

Nikhil N.V.

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EDUCATION

2016 **Ph.D.** in Geotechnical Engineering, KAIST, South Korea
Thesis: “A sequential sifting and scale reduction based approach to hazard assessment for extreme rainfall-induced debris flow”
Advisor: Prof. Seung Rae Lee

2011 **M.S.** in Structural and Geotechnical Engineering, Griffith University, Australia
M.S. in Geotechnical Engineering, KAIST, Korea
Thesis: “1-D and 2-D analyses of unsaturated slope stability using suction stress concept”
Advisor: Prof. Seung Rae Lee
GPA: 6.5/7.0

2007 **B.E.** in Civil Engineering, College of Engineering Goa, India
1st Class Honors

WORK EXPERIENCE

June 2007 - Feb 2009 Design Engineer
Madhav Kamat and Associates
Structural consulting Engineers, Goa, India

Sept 2011 - June 2016 Research/Teaching Assistant
Department of Civil and Environmental Engineering, KAIST, Korea

March 2016 - July 2016 Teaching Assistant for Scientific writing course
College of Liberal Arts and Convergence Science

RESEARCH EXPERIENCE

KAIST

Oct 2013 – Apr 2016 Core Technology Development of Real-Time Prediction and Counterplan for Extreme Rainfall-Induced Landslide Disaster (Supported by National Research Foundation of Korea)

PUBLICATIONS

Journal Papers:

1. **Nikhil N.V.**, S.R. Lee, A.M.S Pradhan, Y.-T. Kim, S.H. Kang, D.H. Lee, “A new approach to temporal assessment using ERI for extreme rainfall-induced landslide hazard”. Engineering Geology (*In press*).

2. **Nikhil N.V.**, S.R. Lee (2016), “A hybrid feature selection algorithm integrating an extreme learning machine for landslide susceptibility modeling of Mt. Woomyeon, South Korea”. *Geomorphology* 263, 50-70.
3. S.H. Kang, S.R. Lee, **Nikhil N.V.**, J.Y. Park, D.H. Lee (2016), “Development and Application of Initiation Criterion for Debris Flows at a Regional Scale using Topographic Indices”. *Catena* (Under review after 1st revision).
4. D. W. Park, S. R. Lee, **Nikhil, N. V.**, S.H. Kang, J.Y. Park (2016), “Coupled model for simulation of landslides and debris flows at local scale”. *Natural Hazards* 81 (3), 1653-1682.
5. G.H. Go, S.R. Lee, **Nikhil N.V.**, Seok Yoon (2015), “A new performance evaluation algorithm for horizontal GCHPs (ground coupled heat pump systems) that considers rainfall infiltration”. *Energy* 83, 766-777.
6. D. W. Park, S. R. Lee, **Nikhil, N. V.**, S. Yoon and G. H. Go (2013). “Quantitative assessment of landslide susceptibility on a regional scale using geotechnical databases developed from GIS-based maps”. *Disaster Advances* 7(5), 26-38.
7. D. W. Park, **Nikhil, N. V.**, S. R. Lee (2013). “Landslide and debris flow susceptibility zonation using TRIGRS for the 2011 Seoul landslide event”. *Natural Hazards and Earth System Sciences* 13, 2833-2849.

Journal papers (Non-SCI and to be submitted):

1. Nikhil N.V., S.R. Lee, D.H. Lee, J.Y. Park (2016), “A sequential sifting and scale reduction based approach to hazard assessment for extreme rainfall-induced debris flow” (To be submitted).
2. Nikhil N.V., D.H. Lee, S.R. Lee, J.Y. Park, A. Jordan, O. Hungr (2016), “An approach to predictive debris flow runout assessment: Database development and application in South Korea” (To be submitted).
3. D. W. Park, S. R. Lee, Nikhil, N. V., S. H. Kang, J. Y. Park (2013), “Debris flow hazard zonation by probabilistic analysis (Mt. Woomyeon, Seoul, Korea)”. *International Journal of Innovative Research in Science, Engineering and Technology* 2(6), 2381-2390.
4. S.H. Kang, S.R. Lee, Nikhil N.V., J.Y. Park (2015), “Analysis of Differences in Geomorphological Characteristics on Initiation of Landslides and Debris Flows”. *J. Korean Soc. Hazard Mitig.* 15 (2), 249-258.

