Curriculum Vitae 2014

Seung Ryull Kim, Ph.D., P.E.

President & CEO

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1. **Name** : **Seung Ryull Kim**

2. **Date of Birth** : **May 12, 1953**

3. **Nationality** : **Korean**

4. **Areas of Expertise** : Stress-Strain and Strength of Geo-materials; Characterizations or Constitutive Modelling
   Geotechnical Investigations and Sub-soil Characterizations
   Ground Improvements
   Conventional/ Mechanized Tunnelling and Underground Space Creations
   Foundations, Earth Structures, Stability of Earth and Rock Slopes
   Braced Excavations

5. **Academic Qualifications** : B.Sc. in Civil Engineering, Hanyang University, Seoul
   M.Eng. in Geotechnical Engineering, Asian Institute of Technology, Bangkok
   Dr.Eng. in Geotechnical Engineering, Asian Institute of Technology, Bangkok

6. **Professional Qualifications** : Professional Engineer (P.E.) in Soils and Foundations (No: 93139010063) issued by The Human Resources Development Service of Korea
   APEC Engineer (ROK-C1-02-0247), APEC Engineer Coordinating Committee

7. **Awards** :
   2013, Silver Tower, the Order of Industrial Service Merit (No-1265) Republic of Korea
   2010, Korea Civil and Culture Grand Prize (Technology Area) The Korean Society of Civil Engineers (KSCE)
   2006, Seoul Citizen Award (Civil Area), Seoul Metropolitan Government
   2005, Industrial Service Medal (No-5285), Republic of Korea
   2004, JUNGJINKI Media and Culture Award (Science and Technology Area) (Maeil Business Newspaper)

8. **Memberships of Professional Institutions and Societies** :
   Senior member, The National Academy of Engineering of Korea (NAEK)
   Past President, The Korean Tunnelling and Underground Space Association
   Past Vice-president, The Korean Society of Civil Engineers (KSCE)
   Past Vice-president, The Korean Geotechnical Society (KGS)
   Executive Director, The Korean Society of Geoenvironmental Engineering
   Life Member, The Southeast Asian Geotechnical Society (SEAGS)
   Member,The International Society of Soils and Geotechnical Engineering

9. **Countries of Work Experience** : Korea, Singapore, Libya, Sudan, Indonesia

10. **Areas of Consultancy** : Stress-Strain and Strength Behavour of Geo-materials; characterizations or constitutive modelling
Geotechnical Investigations and Sub-soil Characterizations
Ground Improvement Design
Conventional/ Mechanized Tunnelling and Underground Space Design
Foundations, Earth Structures, Stability of Earth and Rock Slopes Design
Braced Excavation Design

11. **Keynote/Invited Lectures :** -Kim, S. R., Koh K. H., and Park C. M., (2004), Experience from the performance of ground improvement in thick marine clay deposits, Keynote Lecture, Proceedings of the IS-Osaka2004 Japan, pp 607-621

-Kim, S. R. (2006), Technical Solutions and Case Histories for Soft Ground Tunnelling in Urban Areas, Training Course Lecture, pp.79-116 ITA-AITES, 2006World Tunnel Congress, Seoul, Korea

-Kim, S. R. (2008), Some Experience from the Soft Ground Tunnelling in Urban Areas, Invited Lecture, Proceedings of the Seminar on the State-of-the-art Technology and Experience on Geotechnical Engineering in Korea and Hong Kong, Hong Kong, pp. 71-109

-Kim, S. R. (2012), Use of Underground Space in Seoul and its Foreseeable Future, Keynote Lecture, Proceedings of the World Tunnel Congress 2012 (WTC2012), Bangkok, Thailand, pp. 14-34.

12. **Research Reports(Korean):** Standard Specification for Tunnelling, Ministry of Construction and Transportation (1996)
Ground Improvement Techniques, Seoul Metropolitan Government (1996)
Ground Investigation Techniques, Seoul Metropolitan Government (1996)
Stability Assessment of the 2nd Phase of Seoul Subway, Seoul Metropolitan Government (1996)
Waterproofing Concept for the Seoul Subway Tunnels, Seoul Metropolitan Government (1997)
Guidelines for the Design and Construction of Waterway Tunnels, K-water (1997)
Alternative Waterproofing Method for the Incheon Subway CL1-7, Incheon Metropolitan Government (1997)
Waterproofing Design Method for Communication Tunnels, Korea Electricity and Communication Cooperation (1998)
Design Criteria for Tunnels, Ministry of Construction and Transportation (1999)
Impact Assessment on a Subway Tunnel Incurred by Adjacent Construction Activities, Seoul Metro Cooperation (2000)
Reconstruction Method for the Collapsed KTX Tunnel, Geumho Construction Company (2000)
Design Criteria for Structures (Revision), Ministry of Land and Maritime Affairs (2008)

