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**Section 2 Research Accomplishments**

**Section 2.1 Publication Record**

**Section 2.1.1 Peer-Reviewed Journal Publications in Print (1 – graduate student under Song’s supervision, 2 – post doctoral research associate under Song’s supervision))**

1. S. Adhikari1, C.R. Song and A.H.-D. Cheng (2015), “Anisotropic analysis of I-walls in New Orleans,” Marine Georesources and Geotechnology, DOI: 10.1080/1064119X.2013.877108. (40%)
2. C.R. Song, S. Adhikari1 and J.T. Kidd1 (2015), “Self Sealing Bentonite Strip – an Effective Method to Prevent Gap Development for Floodwalls in New Orleans,” International Journal of Geotechnical Engineering, in press. (50%)
3. Sudarshan Adhikari1 and Chung R. Song, Alexander H.-D. Cheng (2013), “Evaluation of I-wall in New Orleans with back-calculated total stress soil parameters”, Acta Geotechnica, DOI 10.1007/s11440-013-0264-1 (ISSN 1861-1125, 1861-1133). (40%)
4. Chung R. Song, Sudarshan Adhikari1, Ahmed Al-Ostaz and Alexander Cheng, (2013), “A Reevaluation of the “Gap Formation” in New Orleans Levee System”, J. of GEED, ASCE DOI: 10.1061/(ASCE) GT.1943-5606.0001024 (ISSN 1090-0241), (50%)
5. ASCE/EWRI Task Committee on Dam/Levee Breaching, (2011), “Earthen Embankment Breaching”, J. of Hydraulic Engineering, ASCE, 1549-1564. (5%)
6. J.T. Kidd1, C.R. Song, A. Al-Ostaz, A. H.-D. Cheng, and W. Jang1 (2011), “Erosion Control Using Modified Soils,” Int. Journal of Erosion Control Engineering, 4(1), 1-9. (30%)
7. Won2, J.O., Song, C.R. Al-Ostaz A. and Cheng, A.H.D. (2011), “Evaluation of T-Wall in New Oreleans Considering 3D Soil Structure Interaction,” J. of GEED, ASCE, 137(8), 731-742. (40%)
8. Jang1, W.G., Song, C.R., Kim2, J.W., Cheng, A.H.-D. and Al-Ostaz, A. (2011), “Erosion Study of New Orleans Levee Materials Subjected to Plunging Water,” J. of GEED, April, ASCE,137(4), 398-404. (40%)
9. Wu2, W., Al-Ostaz, A., Cheng, A.-H.D. Cheng and Song, C.R. (2011), “Computation of elastic properties of Portland cement using molecular dynamics,” Journal of Nanomechanics and Micromechanics, ASCE, 1(2). (10%)
10. Song, C.R., Kim1, J.W., Wang2, G. and Cheng, A.H.-D. (2011), “Reducing Erodibility of Earthen Levee Using Engineered Flood Wall Sections,” J. of GEED, ASCE, 137(10), 874-881. (50%)
11. Wu2, W., Al-Ostaz, A. Cheng, A.H.-D. and Song, C.R. (2010), “Concrete as a Hierarchical Structural Composite Material,” International Journal of Multiscale Computational Engineering, 8(6), pp.585-595. (10%)
12. Song, C.R. and Pulijala1, S., (2010), “Hydraulic Conductivity Estimation Using Piezocone Results,” J. of GEED, ASCE, 136(3), 2010, 456-463. (60%)
13. Al-Ostaz, A., Wu2, W., A.H.-D. Cheng, and Song, C.R. (2010), “A Molecular Dynamics and Microporomechanics Study on The Mechanical Properties of Major Constituents of Hydrated Cement,” Journal of Composites: B, 41, 543-549. (15%)
14. Song, C. R. and Kim1, J. W. (2008), “Determination of Soil Permeability Using an Acoustic Technique,” J. of GEED, ASCE, 134(12). 1829-1832. (60%)
15. Kim1, J.W. and Song, C.R. (2008), “Laboratory Evaluation of Soil Permeability for Sand Using Biot’s Acoustic Wave Propagation Theory,” Journal of KGS. 24(8), 5-12. (40%)
16. Voyiadjis, G.Z. and Song, C.R. (2005), “A Coupled Micro-Mechanical Based Model for Saturated Soils,” Mechanics Research Communications, 32(5), 490-503. (45%)
17. Song, C.R. and Voyiadjis, G.Z. (2005), “Pore Pressure Response around a Penetrating Object,” Computers and Geotechnics, 32, 37-46. (55%)
18. Voyiadjis, G.Z. and Song, C.R. (2003), “Determination of Hydraulic Conductivity Using Piezocone Penetration Test,” International Journal of Geomechanics, ASCE, 3(2), 217-224. (45%)
19. Voyiadjis G.Z. and Song, C.R. (2002), “Multi-Scale Non Local Approach for Geomaterials,” Mechanics Research Communications, 29 (2-3), 121-129. (45%)

# Song, C.R. and Voyiadjis, G.Z. (2002), “Micro-structure Consideration with Plastic Spin for Large Strain Problems in Soils,” International Journal of Plasticity, 18, 1271-1289. (55%)

1. Song, C.R. (2000), “Experimental and Theoretical Consideration of Liquid Limit,” Journal of Korean Geotechnical Society, 16(3), pp.29-37. (100%)
2. Voyiadjis, G.Z. and Song, C.R. (2000), “Finite Strain, Anisotropic Modified Cam Clay Model with Plastic Spin – Part II: Application,” J. of Engineering Mechanics, ASCE, 126(10), 1020-1026. (45%)
3. Voyiadjis, G.Z. and Song, C.R. (2000), “Finite Strain, Anisotropic Modified Cam Clay Model with Plastic Spin – Part I: Theory,” J. of Engineering Mechanics, ASCE, 126(10), 1012-1019. (45%)
4. Song, C.R., Voyiadjis, G.Z. and Tumay, M.T. (1999), “Determination of Permeability of Soils Using Multiple Piezo-element Penetrometer,” International Journal for Numerical and Analytical Methods in Geomechanics, 23(13), 1609-1629. (50%)
5. Song Chung Rak and Kim Soo Il (1992), "Effects of High Amplitude Prestraining Vibrations on Shear Modulus of Sands", J. of Korean Geotechnical Society, 8(1), 19 – 28. (70%)
6. Song Chung Rak and Kim Soo Il (1991), "Dynamic Properties of Soils at High Amplitude (with emphasis on threshold strain)", J. of Korean Geotechnical Society, 7(2), 11 – 18. (70%)
7. Kim Kyo Won, Kang Ki Young and Song Chung Rak (1991), "Causes and Measures for the Un-Hardening Phenomenon of Soil Cement Mixing Wall in Organic Soil", J. of Korean Society of Engineering Geology, 1(1), 11 – 18. (30%)
8. Song Chung Rak and Kim Soo Il (1988), “Properties of Silty Sands at High Amplitude (with emphasis on basic properties),” J. of Geotechnical Engineering, Korean Geotechnical Society, 4(3), 27-33. (60%)
9. Song Chung Rak and Kim Soo Il (1987), “Effects of High Amplitude Prestraining on Dynamic Properties of Silty Sands,” J. of Geotechnical Engineering, Korean Geotechnical Society, 3(2), 7-16. (60%)

**Section 2.1.2 Peer-Reviewed Journal Publications accepted for publication with or without revision**

1. N.A.

**Section 2.1.3 Peer-Reviewed Journal Publications submitted for review but not yet accepted**

1. C.R. Song and T.Y. Yosef (2015), “Seepage Monitoring of an Embankment Dam Based on Hydro-Thermal (H-T) Coupled analysis.” Journal of Engineering Materials and Technology, under review, (70%)

