and Eum, J.Y. Freeze preventing apparatus of road and construction method; Patent 10-1334228, Korea Intellectual Property Rights and Information Service (KIPRIS, <http://eng.kipris.or.kr>)
- Seo, Y. and Eum, J.Y. Freeze prevention apparatus and construction method of outside road surface of tunnel, Patent 10-1328067, Korea Intellectual Property Rights and Information Service (KIPRIS, <http://eng.kipris.or.kr>)
- Seo, Y. and Eum, J.Y. Snow-melting road paving structure and snow melting road paving method, Patent 10-1241342, Korea Intellectual Property Rights and Information Service (KIPRIS, <http://eng.kipris.or.kr>)

D.4 Peer-reviewed Conference Presentations with Published Abstracts

- Seo, Y. Electrical resistivity modeling for chloride ingress in reinforced concrete pavement, US-Korea Conference on Science, Technology and Entrepreneurship (UKC) 2024. KSEA, Hyatt Regency San Francisco Airport, Burlingame, California (8.23.2024)
- Seo, Y. Yee, T., Kwon, J., and Kaplan, A. Investigating the influence of entrained air and fly ash on chloride ingress in concrete pavements, ASCE-T&DI International Conference on Highway Pavements and Airfield Technology, Atlanta (06.17.2024)
- Kwon, J., Seo, Y., and Kaplan, A. Analysis of full-depth reclamation sections in Georgia, ASCE-T&DI International Conference on Highway Pavements and Airfield Technology, Atlanta (06.18.2024)
- Kwon, J. and Seo, Y. Guidelines for incorporation of cement stabilized reclaimed base (CSRB) in pavement design, 11th Annual GDOT/GTI Research Exposition, GDOT, Atlanta, GA (09.30.2023)
- Parra, C., Seo, Y., Karim, M.A. Evaluation of cement concrete mix with recycled glass, ASEE Southeast Conference, GMU, Fairfax, VA. (03.13.2023)
- Vargas, B.B., Seo, Y., Karim, M.A. Evaluation of cement concrete mix with rubber waste, ASEE Southeast Conference, GMU, Fairfax, VA. (03.13.2023)
- Rosales, K., Seo, Y., Karim, M.A. The addition of plastics in cement concrete mixes, ASEE Southeast Conference, GMU, Fairfax, VA. (03.13.2023)
- Seo, Y. Yee, T. Pyo, R.J. Evaluation of brine impact on Portland Cement Concrete, 10th GDOT/GTI Research Exposition, GDOT, Atlanta, GA (09.08.2022)
- Kwon, J., Seo, Y. Guidelines for incorporation of cement stabilized reclaimed base (CSRB) in pavement Design, 10th Annual GDOT/GTI Research Exposition, GDOT, Atlanta, GA (09.08.2022).
- Seo, Y. Economic value assessment of geothermal energy systems deployed in expressway service areas, US-Korea Conference on Science, Technology and Entrepreneurship (UKC) 2021. KSEA, Hyatt Regency, Garden Grove, California (12.15.2021)
- Seo, Y. and Yee, T. Impact of Brine on Portland Cement Concrete, GDOT EXPO (virtual), Georgia (10.19.2020)
- Kwon, J., Seo, Y., Yang, J., and Kaplan, A. Full depth reclamation in Georgia: Performance assessment and recommendations for best performance, Transportation Research Board Meeting, Standing Committee on Stabilization of Geomaterials and Recycled Materials, Washington DC (01.14.2020).
- Seo, Y. Best practice for full depth reclamation in Georgia, US-Korea Conference on Science, Technology and Entrepreneurship (UKC) 2019. KSEA, Hyatt Regency O'Hare, Chicago (08.14.2019)
- Kwon, J., Seo, Y., Kaplan, A. and Yang, J. Full Depth Pavement Reclamation: Performance Assessment and Recommendations for Best Performance, International Airfield & Highway Pavements Conference, ASCE, Chicago, IL (07.22.2019).
- Seo, Y. Performance and Economy of Eco-Melting on Roads, US-Korea Conference on Science, Technology and Entrepreneurship (UKC) 2018. KSEA, St. Johns University in New York, New York (08.01.2018)
- Seo, Y., Gibson, N., Li, X., Adriescu, A. Full-scale and laboratory fatigue cracking performance of combined High Recycle and Warm Mix Asphalt Pavements, GDOT EXPO, Georgia (10.05.2017)