13. **Author of Books** : **Tunnels** (Korean), Seoul Metropolitan Government (SMG)
Construction Technology (Korean), Gumi Publishing Company (Co-author)
Theory and Practice of Geotechnical Engineering (Korean), Gumi Publishing Co. (Co-author)
Theory of Consolidation and Its Practice for Geotechnical Engineers (Korean) Gumi Publishing Company (Co-author)

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14. **Lecture Topics for Graduate Students** : **T1-** Elasto-plastic Behaviour of Soils
T2- Ground Improvement Techniques // **T3-** Tunnelling

15. **Others** : **Advisor, ACECC Committee**, The Korean Society of Civil Engineers (KSCE)
Secretary of Finance, The 3rd CECAR, Seoul, Korea (2004)

16. EMPLOYMENT RECORDS

1996~ Present	Founding President & CEO, ESCO Consultant & Engineers Company, Seoul
1994~1996	Executive Managing Director/Head of R&D Institute, Sambo Engineering, Seoul
1992~1994	General Manager, Daewoo Engineering Company, Seoul
1978~1985	Engineer~Deputy General Manager, Daewoo Engineering Company, Seoul

SUMMARY of *Key Skills and Experience*:----------

Dr. Seung Ryull Kim obtained his Bachelor's Degree in Civil Engineering from Hanyang University, Seoul, Korea. He then went to work at Daewoo Engineering Company, where he was assigned to the foundation design for the various plants, roads and sewerage systems, and then later for the design of subway construction works, for seven years before joining the Asian Institute of Technology(AIT) for his post-graduate studies in 1985. Here he devoted himself to the development of the constitutive relationship of soils obtaining his Master's Degree and Ph.D. in 1987 and 1991, respectively. The constitutive relationship he had formulated for soft clay behaviour gathered significant professional recognition.

After obtaining his Ph.D. degree in geotechnical engineering, Dr. Kim worked for Daewoo Engineering Company again for two years, and he became a founding president and CEO of ESCO Consultant and Engineers Company in 1996. He has been actively working for several organizations as a technical advisor or design reviewer. He became a senior member of the National Academy of Engineering of Korea (NAEK) in 2006. He held positions as vice-president for academic affairs in both societies: the Korean Society of Civil Engineers (KSCE) and the Korean Geotechnical Society (KGS). Beside these, he also held many important positions in other academic societies. He is currently an advisor, as a past president for the Korean Tunnelling and Underground Space Association (KTA).

Dr. Kim has spent more than 35 years of his life after his undergraduate studies in civil engineering, especially in the design and consultancy in bored tunnelling as well as cut-and-cover tunnelling. He was deeply involved in the subway construction of six major cities in Korea such as the Seoul subway, Busan subway, Daejeon subway and so on. Dr. Kim also devoted himself to many other tunnelling projects such as highway and railway tunnels.

His experience in tunnelling was highlighted by doing an outstanding performance from 1992 to 1994 as the head of a General Tunnelling Consultant Team for the construction of the second phase of Seoul subway, which consists of lines 5 to 8, a total of 167km in length. He also made major contributions toward enhancing tunnelling technology in Korea by giving lectures for graduate students and government officials. His publications, which are well shared with Korean tunnel engineers, reflect his zeal and enthusiasm towards tunnelling.

He had committed himself deeply into the revisions of the design criteria and specifications for tunnels published by the Ministry of Construction and Transportation. He was awarded several awards as an acknowledgement of his excellent performance from government as well as academic societies. Dr. Kim's professional experience is not limited to tunnelling projects but expanded to many difficult soil improvement projects such as Busan New Port Development and Masan Harbour Development Project in Korea.

17. **PROJECT INVOLVEMENTS:**

From: 1996 **To Date**

Position Held: President and CEO- Dr. Kim, the founding president and CEO of ESCO since1996, has been leading the company quite successfully. He made many contributions to ESCO in bringing it up to one of the renowned consulting campanies in Korea. The designation of ESCO as "Korea Brain Power" by the Ministry of Trade, Industry and Energy in the year 2013 was a piece of his contributions. His outstanding leadership and performance as a specialist was further recognized by the Korean Government with 'Industrial Service Medal'and "Silver Tower, the Order of Industrial Service Merit".