**Section 2.1.4 Book Chapters**

**Books**

1. Degroot, D.J., Vipulandan, C., Yamamuro, J.A., Kaliakin, V.N., Lade, P.U., Zeghal, M., El-Shamy, U., Lu, N., Song, C.R. (2007), *ASCE Geotechnical Special Publication (GSP) 172,* CD-Rom
2. Voyiadjis, G. Z. and Song, C.R. (2006), *Coupled Theory of Mixtures in Geomechanics with Application*, 438p. Springer
3. Song Chung Rak (1996), *Fundamentals of Soil Dynamics*, Engineers Book Publishing Co. 426p, (Korean Version of Fundamentals of Soil Dynamics by Braja.M. Das) (in Korean)

**Book Chapters**

1. Korean Society of Rock Engineering (2007), *Slope Engineering (Chapter 13)*, Construction Information Publishing, 525p.
2. Song, C.R. and Voyiadjis, G.Z. (2003), “Multiscale Nonlocal Approach for Geomaterials,” *Constitutive Modeling of Geomaterials-* *Selected Contributions from the Frank L. DiMaggio Symposium*, CRC Press, pp.145-151
3. Song Chung Rak (1995), *Safety Evaluation Technique for Infra-structures*, Korea Infra-structure Safety Institute
4. Song Chung Rak (1995), "Case History of the Field Monitoring Results of Soft Soil", *Text Book of the Annual Lecture of Korean Geotechnical Society*, p.492 – 529

**Section 2.1.5 Conference Proceedings: peer-reviewed abstract and/or paper (\* - presenter, 1 – graduate student under Song’s supervision, 2 – postdoctoral research associate under Song’s supervision, 3 – industry colleague)**

1. C.R. Song and T.Y. Yosef1 (2016), “Seepage Monitoring of an Embankment Dam Based on Hydro-Thermal (H-T) Coupled Analysis,” MULTI-PHYSICAL SOLUTIONS FOR HARSH ENVIRONMENTS: COMPUTATIONS AND EXPERIMENTS 2016, abstract accepted
2. C.R. Song (2016), “Twenty Year Old Real-Time Sensor and Management Systems,”, EMI2016, abstract accepted
3. C.R. Song and T.Y. Yosef1 (2016), “Hydro-Thermal Coupled Multiphysics Simulation for Health Monitoring of Embankment Dam,” EMI2016, abstract accepted
4. C. R. Song and T. Yosef\*,1 (2015), "Seepage-Heat Coupled Analysis for Estimating Phreatic Line of an Earth Dam from Temperature Profile," SAGEEP 2015, Extended Paper, CD-Rom
5. Wodajo\*,1, L., Song, C. R. and Hickey, C. (2015), "Assessment of the Francis
Levee Site Using Multiple Geophysical Surveys and Cross-plot Analysis,"
SAGEEP 2015 Conference, Austin, TX CD-Rom
6. C.R. Song\*, T.Y. Yimer1, Y. Najjar and A.H.-D. Cheng (2014), "Seepage-Heat
Coupled Analysis for Estimating a Phreatic Line of an Earth Dam," EMI 2015
Conference, McMaster University, Canada. CD-Rom
7. Chung R. Song, Ahmed Al-Ostaz and Alexander H.-D. Cheng\* (2013), “Expansive Clay Minerals and Hurricane Katrina,” 5th Biot Conference, 2013, CD Rom
8. Song\*, C.R. and Voyiadjis, G.Z. (2013), "Analytical Observations of Micro-
mechanical in Plasticity for Saturated Soils," International Symposium on
Plasticity, Bamaha, CD-Rom
9. Kidd1, J.T., C.R. Song\*, and A.H.-D. Cheng (2012), “Enhancing Erosion Resistance of Levee by Ground Modification,” Proceedings of USSDAM 2012 Conference, New Orleans, CD-Rom
10. C.R. Song\* and J. Jackson1 (2012), “Bridging Techniques for I-Wall System to Mitigate Local Failure,” Proceedings of USSDAM 2012 Conference, New Orleans, CD-Rom
11. L.T. Wodajo\*,1, C.J. Hickey, G.J. Hanson and C.R. Song (2011), "Time-Lapse
Seismic Tomography of a Small Embankment Dam with Possible Zones of Weakness," SAGEEP 2011, Charleston, SC, CD-Room
12. Song\* C.R., Al-Ostaz A. and Cheng A. H.-D. (2011), “Hurricane Damage on Flood Protection System and Multidisplinary Countermeasure,” ASCE-EMI 2011 Conference, North Eastern University, MA
13. Adhikari\*,1 S., Song C.R., Cheng A. H.-D. (2011), “Implementation of the anisotropic elastoplastic model in FLAC3D and its application in the numerical simulation of New Orleans levees and floodwall section,” ASCE-EMI 2011 Conference, North Eastern University, MA
14. Song\* C.R., Jang1 W., Kim1 J.W., Cheng A. H.-D. and Al-Ostaz A. (2011), “New Orleans Specific Erosion Mechanism of Levee Soils”, Workshop on Dam Stability, Safety and Failure, Oxford, MS
15. Jang1 W., Song\* C.R., Kim1 J.W., Cheng A. H.-D. and Al-Ostaz A. (2010), “Effects of Soil Parameters on Erosion Behavior of New Orleans Soils , ASCE-EMI 2010 Conference, USC, CA, CD-Rom
16. Kim1 J.W., Song\* C.R., Wang2 G. and Cheng A.H.-D. (2010), “Erosion Control of Earthen Levees Using Energy Absorbing Surfaces,” ASCE-EMI 2010 Conference, USC, CA, CD-Rom
17. Adhikari1 S, Song\* C.R., Cheng A. H.-D. and Al-Ostaz A. (2010), “Evaluation of I-wall in New Orleans with calibrated soil parameters,” ASCE-EMI 2010 Conference, USC, CA, CD-Rom
18. Won1 J., Song\* C.R., Adhikari1 S., Cheng A. H.-D. and Al-Ostaz A. (2010), “3-D Assessment of a T-wall System in New Orleans, ASCE-EMI 2010 Conference, USC, CA, CD-Rom
19. Kidd\*,1 T., Song C.R., Cheng A. H.-D and Jang1 W. (2010), “Erosion Control by Ground Modification, ASCE-EMI 2010 Conference, USC, CA, CD-Rom
20. Song\* C.R., Jang1 W., Cheng A. H.-D. and Al-Ostaz A. (2010), “Prediction of Field Erosion Depth for New Orleans Levee Soils, ASCE-EMI 2010 Conference, USC, CA, CD-Rom
21. Wang2 G., Song\*, C.R., Kim1, J. and A. H.-D. Cheng (2009), “Numerical Study of Erosion of Loose Sand from an Overtopped Plunging Jet,” Joint ASCE-ASME-SES Conference on Mechanics and Materials, June 24-27, 2009, Virginia Tech, Blacksburg, VA.
22. Song\*, C.R., Adhikari1, S., Wu1, W.D. and Al-Ostaz, A. (2008), “Effects of Force Fields in Simulating Nano- to Subnano- level Geo-Materials,” Proceedings of The first American Academy of Mechanics Conference
23. Adhikari1, S., Song\*, C.R. and Al-Ostaz, A. (2008), “Cell Size Effects in Predicting Properties of Soils and Cement Using Quantum Mechanics and Molecular Mechanics,” Proceedings of The first American Academy of Mechanics Conference
24. Kim1, J.W. and Song\*, C.R*.* (2008), “Acoustical Estimation of Soil Permeability,” Proceedings of The 3rd International Conference on Site Characterization, April 1 -3, Taipei, Taiwan, CD-Rom
25. Song\*, C.R. and Pulijala1, S. (2008), “Quick Estimation of Hydraulic Conductivity,” Proceedings of The 3rd International Conference on Site Characterization, April 1 -3, Taipei, Taiwan, CD-Rom
26. Kim1, J.W. and Song\*, C.R. (2008), “Determination of Soil Characteristic Frequency Using Acoustic Techniques,” Proceedings of GeoCongress 2008, ASCE GSP 179, pp.332-339
27. Song\*, C.R. and Jang1 ,W.G. (2008), “Cell Size Effects in Characterizing Dry Quartz Sand Particles,” Proceedings of GeoCongress 2008, ASCE GSP 179, pp.998-1005
28. Song\*, C.R. and Wu1, W.D. and Al-Ostaz, A. (2008), “Effects of Force Field in Molecular Mechanics Simulation of Geo-Materials,” Proceedings of GeoCongress 2008, ASCE GSP 179, pp.1012-1019
29. Chung R. Song\*, Jin W. Kim1, Alexander H.-D. Cheng, and Craig Hickey (2007), “Measurement of Biot Characteristic Frequency for Saturated Soils,” *EMD 18th 2007*, ASCE, VA
30. Song\*, C.R., Cho1, H., Jung, Y-H., Cheng, A. H.-D. and Al-Ostaz, A. (2007), “Bridging Molecular, Particulate and Continuum Mechanics for Geomechanics Application,” GeoDenver 2007, CD-Rom
31. Song\*, C. R. and Kim1, J. W. (2007), “Determination of Soil Permeability Using an Acoustic Technique,” GeoDenver 2007, CD-Rom
32. Song\*, C.R. and Pulijala1, S. (2006), “Hydraulic Conductivity Interpretation Using Piezocone Results,” ASCE Geotechnical Special Publication No. 149, Proceedings of GeoShanghai, pp. 32-39
33. Pal\*, G., Al-Ostaz, A., Mantena, R.R., Cheng, A.H-D. and C.R. Song (2006), “Molecular Dynamics Simulation of SWCNT - Polymer Nanocomposite and Its Constituents,” 21st technical conference of the American Society of Composite materials
34. Song\*, C.R. and Al-Ostaz, A. (2005), “Implementation of Molecular Dynamics in Continuum Geo-mechanics,” Prodeedings of McMat 2005 Conference, June, CD-Rom
35. Song\*, C.R. and Cheng, A. H.-D. (2005), “Evaluation of Acoustic Wave Techniques for Determining Hydraulic Conductivity of Geomaterials,” Prodeedings of McMat 2005 Conference, June, CD-Rom
36. Srinivasan, P., Ghanshyam\* P., Al-Ostaz, A., Raju Mantena P., Jao E., and Song, C. R. (2005), “Evaluation of Nano Composite Constituent Properties Using Multiple Scale Models,” McMat conference, Baton Rouge, LA, CD-Rom
37. Song\*, C.R. and Voyiadjis, G.Z. (2005), “Two different rate dependencies of saturated clayey soils,” Poromechanics-Biot Centennial (1905-2005)-Abousleiman, Cheng & Ulm (eds), Taylor & Francis Group, London, pp.713-718
38. Voyiadjis, G.Z. and Song\*, C.R. (2005), “A coupled micro-mechanical model for saturated soils,” Poromechanics-Biot Centennial (1905-2005)-Abousleiman, Cheng & Ulm (eds), Taylor & Francis Group, London, pp.719-724