Conference proceedings:

1. **Nikhil N.V.**, S.R. Lee, J.Y. park, D.H. Lee (2015), “A coupled hydro-mechanical mobilization analysis for extreme rainfall induced debris flow” COUPLED PROBLEMS 2015, San Servolo Island, Venice, Italy.
2. D.H. Lee, S.R. Lee, **Nikhil N.V.**, J.Y. Park (2015), “Modelling debris flow runout patterns on a local slope for 2011 Seoul event using DAN-3D”, ICCES’15, Reno, NV, USA.
3. **Nikhil N.V.**, S.R. Lee, J.Y. Park, S.H. Kang (2014), “Triggering and mobilization of debris flow due to extreme rainfall: A case study in Korean peninsula” Sixth International Conference on Engineering Failure Analysis, Lisbon, Portugal.
4. J.Y. Park, S.R. Lee, **Nikhil N.V.**, S.H. Kang (2014), “Calibration-based assessment of debris flow hazard on a local slope for 2013 Yeosu event using Dan-3D” The Twenty-Seventh KKHTCNN symposium on Civil Engineering 2014, Shanghai, China.
5. S.R. Lee, **Nikhil N.V.**, S.H. Kang, J.Y. Park (2014), “Extreme rainfall induced debris flow prediction: Hazard analysis accommodating post event topographic changes in Mt. Woomyeon, South Korea” IDRC Davos 2014, Davos, Swiss
6. **Nikhil N. V.**, S. R. Lee, D. W. Park, S. H. Kang and J. Y. Park (2014). “GIS based regional susceptibility model for debris flow initiation in Woomyeon Mountain, South Korea”. *Proceedings of World Landslide Forum 3*, 2-6 June 2014, Beijing.
7. D. W. Park, **Nikhil, N. V.**, S. R. Lee (2013). “Application of Landslide and Debris flow Coupled Model at Regional Scale”. *Proceedings of the 26th KKHTCNN symposium on Civil Engineering*, NUS, Singapore.
8. D. W. Park, S. R. Lee, **Nikhil, N. V.**, S. H. Kang (2013). “Assessment of debris flow susceptibility of 2011 Woomyeon mountain landslide”. *Proceedings of the ICL Northeast Asia Network Symposium*, Seoul, Korea.
9. **Nikhil N. V.**, S. R. Lee, D. W. Park (2013). “Landslide induced debris flow susceptibility mapping using extreme rainfall index”. *Proceedings of 9th International Workshop on ANCRiSST 2013*, July, Ulsan, Korea.
10. **Nikhil N. V.**, S. R. Lee, D. W. Park (2013). “Coupled analysis for hazard modeling of debris flow due to extreme rainfall”. *Proceedings of ICCCGE*, 26-27 Dec 2013, Phuket.

11. S. H. Kang, S. R. Lee, D. W. Park, **Nikhil N. V.** (2013). “Analysis of debris flow events occurred in Korea in 2013 using Extreme Rainfall Index (ERI)”. *Proceedings of the Korean Society of Civil Engineers*, Jeongseon, Korea.
 12. **Nikhil N.V.**, S. R. Lee (2012). “Suction stress based 1-D slope stability analysis for Korean granite weathered soil slopes” The 25th KKCNN Symposium on Civil Engineering, Busan, Korea, pp. 429-432.
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TECHNICAL EXPERTISE

- 1) Experience of debris flow site investigation and sampling.
 - 2) Knowledge of laboratory tests; direct shear, triaxial, SWCC, falling head and constant head permeability.
 - 3) Multi-scale landslide hazard modelling through statistical, machine learning, and numerical (2D and 3D) approaches.
 - 4) Experience in handling remote sensing based data.
 - 5) Experience in using softwares, Matlab, ArcGIS, Slope/W, Sigma/W, Seep/W, SVFLUX 3D, SVSLOPE 3D, SVSOLID 3D, ABAQUS, Fortran, IBM SPSS, STATA.
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MISCELLANEOUS

- 1) Selected for 1st LARAM–ASIA “*Landslide Risk Assessment and Mitigation*” course 2011.
 - 2) Awarded Griffith university student exchange program scholarship to KAIST, South Korea, 2010.
 - 3) Awarded BK-21 Plus postdoctoral fellowship (National Research Foundation (NRF), Korean government).
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