- Seo, Y. Full field temperature curling evaluation of Continuously Reinforced Highway Concrete Pavement, ASCE-T&DI International Conference on Highway Pavements and Airfield Technology, Philadelphia (08.27.2017)
- Seo, Y. Performance and Economy of Eco-Melting on Roads, US-Korea Conference on Science, Technology and Entrepreneurship (UKC) 2016. KSEA, Hyatt Regency Crystal City, Washington DC (08.09.2017)
- Seo, Y. Experimental Evaluation of Longitudinal Behavior of CRCP Depending on Base Type, US-Korea Conference on Science, Technology and Entrepreneurship (UKC) 2016. KSEA, Dallas, Texas (08.10.2016)
- Seo, Y. Low-carbon green technologies in the road industry in Korea. The 8th Heads of Road Authorities (HORA) Meeting, Inchon, Korea (09.2009)

D.5 Peer-reviewed Conference Presentations with Proceedings

- Karim, M. A., Seo, Y., Bhavsar, P. Do independent studies help students learn better? A case study on student perception and attitude, ASEE Annual Conference Proceedings. Oregon Convention Center, Portland, OR (06.23.2024)
- Karim, M.A., Seo, Y., Kaplan, A. beneficial use of fly-ash through soil stabilization and Portland cement concrete mix, World of Coal Ash Conference (WCAC) 2024, Grand Rapids, Michigan, MI (05.13.2024)
- Gibson, N., Seo, Y., Lee, X., and Adriescu, A. Full-scale and laboratory fatigue cracking performance of combined high-recycle and warm mix asphalt pavements. Proceedings of the 2014 FAA Worldwide Airport Technology Transfer Conference, New Jersey, USA (08.2014)
- Seo, Y., Seo, U.J., and Mun, K.S. Feasibility of geothermal energy-based business on highways. Proceedings of the 2012 KSCE Conference, pp. 1554-1557 (10.2012)
- Seo, Y., Seo, U.J., and Eum, J.Y. Operation efficiency of bridge deck snow melting system. Proceedings of the 2011 KSCE Conference, pp. 1400-1403 (11.2011)
- Seo, Y., Lee, S.Y., and Kim, Y.R. Effect of Hydrated Lime on Dynamics Modulus of Asphalt Aggregate Mixture in the State of North Carolina. Proceedings of the 2010 KSCE Conference. pp. 1546-1549 (10.2010)
- Seo, Y., Eum, J.Y., Lee, K.H., and Kim, J.H. Field validation of geothermal snow melting system and its highway application. Proceedings of the 2010 KSRE conference, pp. 53-56 (10.2010)
- Seo, Y., Seo, U.J., Eum, J.Y., and Kim, B.C. Pilot test of geothermal snow melting system for concrete pavements. Proceedings of the 2010 KSCE Conference, pp. 465-469 (10.2010)
- Kim, S.M., Yun, D.J., and Seo, Y. Numerical analysis of longitudinal crack occurrences on the dowel-jointed concrete pavements. Proceedings of the 2009 KSRE Conference, pp. 513-518 (11.2009)
- Seo, Y., Jang, J.H., Lee, K.H., Kim, S.H., and Eum, J.Y. Development of Korea Expressway Corporation Test Road database. Proceedings of the 2009 KSCE Conference, pp. 43-44 (11.2009)
- Seo, Y., and Cho, S.C. Implementation of pay adjustment regulation for overlays. Proceedings of the 2009 KSRE Conference, pp. 53-57 (11.2009)
- Tranggono, M. and Seo, Y. Evaluation of elastic modulus properties of flexible pavement at Korea Expressway Corporation Test Road, Proceedings of the 13th REAAA