##### Song\*, C.R. and Yeoh3, Y.H. (2004), “Assessment of Dam Safety from Field Monitoring Results,” GEO’2004, ASCE, Geotechnical Practice Publication No. 1, pp.86-93

##### Song\*, C.R. and Voyiadjis, G.Z. (2002), “Micro-mechanics in Soils and Shear Bands”, 15th ASCE Engineering Mechanics Division Conference, Columbia Univ., New York, New York, June 2-5th, CD-Rom

1. Song\*, C.R. and Voyiadjis, G.Z. (2002), “Non Local Approach for Geomaterials,” Proceedings of ASEM’02, Busan, Korea, CD-Rom publication

##### Song\*, C.R. and Voyiadjis, G.Z. (2001), “Rate dependent gradient theory for shear band analysis in clayey soils”, ASME/ETCE ‘2001 Conference, CD-Rom

##### Song\*, C.R. and Voyiadjis, G.Z. (2001), “Pore Pressure from Penetrometer and Hydraulic Conductivity”, 15th International Conference on Soil Mechanics and Geotechnical Engineering, Istanbul, Turkey, pp.279-282

1. Song\*, C.R. and Voyiadjis, G.Z. (2001), “Plastic Spin and Gradient Theory for Modeling Large Strain Behavior of Soils”, Proceedings of 10th International Conference of The International Association for Computer Methods and Advances in Geomechanics, pp.597-600
2. Voyiadjis, G.Z. and Song\*, C.R. (2001), “Rate Dependency and Gradient Theory for Shear Band Analysis”, Proceedings of 10th International Conference of The International Association for Computer Methods and Advances in Geomechanics, pp.601-606
3. Park\*,3, Y.J., Lee3, S.C. and C.R. Song (2001), “Rockmass Classification Using Multiple Indicate Kriging”, Proceedings of Korean Society of Civil Engineers, November, CD Rom
4. Chun3, T.H., Choi3, W.J., Park3, J.S. and Song\*, C.R. (2001), “Facts and Fictions in Geotechnical Surveys for Subway Design,” Proceedings of Korean Society of Civil Engineers, November, CD Rom
5. Song\*, C.R. (2001), “Constitutive Relations for CPT and SPT,” Proceedings of Korean Geotechnical Society for Specialty Conference for Geo-modeling and Non-Linear Behavior, September, pp.125-145
6. Song\*, C.R. (2001), “Estimation of Hydraulic Conductivity Using Excess Pore Pressures During Piezocone Penetration Test,” International Committee for Soil Mechanics and Geotechnical Engineering, ATC-7 Committee, Busan, Korea, September,pp.221-231
7. Song\*, C.R. (2001), “Total Geotechnical Instrumentation Based on Smart Materials,” Proceedings of Korean Geotechnical Society for Specialty Conference of Geotechnical Instrumentation, October, pp. 79-88
8. Song\*, C.R., Jun3, S.K., Yeo3, Y.H. and Han3, Y.C. (2001), “A Case Study of a Slope Failure and Slope Stabilization,” Korean Geotechnical Society National Conference, Committee of Slope Stability, Wonju, May, pp.123-133
9. Voyiadjis, G.Z. and Song\*, C.R. (2000) “Microstructural Characterization in Modeling Large Strain Behavior of Soils,” Plastic and Viscoplastic Response of Materials and Metal Forming, Proceedings of Plasticity ‘00, Neat Press, pp. 110-112

# Song\*, C.R. and Voyiadjis G.Z. (2000), “Effects of Incorporating Plastic Spin to Flow Characteristics in Clayey Soils,” Proceedings of EM’2000, ASCE, May 21-24th, Austin Texas, CD Rom