Description of Duties:
Involved in many design competition projects, namely turn-key based contracts and alternative designs for the construction of highways, railways, harbours, subways, caverns and soft ground improvements etc. Mandates included productions, particularly, of technically sound and cost-effective solutions for subway construction, including the 2-arch and 3-arch bored station tunnels as well as various types of shafts and mechanized tunnelling techniques.
Produced a detail design for the construction of underground radioactive waste repositories (silos). Participated further in diverse projects related to port development, including remediation of existing port facilities. Research projects awarded from the government or private sectors were also carried out.

Selected Projects:
(CAVERNS):
-Underground Radioactive Waste Repositories (6 units);
the dimensions of each unit are 30m in diameter and 50m in height constructed by drill and blasting methods at a depth of 80m~130m below the adjacent sea level
-Basic and detail design for a shallow depth buried type radioactive waste rpositories

(GROUND IMPROVEMENT):
-Ground improvement design for the Busan New Port Development (75m thick soft clay layer)
-Masan New Port Development
-Gwangyang Port East Complex Development
-Gwangyang Port West Entrance
-Incheon-Cheongra Industrial Complex
-Ungdong District Complex Development
-Site preparation construction and utility facilities construction for Parcel 2B-2
-Water quality restoration and construction

(BORED TUNNELS AND CUT-AND-COVER TUNNELS):
-Seoul Subway Lines CL701, 720, 726, 910, 911, 902, 915, 921
-Busan Subways Lines CL4, 230
-Daegu Subway Lines CL2-1
-Gyungbu High Speed Rail (KTX) CL11, 14-3
-Honam High Speed Rail CL1-2
-Suseo-Pyungtaek High Speed Rail CL9
-Great Train Express (GTX)
-Incheon Airport Rail Connection between Terminal#1 and Terminal#2
-Daejeon-Tongyoung Express Highway CL24
-Daegu-Pohang Express Highway (Dasan Tunnel)
-Donghongcheon-Yangyang Express Highway CL14 (11km long Inje Tunnel)
-Yangsan-Dongmyung National Road CL60
-Seoul 2nd Ring Road (Hwado-Yangpyung) CL3
-Belt Expressway around Busan City CL9
-etc. etc…….

(MECHANIZED TUNNELS):
-Bundang Line (double track) TBM shield tunnel (Han River Crossing)
-Seoul Subway Line CL921 (Basic Design)
-Seoul Subway Line CL921 (Detail Design)
-Seoul Subway Line CL726 (Detail Design)

From: 1993 **To:** 1995
Position Held: Executive Managing Director/Head of Sambo Research Institute

Description of Duties:
Deeply involved in design competition projects, namely turn-key based contracts and alternative designs. Research projects awarded from the government or private sectors were also carried out.

Selected Projects:
-Express highway CL15 between Daejeon City and Jinju City
-Feasibility study on double track railway system between Busan City and Ulsan City
-Busan Subway CL3 (design build)
-Busan Subway CL222 (design change)
-Seohaean Express Highway CL2 (Seocheon-Gunsan)
-Express Highway between Wonju City and Gangreong City CL9
-Feasibility study on application of TBM for Seoul Subway CL720
-Daegu Subway Line 2 (Bumohdong, design build)
-Yongdong Express Highway CL9

From: 1992 **To:** 1994
Position Held: Manager of Daewoo Engineering Company
Head of General Tunnelling Consultant (GTC) of Seoul Metropolitan Government

Description of Duties:
Rejoined Daewoo Engineering Company and appointed as the Head of General Tunnelling Consultant. The Consultant so-called as GTC supported the construction of the Second Phase (Phase II) of Seoul Subway (Lines 5,6,7,8 constituting167km in length) by providing various types of appropriate technical solutions. Design reviews were made and alternative solutions were addressed accordingly. On site help provided by GTC made major contributions to the safety and cost-effectiveness of Phase II Seoul subway construction.

A large number of technical issues were investigated and the relevant technical solutions with data were collated in a series of reports.

Selected Projects:
-Design and supervision for the Phase II Seoul Subway Construction (Lines 5,6,7,8; L=167km)
-Construction supervision Seoul Subway CL5-3
-Feasivility study the subsea tunnel in Incheon

From: 1985 **To:** 1991
Position Held: Graduate Student-
Committed to graduate studies in the field of geotechnical engineering, and obtained Master's and Doctoral Degrees from the Asian Institute of Technology(AIT) in 1987 and 1991, respectively.