- conference, Seoul, Korea (09.2009)
- Seo, Y., Kwon, S.M., Han, I.S., and Jeong, H.S. Distress evolution survey of flexible pavements at Korea Expressway Corporation Test Road (KECTR). Proceedings of the 2008 KSRE Conference, pp. 131-135 (10.2008)
 - Jo, M.H., Park, C.W., Seo, Y., and Kim, N. Evaluation of moving load and wandering effects on asphalt concrete pavement behavior. Proceedings of the 2008 KSCE Conference, pp. 125-130 (10.2008)
 - Seo, Y., Kwon, S.M., and Lee, K.H. Experimental evaluation of pavement performance: Korea Expressway Corporation test road. Proceedings of the 6th international Conference on Road and Airfield Pavement Technology, Sapporo, Japan, pp. 291-299 (07.2008)
 - Jo, M.H., Kim, N., and Seo, Y. Effect of viscoelastic properties and vehicle speeds on flexible pavement behaviors. Proceedings of the 2007 KSCE Conference, pp. 1865-1868 (10.2007)
 - Kim, Y.R., Lee, S.J., Seo, Y., and O. El-Haggan. A mechanistic approach to determine price reduction factors for density-deficient asphalt pavements. Proceedings of the 2006 Airfield and Highway Pavement Specialty Conference, Atlanta, Georgia, USA. pp. 1018-1029 (05.2006)
 - Seo, Y., and Lee, K.H. Experimental evaluation of the responses of flexible pavements subjected to 3-axle truck loads. Proceedings of the 2006 KSRE Conference, pp. 223-228 (10.2006)
 - Lee, S.J., Seo, Y., and Kim, Y.R. Performance prediction of asphalt concrete pavements loaded by MMLS3 using material-level laboratory test methods and performance model. Proceedings of the 10th International on Asphalt Pavements, ICAP, Quebec, Canada (08.2006)
 - Kwon, S.M. Park, C.Y., and Seo, Y. A pilot test for investigating wandering effect on pavement responses. Proceedings of the 2005 KSCE Conference, pp. 3852-3855 (10.2005)
 - Kim, Y.R., Lee, S.J., Seo, Y., and O. El-Haggan. Determination of price reduction factors for density deficient asphalt pavements. Roads to Global Society, Proceedings of the First International Road and Traffic Conference, Seoul, Korea, pp. 131-144 (07.2005)
 - Lee, S.J., Seo, Y., and Kim, Y.R. Validation of mechanistic performance models using the third scale model mobile loading simulator. Proceedings of the 5th International Conference on Road and Airfield Pavement Technology, Seoul, Korea, pp. 1036-1044 (05.2005)
 - Seo, Y. Digital image correlation and its application for material characterization of HMA. Proceedings of the 2004 KSRE Conference, pp. 115-122 (10.2004)
 - Seo, Y. and Kim, Y.R. The mechanical testing of asphalt concrete mixtures using digital image correlation. Proceedings of the 5th International RILEM Conference on Reflective Cracking in Pavements, France, pp. 155-162 (05.2004)
 - Jeong, U.Y., Cho, J.S., and Seo, Y. Linear elastic analysis of a suspension bridge. Proceedings of the 1999 KSCE Conference, pp. 35-38 (10.1999)
 - Cho, J.S., Jeong, U.Y., and Seo, Y. Development of design technique for suspension bridges using influence surface. Proceedings of the 1999 COSEIK Conference, pp. 119-126 (10.1999)
 - Seo, Y., Jeong, U.Y., and Cho, J.S. Seismic analysis of cable-supported bridges. Proceedings of the 1999 COSEIK Conference, pp. 233-240 (10.1999)

- Seo, Y., and Kwon, S.D. Dynamic modeling of a bridge subject to a moving vehicular load. Proceedings of the 1998 KSCE Conference, pp. 451-454 (10.1998)