1. Voyiadjis, G.Z. , Song\*, C.R. and Tumay, M.T. (1999), “Real Time Continuous Profiling of Hydraulic Conductivity of Geo-materials Using the Piezocone Penetration Test,” 5th US National Congress on Computational Mechanics, August 4-6, Boulder, CO, p.502
2. Song\*, C.R. and Voyiadjis, G.Z. (1999), “A New Method for Determining the Permeability of Soils Using the Piezocone Penetration Test,” Proceedings, 13th ASCE Engineering Mechanics Div. Baltimore, June 13-16, Johns Hopkins University, Baltimore, MD, CD Rom
3. Song\* Chung Rak (1996b), "Fact and Fiction in Field Instrumentation (Part III: Pore Pressure Measurement)", Proceedings of the KGS Spring '96 National Conference, pp.221 – 234
4. Song\* Chung Rak (1996a), "Fact and Fiction in Field Instrumentation (Part II: Settlement Measurement)", Proceedings of the KGS Spring '96 National Conference, pp.205 –220
5. Song\* Chung Rak (1995), "Fact and Fiction in Field Instrumentation (Part 1: Horizontal Displacement Measurement)", Proceedings of the KGS Fall '95 National Conference, pp.III.1 - III.8
6. Han3 Young Chul, Song\* Chung-Rak, Yoon3 Dong Duk and Lee3 Kyung Soo (1995), "Automatic Field Monitoring and Analysis System for Soft Soils", Proceedings of the KGS Fall '95 National Conference, pp.III.9 - III.14
7. Song Chung Rak, Yeoh3 Yoo Hyeon and Kim\*,3 Sung In (1995), "Evaluation of the Behavior of Dam Body by Field Monitoring Results (I. With Emphasis on Pore Pressure and Seepage Water)", Proceedings of the KGS Fall '95 National Conference, pp.III.23 – III.30
8. Yeoh Yoo Hyeon\*,3 and Song Chung Rak (1995), "Evaluation of the Behavior of Dam Body by Field Monitoring Results (II. With Emphasis on Deformation)", Proceedings of the KGS Fall '95 National Conference, pp.III.31 - III.40
9. Yoon\*,3 Dong Duk and Song Chung Rak(1995),"Expansion Characteristics of Bentonite Plug for Piezometer", Proceedings of the KGS Fall '95 National Conference, pp.III.41 - III.46
10. Song\* Chung Rak, Oh3 Da Young, Kim Soo Sam, Chun Byung Sik (1993), "Consolidation Characteristics by Field Monitoring", The 1st International Conference on Soft Soil Engineering, Guangzhou, China, pp.584 – 589
11. Song\* Chung Rak (1993), "Dynamic Properties of Municipal Land Fills Subjected to Dynamic Compaction", Proceedings of Specialty Conference on Soil Dynamics, Korean Geotechnical Society, pp.83 – 116
12. Song\* Chung Rak and Han Wan Kyun (1993), "Damage of Structures from Nearby Dynamic Compaction", Proceedings of Specialty Conference on Soil Dynamics, Korean Geotechnical Society, pp.55 – 71
13. Song\* Chung Rak, Paek3 Seung Hoon and Oh Da Young (1992), "Assessment of Consolidation Characteristics by Field Instrumentation", Proceedings of KGS fall '92 National Conference. pp.121 – 130
14. Han3 Young Chul and Song\* Chung Rak (1992), “Deposition Properties of Dredged Materials of Kun-Jang Industrial Complex", Proceedings of KGS fall '92 National Conference. pp.61 – 64
15. Song\* Chung Rak, Paek3 Seung Hoon and Yeoh3 Yoo Hyeon (1992), "Settling and Consolidation Properties of Hydraulic Fill Materials of Yeochun Industrial Complex", Proceedings of KGS fall '92 National Conference. Pp.55 – 60
16. Song\* Chung Rak and Yeoh3 Yoo Hyeon (1991), "Analysis of Field Settlement by Personal Computer", Proceedings of KGS fall '91 National Conference, pp.332 – 347
17. Song\* Chung Rak, Park3 Kwang Joon and Yoo3 Tae Sung (1991), "Assessment of Carsington Dam Failure", Proceedings of KGS Fall '91 National Conference, pp.87 – 102
18. Song\*, C.R., Stokoe, K.H II, and Ni3, S.H. (1989), “Use of torsional resonant column method to evaluate nonlinear dynamic properties of soil under repeated loads and anisotropic state,” Proceedings of 11th IRF World Meeting, Apr. 16-21, Seoul, pp.217-220

**Section 2.1.6 Conference Proceedings: other than peer reviewed**

**Section 2.1.7 Conference Presentations (\* - presenter, 1 – graduate student under Song’s supervision, 2 – post doctoral associate under Song’s supervision)**

1. Nathan\*,1 T.M. and Song C.R. (2014), "Liquefaction Susceptibility of Soils in Desoto, Tate, and Tunica County, Mississippi", MAESC 2014
2. C.R. Song\*, A. Al-Ostaz and A.H.-D. Cheng, "Protection of Flood Protection System Using Multidisciplinary Countermeasures," 2012 ASCE-MS Section Conference, Biloxi, MS
3. Song, Chung Rak (2011), “Nano… in Civil Engineeering,” Civil Engineering, 59(9). 18-29 (invited article to Korean Civil Engineers Society)
4. Kidd\*,1 T., Hosey M., Chung R. Song,Ahmed Al-Ostaz and A.H.-D. Cheng (2011), “Design of Bentonite apron to mitigate the gap development for levees in New Orleans during flooding season,” MAESC, Memphis, 2011
5. Adhikari\*,1, S., Song, C.R., Cheng, A.H.-D. and Al-Ostaz, A. (2011), “Incorporation of the anisotropic elastoplastic model in FLAC3D and its application in the numerical simulation of New Orleans Levees and Floodwall section,” MAESC, Memphis, 2011
6. Song\* C.R., Cheng A. H.-D and Al-Ostaz A. (2011) Hurricane Damage on Flood Protection System and Multidisplinary Countermeasure.” MAESC, Memphis, 2011
7. L.T. Wodajo\*., C.J. Hickey, C.R. Song and D. Wren (2011), “Use of Seismic Surveys for the Preliminary Investigation of Earthen Dams,” MAESC, Memphis, 2011
8. Jinwon, Kim\*,1 and Chung R. Song (2011), "Estimation of soil properties based on seismoelectric conversion," MAESC 2011, Memphis, TN
9. Won\*,2, J. and Song C.R. (2009), “Three-Dimensional Analysis of T-type Floodwall in New Orleans,” Mid-South Area Engineering Sciences Conference, Memphis, TN, May 5, 2009
10. Adhikari\*,1, S. and Song C.R. (2009), “2-D Numerical Simulation of I-Wall for Retrofitting Design of Flood Protection Systems in New Orleans,” Mid-South Area Engineering Sciences Conference, Memphis, TN, May 5, 2009
11. Jang1 W. and Song\* C.R. (2009), “Development of Erosion Resistant Levee Retrofitting Material,” Mid-South Area Engineering Sciences Conference, Memphis, TN, May 5, 2009
12. Al-Ostaz\*, A., Cheng, A. H.-D., Mullen, C. and Song, C.R. (2009), “Aging Infrastructure: Evaluation, Repair, Improvement and Protection,” DHS Infrastructures Workshop; July 21-23, 2009 at Columbia University, New York, NY
13. Adhikari1, S., Song\*, C.R., Cheng, A.H.-D. and Al-Ostaz, A. (2009), “Evaluation of the Structural Cap for the integrated and the resilient flood wall system of New Orleans,” Mississippi Branch American Society of Civil Engineers Conference, Vicksburg, MS
14. Jang1, W., Song\*, C.R., Cheng, A.H.-D. and Al-Ostaz, A. (2009), “Developing Erosion Resistant Levee Materials and Estimation of Final Erosion Depth,” Mississippi Branch American Society of Civil Engineers Conference, Vicksburg, MS
15. Won2, J., Song\*, C.R., Cheng, A.H.-D. and Al-Ostaz, A. (2009), “Evaluation of the safety of T-type flood wall in New Orleans using three-dimensional numerical analysis,” Mississippi Branch American Society of Civil Engineers Conference, Vicksburg, MS
16. Adhikari1, S., Song\*, C.R., Cheng, A.H.-D. and Al-Ostaz, A. (2009), “Evaluation of structural cap for the integrated flood wall system of New Orleans,” Stabilization of Buildings Workshop in ERDC organized by DHS
17. Adhikari1, S., Song\*, C.R., Cheng, A.H.-D. and Al-Ostaz, A. (2009), “Evaluation of I-wall in New Orleans with calibrated soil parameters,” Stabilization of Buildings Workshop in ERDC organized by DHS
18. Song\*, Chung Rak (2009), “Hurricane Katrina – Geotechnical Aspects of Failure Mechanisms, Geotechnical Engineering Magazine by Korean Geotechnical Society (Invited Manuscript), May. 2009
19. Song\* Chung Rak (2008), “Pure Blood and Fused Blood in Geotechnical Engineering,“ Geotechnical Engineering Magazine by Korean Geotechnical Society (Invited Article), Aug. 2008
20. Jinwon Kim\*,1 and Chung R. Song (2007), “Experimental Identification of Biot’s Characteristic Frequency for Loosely Packed Particulate Media,” *MAESC 2007*, MS, CD-Rom

**Section 2.1.8 Invited Talks or Keynotes Speeches**

1. C.R. Song and T.Y. Yosef1 (2016), “Seepage Monitoring of an Embankment Dam Based on Hydro-Thermal (H-T) Coupled Analysis,” MULTI-PHYSICAL SOLUTIONS FOR HARSH ENVIRONMENTS: COMPUTATIONS AND EXPERIMENTS 2016, abstract accepted for invited talk
2. Chung R. Song, Alexander, H.-D. Cheng and Ahmed Al-Ostaz (2013), “Lessons Learned from Hurricane Katrina and Retrofitting Efforts Afterward,” 2013 KGS Conference
3. Chung R. Song (2013), “Lessons Learned from Hurricane Katrina and Retrofitting Efforts Afterward,” Korea Institute of Construction Technology
4. Chung R. Song (2013), “Nanomechanics based multi-sclae mechanics to mitigate high speed penetration objects,” Korea Institute of Construction Technology
5. C.R. Song (2013), “Erosion Evaluation of Levee Soils,” GS Construction, Seoul Korea
6. C.R. Song (2013), “Multi-scale Mechanics in Civil Engineering,” Hanyang University, Seoul Korea
7. C.R. Song (2013), “Multi-scale Mechanics in Civil Engineering,” Korea Railway Research Institute, University, Seoul Korea
8. Cheng A. H.-D., Song C.R. and Al-Ostaz, A. (2012), “Structural, Material, and Geotechnical Solutions to Levee and Floodwall Construction”, 2012 Dams Sector Research and Development Workshop, USACE, Vicksburg, MS
9. C.R. Song (2011), "Design of Intelligent Levee Monitoring System," Advanced

ICT for Flood and River Management, June 17, Seoul, Korea

1. Chung R. Song (2010), "Facts and Fictions in Instrumentation for Civil
2. Engineering," North Mississippi ASCE Meeting, Dec. 2010
3. Chung R. Song, Alexander, H.-D. Cheng and Ahmed Al-Ostaz (2009), “Lessons Learned from Hurricane Katrina and Retrofitting Efforts Afterward,” ASCE Norht Mississippi Section
4. Chung R. Song (2005), “Geotechnical Engineering for Difficult Ground Conditions,” ASCE North MS Conference
5. Chung R. Song (2001), “Mico-Geotechnical Engineering,” Jungang University, Seoul, Korea
6. Chung R. Song (1996), “Field Instrumentation,” Korea Geotechnical Society, Seoul, Korea
7. Chung R. Song (1996), “Soft Soil Engineering,” Yonsei University, Seoul, Korea
8. Chung R. Song (1995), “Field Instrumentation,” Jungang University, Seoul, Korea
9. Chung R. Song (1996), “Field Instrumentation,” Yonsei University, Seoul, Korea
10. Chung R. Song (1993), “Soft Soil Engineering,” Korea Geotechnical Society, Seoul, Korea

**Section 2.2 Grantsmanship Record**

**Section 2.2.1 Internally-Funded Research Grants**

1. Construction of Design chart for determination of hydraulic conductivity using pore pressure response of soils – Complete, PI, UM, $7,416, Jan. 2005 – Dec. 2005. (100%)

**Section 2.2.2 Externally-Funded Research Grants**

1. Development of a Traffic Noise Barrier Using Active Noise Reduction Technique – Current, PI, EnE Construction Co. Ltd. $153,644, Jul. 2013 – Jun. 2015. (100%)
2. Developing a Technique for Real Time Dam Safety Evaluation and Field Feed-Back – Complete, PI, Rural Research Institute of Korea Rural Community Corporation, $28,000, Jul. 2013 – Nov. 2013. (100%)
3. Earthquake and Piping Hazard Assessment for DeSoto, Tunica, Coahoma and Tate County, Mississippi – Complete, PI, MEMA/MMRI, $39,893, Apr. 2011 – Apr. 2014. (100%)
4. Nano-Enhanced and Bio-Inspired Composite Materials for Mitigation and Protection of TIH railcars and Stationalry Tanks against High Power Impact – Complete, Co-PI, DHS/SERRI, $1,001,970.00, May, 2010 to May, 2012. (20%)
5. Structural, Material, and Geotechnical Solutions to Levee and Floodwall Construction and Retrofitting - Complete, PI, DHS/SERRI, $1,959,537.00, Nov. 2007 – Dec. 2010. (60%)
6. Real time estimation of soil permeability using Piezocone Penetration Test – Complete, PI, Korea Land and Housing Corp/Baytech Korea, $50,000, Nov. 2004 to Dec. 2007. (100%)
7. Nanotechnology: Modeling of Polymer-Carbon Nanotubes Composites at Multiple Spatial and Time Scales – Complete, Co-PI, NASA-EPSCOR, $25,000, Jan. 2005 – July, 2005. (10%)
8. Estimation of hydraulic conductivity using acoustic techniques, - Complete, PI, Baytech Korea, $20,605, Jul. 2004 – Jun. 2005. (100%)

**Section 2.2.3 Externally-Funded Research Grants (submitted)**

1. “Piezocone Penetration Testing Device,” NDOR, C.R. Song (PI), Cost Share $0, total Amount $89,882, Amount Attributed to C.R. Song $89,882, Date of Submission 12/17/2015
2. “Nebraska Specific Slope Design Manual,” NDOR, C.R. Song (PI), Yong Rak Kim (co-PI), Cost Share $0, total Amount $121,118, Amount Attributed to C.R. Song $98,623, Date of Submission 12/16/2015