D.6 Invited Talks

- Seo, Y. Status report on Asian Highway (AH) road pavements. Invited presentation at the workshop on the KEC-UNESCAP collaboration program for AH development. Expressway and Transportation Research Institute, Korea (07.2015)
- Seo, Y. Inside Turner Fairbank Highway Research Center. Korea Institute of Construction and Technology (KICT), Ilsan, Korea (05.2015)
- Seo, Y. Turner Fairbank Highway Research Center of FHWA. Graduate School of Chung-Ang University (CAU), Seoul, Korea (06.2015)
- Seo, Y. Full-scale and laboratory fatigue cracking performance of combined high-recycle and warm mix asphalt pavements. Korea Institute of Construction and Technology (KICT), Ilsan, Korea (07.2015)
- Seo, Y. Inverted Base Project. Pavement Research Advisory Committee Meeting, Virginia Center for Transportation Innovation and Research, Charlottesville, VA, USA (04.2013)
- Seo, Y. Introduction of highway maintenance management in Korea. Asian Development Bank (ADB) Transport Forum 2012, Manila, Philippines (11.2012)
- Seo, Y. Low-Carbon Green Technologies in the Road Industry in Korea. The 8th Heads of Road Authorities (HORA) Meeting, Korea (09.2009)

D.7 Students Presentations at KSU

- Ramsey, C. and Seo, Y. Development of industrial waste incorporated concrete for 3D printing construction in chloride-loaded environment, KSU Spring 2024 Symposium, Kennesaw Campus (04.18.2024)
- Yun, A., Seo, Y., Karim, M.A., Behavior of Portland cement concrete mixed with sewage sludge ash, KSU Fall 2023 Symposium, Marietta Campus (11.16.2023)
- Suttle, S., Karim, M.A., Seo, Y. Experimental study of Portland cement concrete mixed with fly ash, KSU Fall 2023 Symposium, Marietta Campus (11.15.2023)
- Alamayreh, I., Seo, Y., Karim, M.A. Optimization of partial replacement of fine aggregate and cement with fly-ash type C in Portland cement concrete, KSU Fall 2023 Symposium, Marietta Campus (11.15.2023)
- Alamayreh, M.D., Seo, Y., Karim, M.A. Evaluation of cement concrete mix with plastic and glass waste, KSU Spring 2023 Symposium, KSU, KSU Convocation Center, Kennesaw Campus (04.18.2023)
- Alebra, A., Seo, Y., Karim, M.A. Evaluation of cement concrete mix with rubber and glass waste, KSU Spring 2023 Symposium, KSU, KSU Convocation Center, Kennesaw Campus (04.18.2023)
- Nguyen, V., Seo, Y., Karim, M.A. Examination of cement concrete mixed with sewage sludge ash, KSU Spring 2023 Symposium, KSU, KSU Convocation Center, Kennesaw Campus (04.18.2023)
- Alamayreh, I., Ambadapudi, S., Seo, Y., Karim, M.A. Experimentation of cement concrete mixed with plastic and rubber waste, KSU Spring 2023 Symposium, KSU, KSU Convocation Center, Kennesaw Campus (04.18.2023)
- Henry, M.D., Seo, Y., Karim, M.A. Investigation of cement concrete mixed with recycled

waste slags, KSU Spring 2023 Symposium, KSU, KSU Convocation Center, Kennesaw Campus (04.18.2023)

IV. TEACHING AND ADVISING

A. Teaching Interests

A.1 Courses Taught at KSU

- Data Collection and Analysis in Engineering, ENGR 3305
- Senior Project, CE 4800
- Engineering Mechanics-Statics, ENGR 2214
- Strength of Materials and Lab, ENGR 3131 and 3132
- Fluid Mechanics, ENGR 3343
- Materials of Construction and Lab, CE 3501 and 3502
- Adv. Design and Construction of Flexible and Rigid Pavement, CE 6204
- Master's Thesis, CE 6401
- Pavement Engineering, CE 4706 and CE 6633