**Section 2.2.4 Externally-Funded Research Grants (submitted, but not funded)**

1. “Theoretical development of electric explosion based on nanomechanics and multi-scale mechanics,” NSF, C.R. Song (PI) and H. Alkhateb, Cost Share $0, Total Amount $223,757, Amount Attributable to C. Song $ 195,757, Date of Submission 02/17/14.
2. “Diagnosing the health conditions of levees and earthen dams via an innovative thermal-hydraulic-mechanical (thm) coupled methodology” NSF, C.R. Song (PI) and Y. Najjar, Cost Share $0, Total Amount $159.151, Amount Attributable to C. Song $ 195,757, Date of Submission 02/19/14.
3. “Ubiquitous system based technology for enhanced detection, mitigation, characterization, and remediation associated with oil spills,” GoMRI, C.R. Song (PI), E. Elizabeth, H.I. Hakan and G.Z. Voyiadjis, Cost Share $0, Total Amount $548,952, Amount Attributable to C. Song $ 201,023, Date of Submission 03/09/15.
4. “DHS-Center of Excellence”, DHS, C.R.Song (Co-PI) with 17 Co-PI’s, Cost Share $0, Total Amount $19,999,585, Amount Attributable to C. Song $ 100,000, Date of Submission 06/19/14.
5. “The development of an integrated system health monitoring (ISHM) for civil infrastructures and demonstration on a levee system in New Orleans” MS Senator’s Office, PI, Total Amount $2,000,000, Date of Submission 04/01/15
6. “Multihazard Analysis and Resilient Design for Critical Infrastructure Protection in the Southern US,” DHS, Co-PI, Total Amount $1,000,000, 04/20/2014
7. “PIRE: Development of SIMS (a smart infrastructure management system),” NSF, Internal Competition, Co-PI, Total Amount $4,000,000, Date of Submission 04/19/14.
8. “BundlingBIM, CAFM and structural health monitoring and assessment system for facility maintenance with real time performance data (BAA ITL2),” BAA, PI, Total Amount $238,686, Date of Submission 04/01/2013
9. “BIM inspired infrastructure management and maintenance system (BAA CERL17)”, BAA, PI, Total Amount $238,686, Date of Submission 03/22/2013.
10. “Field instrumentation and evaluation of high volume change soil pressure and structure reactions,” MDOT, PI, Total Amount $139,885, Date of Submission 6/08/2012
11. “USAID”, USAID, PI with 9 Co-PI’s, Total Amount $4,000,000, Date of Submission 04/19/2012.
12. “Potential impact of oiling of wetland plant (Spartina Alterniflora) shoots, roots and rhizomes on shear strength and erosion resistance of soils,” GoMRI, Co-PI, Total Amount $255,243, Date of Submission 3/09/2012
13. “Modeling and simulation of underwater explosion on submerged critical infrastructure for mitigation design and protection,” DHS, Co-PI, Total Amount $729,515, Date of Submission 10/10/2011
14. “Geomembranes and the control of expansive soils in construction of highways in Mississippi,” MDOT, PI, Total Amount $81,839, Date of Submission 05/06/10.
15. “MRI: Acquisition on Nanotomography and Nanoindenter system for characterizing nanomaterials in infrastructure applications,” NSF, Co-PI, Total Amount $674,537, Date of Submission 4/21/2010
16. “NSF Engineering Research Center for Nano Materials for Civil Instrstructure System,” NSF, one of three Co-PI’s, Total Amount $18,486,451, Date of Submission 07/21/09.
17. “Micro and Nano Engineered Soil Improvement for (Levees, Dams, and) the Nation’s Flood Protection Systems,” DHS, PI, Total Amount $936.610, Date of Submission 07/16/2009
18. “Potable LWD for in-situ Subgrade Evaluation,” MDOT, PI, Total Amount $119,206, Date of Submission 06/22/2009
19. “Liquefaction analysis of loose granular materials at Tunica area,” MDOT, PI, Total Amount $95,000, Date of Submission 01/07/2009
20. “CDI-Type I: Extracting organized Geo-Information from random Geo-data using nanomechanics,” NSF, PI, Total Amount $275,454, Date of Submission 12/08/2008
21. “The development of an Integrated System Health Monitoring (ISHM) for civil infrastructures and demonstration on a levee system in New Orleans,” NIST, PI, Total Amount $4,008,645, Date of Submission 07/30/2008
22. “Acoustic Estimation of Soil Permeability Total Amount $20,975, Date of Submission,” NSF, PI, Total Amount $345,018, 02/15/2008
23. “Quantification and Evaluation of Expansive Soils in Mississippi for Pavement Design,” MDOT, PI,Total Amount $256,630, Date of Submission 07/02/2007
24. “CAREER: Fundamental Nanomechanics Study for Geotechnical Engineering,” NSF, PI, Total Amount $507,814, Date of Submission 7/17/2007
25. “Determination of Continuum Mechanics Parameters Using Particulate Mechanics,” NSF, Total Amount $78,454, Date of Submission 02/15/2007
26. “Spreadsheet Based Continuous Permeability Profiling of Overconsolidated or Silty Soils Using Piezocone Penetration Tests,” NSF, Total Amount $104,084, Date of Submission 02/15/2007
27. “Do we know the strength of Martian Soils?” Total Amount $24,335, Date of Submission 11/01/2006
28. “Construction of NEHRP 97 soil classification maps and liquefaction potential for selected 7.5-minute quadrangles in DeSoto and Tunica Counties, Mississippi ,” US Department of Interior, Co-PI,Total Amount $63,746, Date of Submission 01/13/2006
29. “Prediction of Behavior of Granular Cryogenic Insulation by Bridging Sub-nano, Micro, and Macro Scales,” MS Space Grant and NASA EPSCoR Program, PI, Total Amount $71,336, Date of Submission 01/31/2006
30. “Estimation of Soil Permeability Using Acoustic Techniques,” NSF, PI, Total Amount $345,018, Date of Submission 10/01/2005
31. “CAREER: Implementation of Nano-technology into Geotechnical Engineering,” NSF, PI,Total Amount $536,142, Date of Submission 07/20/2005
32. “Construction of NEHRP 97 soil classification maps and liquefaction analysis,” USGS, Co-PI,Total Amount $117,472, Date of Submission N/A
33. “Nano to Macro: Bridging different length scale for granular materials,” NSF, PI, Total Amount $80,552, Date of Submission N/A
34. “Update and Expand the Seismic Mitigation Plan for Mississippi,” MS Emergency Management Agency, Co-PI, Total Amount $72,437, Date of Submission N/A
35. “Calibration of Discrete Element Method (DEM) for Soil Applications,” EDEM, PI, Total Amount $39,715, Date of Submission N/A
36. “Update of Correlation between Cone Penetration and Boring Log Data,” MDOT, PI, Total Amount $20,975, Date of Submission N/A
37. “Coupled Analysis of Tunnel Excavation in Soft Ground,” Sambo Engineering, PI, Total Amount $29,413, Date of Submission N/A
38. “Engineering Characterization of Yazoo Clay ,” MDOT, PI, Total Amount $180,000, Date of Submission N/A
39. “Field Instrumentation and monitoring of Yazoo clay,” MDOT, PI, Total Amount $100,000, Date of Submission N/A
40. “Bridging nomechanics and continuum mechanics for geomaterials,” ORNL, PI, Total Amount : Summer Research Expense, Date of Submission N/A

**Section 2.3 Research Patents and Awards**

**Section 2.3.1 Numbered List of Patents**

**Section 2.3.2 National and International Research Awards**

**Section 2.3.3 Regional and Local Research Awards and Recognition**

1. Outstanding Faculty Member of the Year 2010.

**Section 2.4 Other Research Accomplishments**

**Research Reports to Sponsor**

1. Chung R. Song and Sean Rogers (2015), Active Noise Cancellation system to
reduce tunnel blasting noise. Second Midterm project report submitted to ENE
Construction Ltd.
2. Chung R. Song and Sean Rogers (2014), Active Noise Cancellation system to
reduce tunnel blasting noise. Midterm project report submitted to ENE
Construction Ltd.
3. Chung R. Song and Nathan Mikell (2013), Earthquake and Piping Hazard
Assessment for Desoto, Tunica, and Tate County, Mississippi, Department of Civil
Engineering, University, MS 38677, Submitted to MMRI, Nov. 14, 2013
4. Chung R. Song (2013), Developing a Technique for Real Time Dam Safety
Evaluation and Field Feed-Back, Department of Civil
Engineering, University, MS 38677, Submitted to Korea Rural Research
Institute, Nov. 30, 2013.
5. Chung R. Song, Ahmed Al-Ostaz, Alexander H.-D. Cheng and Raju P. Mantena (2012), *Structural, Material, and Geotechnical Solutions to Levee and Floodwall Construction and Retrofitting*, Final Report Submitted to DHS/SERRI
6. Ahmed Al-Ostaz , Alexander Cheng, Chung R. Song, and A.M Rajendran (2012), *Nano-Enhanced and Bio-Inspired Composite Materials for Mitigation and Protection of TIH Railcars and Stationary Tanks against High Power Impact*, Final Report Submitted to DHS/SERRI
7. Chung R. Song and Won G. Jang (2008), REAL TIME ESTIMATION OF SOIL PERMEABILITY USING PIEZOCONE PENETRATION TEST, Final Report Submitted to Korea Land and Housing Corp
8. Chung R. Song and Jin W. Kim (2006), ESTIMATION OF HYDRAULIC CONDUCTIVITY USING ACOUSTIC TECHNIQUES, Final Report Submitted to Baytech Korea
9. Al-Ostaz, A., Cheng, A.H-D., Mantena, P.R. and Song, C.R. (2006), *NANOTECHNOLOGY: MODELING OF POLYMER-CARBON NANOTUBE COMPOSITE AT MULTIPKE SPATIAL AND TIME SCALES*, Final Report Submitted to Mississippi Space Grant Consortium
10. Chung R. Song and Sreeka Pulijala (2004) CONSTRUCTION OF DESIGN CHART FOR DETERMINATION OF HYDRAULIC CONDUCTIVITY USING PORE PRESSURE RESPONSE OF SOILS , Submitted to The University of Mississippi

**Poster Sessions (1 – graduate student under Song’s supervision)**

1. S. Adhikari1 (2009), “Two dimensional numerical simulation of I-wall for retrofitting design of flood protection systems in New Orleans,” 2009 DHS University Network Summit Annual Student Poster Competition, Washington D.C.
2. W. Jang1 (2009), “Development of Erosion Resistant Levee Retrofitting Material,” 2009 DHS University Network Summit Annual Student Poster Competition, Washington D.C.

**Section 3 Teaching Accomplishments**

**Section 3.1 Ph.D. Students**

**Section 3.1.1 Ph.D. Students Supervised**

1. Sudarshan Adhikari, Department of Civil Engineering, The University of Mississippi, Doctoral Committee Chair, Dec. 2012
2. Jinwon Kim, Department of Civil Engineering, The University of Mississippi, Doctoral Committee Chair, Summer. 2010
3. Wongil Jang, Department of Civil Engineering, The University of Mississippi, Doctoral Committee Chair, Summer 2010

**Section 3.1.2 Ph.D. Students Currently in Progress**

1. Tewodros Y Yimer, Ph.D. student, Department of Civil Engineering, UNL-Lincoln, Degree expected 2019
2. Leti Wodajo, Ph.D. candidate, Department of Civil Engineering, University of Mississippi, *Doctoral committee chair*, Ph.D. expected 2016.

**Section 3.2 M.S. Students**

**Section 3.2.1 M.S. Students Supervised**

1. Hamil C., Department of Civil Engineering, University of Mississippi, *Master’s committee chair*, June 2015
2. Jackson, J., Department of Civil Engineering, University of Mississippi, *Master’s committee chair*, May 2013
3. Binyam, T., Department of Civil Engineering, University of Mississippi, *Master’s co-advisor*, Aug. 2012
4. Jared, C., Department of Civil Engineering, University of Mississippi, *Master’s co-advisor chair*, Aug. 2012
5. Kidd, J. (Cooper Tire), Department of Civil Engineering, University of Mississippi, *Master’s committee chair*, May, 2012.
6. Wodajo, L., Department of Civil Engineering, University of Mississippi, *Master’s co-advisor*, May 2011.
7. Duddu L., Department of Civil Engineering, University of Mississippi, *Master’s co-advisor*, Aug. 2007.
8. Kim, J., Department of Civil Engineering, University of Mississippi, *Master’s committee chair*, Dec. 2006.
9. Cho H., Department of Civil Engineering, University of Mississippi, *Master’s committee chair*, Dec. 2006.
10. Pulijala, S., Department of Civil Engineering, University of Mississippi, *Master’s committee chair*, May 2006.
11. Biplab, B (MACTEC), Department of Civil Engineering, University of Mississippi, *Master’s co-advisor*, May 2006.

**Section 3.2.2 M.S. Students Currently in Progress**

1. Gustavo Nunez, Department of Civil Engineering, UNL-Lincoln, completion expected Fall 2017

**Section 3.2.3 Non-thesis option graduate students advised**

**Section 3.3 Undergraduate Students**

**Section 3.3.1 Undergraduate Students Supervised in Independent Research Study**

1. V. William, The University of Mississippi, BSCE 2015.
2. G. Bell, The University of Mississippi, BSCE 2013.
3. H. Prater, The University of Mississippi, BSCE 2013.
4. S. Burdine, The University of Mississippi, BSCE 2012.
5. M. Nathan, The University of Mississippi, BSCE 2012.
6. J. Kidd, The University of Mississippi, BSCE 2010.
7. R. Williams, The University of Mississippi, BSCE 2005.
8. A. Singh, The University of Mississippi, BSCE 2005.

**Post-Doctoral Scholars Supervised**

1. Dr. Won Jinoh, Fall 2010 – Fall 2012.
2. Dr. Jinwon Kim, Summer 2010 – Fall 2011.
3. Dr. Weidong Wu, Fall 2010 – Fall 2011.
4. Dr. Ge Wang, Fall 2008 – Fall 2010.

**Visiting Scholars Supervised**

1. Mr. Huh Gun (KRRI), Spring 2013 – Fall 2013
2. Mr. Keguo Xu, Fall, Fall 2009 – Spring 2010

**Section 3.3.2 Average Number of Undergraduate Students Advised per Year**

25

**Section 3.4 Teaching Awards**

**Section 3.4.1 International and National Teaching Awards**

**Section 3.4.2 Regional, Local and University Teaching Awards**

1. Outstanding Faculty of the Year Award, 2010 (Both research and teaching)
2. School of Engineering Teaching Award, 2009

**Other Teaching Accomplishments**

1. Overall student evaluation: Approximately 3.5 out of 4.0.

**Courses Taught**

1. Soil Mechanics II (Fall, 2015), UNL-Lincoln
2. Introduction to Geotechnical Engineering and Lab (Spring, 2016), UNL-Lincoln
3. Strength of Materials: taught 3 semesters in LSU, taught 2 semesters in UM, last offered Summer, 2014.
4. Soil Mechanics: taught every year in UM, last offered Spring, 2015.
5. Soils Lab: taught every year in UM, last offered Spring, 2012.
6. Foundation Engineering: taught every year in UM, last offered Fall, 2014.
7. Soil Mechanics II (graduate course): taught 2 semesters in UM, last offered Fall, 2009, offered based on need.
8. Advanced Geotechnical Engineering (technical elective for seniors): every year in UM, last offered Spring, 2015.
9. Field Testing and Geotechnical Instrumentation (graduate course):e in UM, last offered Fall, 2014.
10. Advanced Foundation (graduate course): taught 3 semesters in UM, last offered Spring, 2015
11. Plasticity (graduate course): taught 2 semesters in UM, last offered Fall, 2013, offered based on need.
12. Soil Dynamics (graduate course): taught 4 semesters, last offered Fall, 2012, offered based on need.
13. Shear Strength of Soils (graduate course): taught 1 semester, last offered, Spring, 2011.
14. Coupled Theory of Mixtures (graduate course): taught 1 semester, last offered Summer, 2008.
15. Statics: taught 3 semesters in Louisiana State University(LSU), taught 1 semester in University of Mississippi(UM), last offered Fall, 2004.