A.2 Courses Taught at Other Institutes

- Kyonggi University: Construction Materials (Fall 2009, Fall 2005); Inelasticity of Construction Materials (Spring 2009); Case Studies on Infrastructures (Spring 2009); Seminar on Construction 1 and 2 (Fall 2008, Spring 2007, Spring 2008, Spring 2006), Seminar on Road Engineering (Fall 2008); Construction Statistics, (Fall 2007); Road Materials and Design (Fall 2007); Construction Management (Fall 2006)
- Inha University: Design of Asphalt Pavement (Spring 2007)
- Sejong University: Theory of Asphalt Mixture (Fall 2006, Fall 2005)
- Chung-Ang University: Pavement Materials Engineering (Fall 2005)

A.3 Laboratory Manuals, Instructional Materials

Online Courses

- Strength of Materials Lab, ENGR 3132, laboratory videos for virtual labs, Summer 2020
- Pavement Engineering (CE 6633 and CE 4706) for Spring 2018 and Spring 2024
- Advanced Design and Construction of Flexible Pavement (CE 6204) for Spring 2016, Spring 2025
- Engineering Mechanics-Statics, ENGR 2214 for Summer 2023
- Materials of Construction CE 3501 for Summer 2023

In-person Courses

- Master's Thesis (CE 6401) for Summer 2021 and Fall 2022
- Construction of Materials Lab (CE 3502) for Fall 2015
- Construction of Materials (CE 3501) for Fall 2015
- Course-Based Undergraduate Research Experience (CURE) course - Construction of Materials (CE 3501) for Fall 2021

B. Student Research Advising

B.1 Kennesaw State University - Undergraduates

- Aqib Syed, Data Mining for Machine Learning Predictions, Faculty Advisor for Undergraduate Research and Direct Study (Fall 2024)
- Vu Nguyen, Behavior of Cement Concrete Mixed with Recycled Waste Materials, Faculty Advisor for Undergraduate Research and Direct Study (Spring 2023)
- Matthew Henry, Behavior of Cement Concrete Mixed with Recycled Waste Materials, Faculty Advisor for Undergraduate Research and Direct Study (Spring 2023)
- Sravani Ambadapudi, Behavior of Cement Concrete Mixed with Recycled Waste Materials, Faculty Advisor for Undergraduate Research and Direct Study (Spring 2023)
- Abdulaziz Alebra, Behavior of Cement Concrete Mixed with Recycled Waste Materials, Faculty Advisor for Undergraduate Research and Direct Study (Spring 2023)
- Mohamad Alamayreh, Behavior of Cement Concrete Mixed with Recycled Waste Materials, Faculty Advisor for Undergraduate Research and Direct Study (Spring 2023)
- Ibrahim Alamayreh Behavior of Cement Concrete Mixed with Recycled Waste Materials, Faculty Advisor for Undergraduate Research and Direct Study (Spring 2023)
- Brian Banderas Vargas, Cement Concrete Behavior mixed with rubber, Faculty Advisor for Undergraduate Research and Direct Study (Fall 2022)
- Kyle Rosales, Project: Cement Concrete Behavior mixed with plastics, Faculty Advisor for Undergraduate Research and Direct Study (Fall 2022)
- Chris Parra, Project: Cement Concrete Behavior mixed with glass, Faculty Advisor for Undergraduate Research and Direct Study (Fall 2022)
- RyuJin Pyo, Optimizing Winter Roadway Treatment for Georgia Pavements, Faculty Advisor for Undergraduate Research and Direct Study (Fall 2019 – Fall 2020)
- Clint Morris, Faculty Advisor for Undergraduate Research (Summer 2017)
- William Silloway, Faculty Advisor for Undergraduate Research (Summer 2017)
- Lucas Castro, International Internship Programs for Brazilian Student, Summer Research (Summer 2015)