**Section 4 Service Accomplishments**

**Section 4.1 Professional Service**

**Section 4.1.1 Journal Editorships**

**Section 4.1.2 Journal Reviews**

1. Computers and Geotechnics
2. Canadian Geotechnical Journal
3. Acta Geotechnica
4. ASTM
5. International Journal of Numerical Analysis
6. Journal of Ocean Engineering
7. Journal of Geotechnical and Geoenvironmental Engineering, ASCE
8. Journal of the Acoustical Society of America
9. Journal of Engineering Mechanics Division, ASCE
10. Applied Clay Science
11. Journal of Korean Geotechnical Society
12. EMD 2007 Conference, ASCE
13. AAM 2008 Conference
14. GeoDenver 2007 Conference, ASCE
15. GeoCongress 2008 Conference, ASCE
16. GeoShanghai Conference, ASCE
17. IMECE05 (Inernational Mechanical Engineering Congress and Exposition) Conference, ASME

**Section 4.1.3 Leadership Positions in International and National Organizations**

1. Offered the first “Tunnelling” class in Ethiopia in Addis Ababa University as a service (Summer, 2012)

**Section 4.1.4 Leadership Position in Regional and Local Organizations**

**Section 4.1.5 Membership in Professional Organizations**

1. Korean Geotechnical Society, 1986-present
2. Korean Tunneling Society, 2002-present
3. American Society of Civil Engineers, Member, 1997-present.
4. Engineering Mechanics Institute, Member, 2004-present
5. Geo-Institute, 1997-present
6. American Society of Mechanical Engineering Geomechanics Committee 2009-present
7. Chi Epsilon, Member, 2006-present.

**Section 4.1.6 National and International Service Awards**

1. ASCE-EMI, Elected as a Vice President of Inelasticity Committee
2. ASCE-EMI, Elected as a President of Inelasticity Committee - next term

**Section 4.1.7 Regional and Local Service Awards**

**Section 4.1.8 Research Review Panels and Dates of Service**

1. Mountain-Plains Consortium (MPC) Research Proposal Review (Nov. 23, 2015)
2. Louisiana EPSCoR (Jan, 2011)

**Section 4.2 University Service**

**Section 4.2.1 Leadership Positions on University-wide Committees**

**Section 4.2.2 Membership Positions on University-wide Committees**

1. Instructional Space and Support (UNL)
2. SACS Evaluation Committee (Ole Miss)
3. Faculty Senate (2006 – 2007)
4. Buildings, Grounds and Renovations (2013-2016)
5. Academic Freedom and Faculty Responsibility (2013-2016)
6. Sabbatical Leave Review Committee (2014-2017)

**Section 4.3 College Service**

**Section 4.3.1 Leadership Positions on College-wide Committees**

**Section 4.3.2 Membership Positions on College-wide Committees**

1. Strategic Planning Committee (2013-2015)

**Section 4.4 Unit Service**

**Section 4.4.1 Leadership Positions on Unit Committees**

1. Search Committee Char for Geotechnical faculty search (UNL-Lincoln)
2. Represented the department in Engineering Advisory Board meeting, many times.
3. Founded and Served the Korean Association in Oxford from 2006 to 2007 as a president to promote a better Korean – American relationships in Oxord, MS
4. Served the Korean Students Association in Ole Miss as a faculty advisor from 2005 to 2006
5. School of Engineering web committee
6. Chi Epsilon (κε) Faculty Advisor (from 2006-2009)
7. Leading Civil Engineering Juniors and Seniors to enrich their college life both academically and socially. The Olemiss chapter was awarded the “Outstanding Chapter” by the national Chi Epsilon headquarter at 2006-2007 term.
8. Engineering Core Course Committee Member (Engineering Computing)
9. Faculty search committee for Geological Engineering Department: served in 1 faculty search committee
10. Faculty Search Committee for Civil Engineering: served in 2 faculty search committees.
11. Represented the School of Engineering in two Science Fairs
12. Attended ExCEED (Excellence in Civil Engineering Education) workshop and conveyed the information in Civil Engineering seminar class
13. Served as a faculty advisor for ASCE concrete canoe completion at University of Louisiana, Lafayette, LA (Apr. 7, 2005 to Apr. 9, 2005)
14. Served as a juror for term project presentation (CE456)
15. Invited external speakers for graduate seminar (Ms. Griffith Brownlee, Ms. Jody Dendurent from Mirafi Co. Mr. Noah Vromanm from ERDC, Dr. Azzad Hossain from NCCHE, Mr. Brad Ormon from Burs Cooley and Dennis Co. Mr. Michael Marasa from Hayward Baker Co., Mr.Michael Wright from MDOT, Mr. Bill Rigby from BE&K Inc.)

**Section 4.4.2 Membership Positions on Unit Committees**

**Section 4.5 Other Services**

**Conference Chaired**

1. Will Chair *Multiphysics and Multiscale Modeling of Engineering Materials* in EMI2016 Conference, Nashville, TN
2. *Civil Engineering* I, II and III Sessions in 2013 MAESC Conference, Oxford, MS
3. *Micromechanics of Granualr Media Session* in 2010 ASCE Annual Conference (GeoCongress), Tampa, FL, 2010, session accepted
4. *Nano-level Modeling of Geomaterials Session* in 2010 ASCE Annual Conference (GeoCongress), Tampa, FL, 2010, session accepted
5. *Nano poromechanics Session* in 2010 44th U.S. Rock Mechanics Symposium, , Salt Lake City, Utah, June 27-30, session accepted
6. *Classical Poroelasticity Session* in 2010 44th U.S. Rock Mechanics Symposium, , Salt Lake City, Utah, June 27-30, session accepted
7. *Disaster/Safety Issues Session* in MAESC2009, Memphis, Tennessee, May, 2009
8. *Behavior of Geomaterials in Nano to Micro Scale Session* in 2008 First AAM Conference, American Academy of Mechanics, New Orleans, LA, Jun. 2008
9. *Multi-Scale Modeling and Simulation of Nano Structured Materials*, 3 sessions in 2008 First AAM Conference, American Academy of Mechanics, New Orleans, LA, Jun. 2008
10. *Micromechanics of Granular Media Session in* 2008 ASCE Annual Conference (GeoCongress), New Orleans, LA, Mar. 2008
11. *Nanomechanics in Geotechnical Engineerin Session* **in 2007 ASCE Annual Conference (GeoDenver), Denver, Colorado, Feb, 2007**

**Section 4.5 Other Accomplishments**

1. School of Engineering Outstanding Faculty Member of the Year 2010.
2. School of Engineering Teaching Award 2009.

**Professional Certification**

1. APEC (Asian Pacific Economy Community) Engineer, 2002