B.2 Kennesaw State University - Graduates

- Tahmina Sumi, Thesis Committee Chair and Faculty Advisor for Graduate Research, Ph.D (Fall 2025 – Fall 2028)
- Sarala Ralle, Thesis Committee Member, Ph.D (Fall 2024 – Spring 2026)
- Ryujin Pyo, Thesis Committee Chair and Faculty Advisor for Graduate Research, MSCE (Summer 2021 – Summer 2022)
- Billy Rushama, Improvement of the Correlation between Soil California Bearing Ratio (CBR) and Shear Strength, Thesis Committee Member and Faculty Advisor, MSCE (Spring 2021)
- Yasin Ben Masmud, Faculty Advisor for Graduate Research, Graduate College (Fall 2020 – Spring 2021)
- Ahmed Sami Hassan, Utilization of high percentage of fly ash in silt soils to enhance the engineering properties for subgrade usage, Thesis Committee Member and Faculty Advisor, MSCE (Spring 2018)
- Keerith Giramaji, Faculty Advisor for Graduate Research, Graduate College (Fall 2017 – Spring 2018)
- Harish Siripothu, Faculty Advisor for Graduate Research (Summer 2017)
- Shruthi Rajuri, Faculty Advisor for Graduate Research (Summer 2016)

- Pe-tseskme Afi Lakte, Effect of Reclaimed Asphalt Pavement (RAP) Contents on Dynamics (E*) of Asphalt Mixtures - A Case Study of Georgia, Thesis Committee Member, MSCE (Spring 2016)
- Andrew K Raessler, Warrant Criteria for Left Turn Treatments, Thesis Committee Member, MSCE (Spring 2016)

B.3 At Other Institutes

- Myung-Hwan Cho, Thesis Committee Member, Ph.D. Civil Engineering at Kyonggi University, Korea (Spring 2010)

V. SERVICE

A. Service to KSU/SPSU

- Faculty Search Committee, Committee Member, Water Resources, Department of Civil and Environmental Engineering (08.01.2025-present)
- Faculty Search Committee, Committee Member, Structural Engineering, Department of Civil and Environmental Engineering (10.01.2024-08.01.2025)
- Madhuri and Jagdish N. Sheth Faculty Award for Distinguished International Achievement Committee, Committee Member, Kennesaw State University (03.09.2024)
- Department Curriculum Committee (DCC), Committee Chair, Department of Civil and Environmental Engineering (08.30.2023-present).
- College Curriculum Committee (CCC), Member, SPCEET (08.30. 2023-present).
- Faculty Search Committee, Committee Member, Water Resources, Department of Civil and Environmental Engineering (10.01.2022-12.01.2022)
- Provost and Vice President Search Committee, Academic Affairs, Committee Member, Kennesaw State University (04.01.2022-09.27.2022)
- College Grade Appeals Committee, Member, SP College of Engineering and Engineering Technology (10.29.2021-11.08.21)
- Promotion and Tenure Committee, Member, Department of Civil and Environment Engineering (08.01.2020-04.01.2024)
- College Committee on Infrastructure and Equipment for New Academic Program, Member, SP College of Engineering and Engineering Technology (10.12.2020-11.13.2020)
- Department Faculty Council (DFC), Council Member, Department of Civil and Construction Engineering (08.01.2019-present)
- College Committee on Research Seminar, Committee Member, SPCEET (03.14.2021–08.01.2023)
- College Awards Committee, Department Representative, SPCEET (09.01.2019–08.01.2023)
- Georgia Pavement and Transportation Research Center (GPTRC), Director, SPCEET (01.01 2019-12.31.2022)
- Faculty Search Committee, Committee Member, Transportation Engineering, Department of Civil and Construction Engineering (10.01.2018–07.31.2019)
- Presidential Commission on Sustainability, University Standing Committee (11.01.2017–11.01.2019)
- Faculty Awards Committee, SPCEET representative, University Standing Committee (07.01.2016–06.30.2018)

- Course lead professor, Pavement Engineering (01.2016-present)
- Course lead professor, Engineering Graphics (01.2018-12.2021)
- Course lead professor, Materials of Construction (01.2015–present)
- Faculty Search Committee, Committee Chair, Geotechnical Engineering, Department of Civil and Construction Engineering (02.01.2016 – 05.31.2016)
- Research Committee, Chair, Ad-hoc Department Committee (09.01.2015–03.31.2016)
- FE Exam Committee, Chair, Ad-hoc Department Committee (09.01.2015–01.15.2016)
- Program Documents Committee, Member, Ad-hoc Department Committee (09.01.2015-08.31.2015)
- MOU with Seoul Metropolitan Government (SMG) of Korea, served as a liaison between SMG and VP for Research Office of KSU, Kennesaw State University (05.01.2015-06.30.2015)
- Science Olympiad, Judge for Geologic Mapping Competition, Marietta campus of KSU (02.28.2015)
- Women and STEAM Workshop, Student Center, Southern Polytechnic State University (11.11.2014)
- Southern Polytechnic State University Preview Day and Open House (11.01.2014)

B. Service to the profession

- Symposium Chair of CEA (Civil, Environmental, and Architecture), 2024 US-Korea Conference in San Francisco, CA, Korean American Scientists and Engineers Association (KSEA) (08.2024)
- General Secretary, The Korean American Society of Civil and Environmental Engineers (KSCEE) (2022–2023)
- Member, Korea Technology Advisory Group (K-TAG), Energy and Knowledge Service, Ministry of Trade Industry and Energy, Korea (2020–present)
- Symposium Chair of CEA (Civil, Environmental, and Architecture), 2023 US-Korea Conference (UKC) in Dallas, TX, Korean American Scientists and Engineers Association (KSEA) (08.2023)
- Symposium Chair of CEA (Civil, Environmental, and Architecture), 2022 US-Korea Conference (UKC) in Washington DC, Korean American Scientists and Engineers Association (KSEA) (08.2022)
- Symposium Chair of CEA (Civil, Environmental, and Architecture), 2021 US-Korea Conference (UKC) in Los Angeles, CA, Korean American Scientists and Engineers Association (KSEA) (12.2021)
- Elected Councilor for Technical Group J-CEA (Civil, Environmental, and Architecture) of KSEA (2021–2024)
- Symposium Co-Chair of CEA (Civil, Environmental, and Architecture), 2020 US-Korea Conference (UKC), Virtual, KSEA (12.2020)
- Member, International Society for Asphalt Pavement (ISAP), Technical Committee, Work Group-7 Energy Harvesting (02.2015-present)
- Member, New Construction Technology Review Committee, Technology Certification Center, Korea Agency for Infrastructure Technology Advancement, Korea (03.2012-present)
- Member, Evaluation Committee, Resources Circulation Industry Promotion Association

(RIPA) (03.2008-03.2012)

- Member, Technical Sub- Committee (TC-2), The Road Engineering Association of Asia & Australasia (REAAA) (03.2011-03.2015)
- Associate Editor, Journal of Korean Society of Road Engineers (03.2005-03.2013)
- International Division Chair, Magazine of Korean Society of Road Engineers (03.2013-03.2020)
- Associate Editor, Journal of Korean Society of Civil Engineers (03.2009-03.2014)

VI. PROFESSIONAL AFFILIATIONS

- The Korean American Society of Civil and Environmental Engineers (KSCEE), General Secretary (2022–2023), Member (2016–present)
- Korean American Scientists and Engineers Association (KSEA), Elected Councilor (2021–2024), Member (2016–present)
- American Society of Civil Engineers (ASCE), Student Member (2000-2004), Associate Member (2004–2019), Member (2019-2025), Fellow (2025-present)
- Korean Society of Civil Engineers (KSCE), Member (1996–2013)
- Korean Society of Road Engineers (KSRE), Lifetime Member (2005–present)
- The Road Engineering Association of Asia & Australasia (REAAA), Member (2011-2016)
- Transportation Research Board - AFD40 (Full scale and Accelerated Pavement Testing), Friends (2014–present)