-Formulated the constitutive model of geomaterials such as clay.

From: 1982 **To:** 1985
Position Held: Senior Project Engineer: Structural and Geotechnical Engineering for the Seoul Subway Lines 3&4 in downtown area

Description of Duties:
Assigned for the design and supervision projects for the construction of Seoul Subway Lines 3&4, which had been located within adverse geological conditions in densely populated downtown areas. Geotechnical investigation and sub-ground characterization, tunnel design (mined and cut-and-cover tunnels), instrumentation and monitoring, blasting design, costing, site supervision, and FEM or FDM analyses so on were carried out. Actively involved in The New Austrian Tunnelling Method (NATM) which was introduced to Korea for the first time.

Selected Projects:
-NATM design and supervision for the Seoul Subway Lines 3&4 (downtown area)
-Research and development project of NATM
-Han River Development Project (site grading and sewerage lines)
-Modernazation of Seoul Water Supply System
-Cable and Communication tunnels (Samsungyo)
-Seoul-Daeheon Highway (CL4)
-Iran Railway (CL6) Tunnel (Iran)
-Underground substation in Geydoing in Seoul

From: 1978 **To:** 1982
Position Held: Project Engineer: Structural Analyses, Foundation Design, Topographic Surveying
Sewer Lines and Access Roads Network Design
Development of Ship Building Yard and Housing Complex

Description of Duties:
Assigned for the civil engineering works for the construction of various plants and their supporting facilities. This included planning, structural and geotechnical designs, sewer and road network designs, bill of quantity, and costing.
Relevant calculation sheets, design reports, specifications and drawings were prepared and submitted.

Selected Projects:
-Ulsan Termal Power Plant Units 4,5,6
-Test road for Bupyung Automobil Factory
-Sudan Tyre Plant (Sudan)
-T-1Tank foundation (D=30m, 4 units, crude oil storage tanks
-Aozou Airport construction (Libya)
-Nalute Airport construction (Libya)
-Daewoo Ship Building Yard- dry dock, jack-up yard, access road
-Susa-Daernah Highway (Libya)

18. LIST OF PUBLICATIONS:

Master's Thesis: Shear Strength of Underconsolidated Clay (1987), No. GT-86-20
Asian Institute of Technology

Ph.D. Thesis: Stress-Strain Behaviour and Strength Characteristics of Lightly Overconsolidated Clays (1991), Diss. No. GT-90-2, Asian Institute of Technology

I. Towhata and Kim S. R. (1987), Shear Strength of Underconsolidated Clay, Annual Convention of Japan Society of SMFE, pp. 421-424

I. Towhata and Kim S. R. (1988), Stability Analysis of Seabed Undergoing Rapid Deposition, Proc. of the 43th Annual Conference of the JSCE, 3, pp.224-225

Kim S. R. (1988), Undrained Shear Strength of Clay and Stability of Submarine Slope Undergoing Rapid Deposition, Korean Society of Geotechnical Engineers, Vol.4, No. 4, pp. 5-18

I. Towhata and Kim S. R. (1990), Undrained Strength of Underconsolidated Clays and Its Application to Stability Analysis of Submarine Slopes under Rapid Sedimentation, Soils and Foundations, Vol.30 NO.1

김승렬, 박광준, 박봉기 (1993), 배수형 터널과 방수형 터널의 설계와 시공, 한국지반공학회 봄 학술발표회, pp.49-58

A.S. Balasubramaniam, S. R. Kim and Y. Honjo (1993), Formulation of Stress-Strain Behaviour Inside the State Boundary Surface, 11th Southeast Asian Geotechnical Conference, Singapore, pp. 3-14

A.S. Balasubramaniam, S.B. Gurung, O. Kusakabe & S.R. Kim (1993), On the Plastic Volumetric Strain of Bangkok Clay, 11th Southeast Asian Geotechnical Conference, Singapore, pp. 73-78

김승렬 (1993), 서울지하철 터널의 설계 및 시공 현황과 평가, 지하공간 건설기술에 관한 서울 심포지움 논문집, PP. 51-75

Kim S.R., Seah T.H., Balasubramaniam A.S. (1994), Formulation of Stress-Strain Behaviour Inside the State Boundary Surface, 13th ICSMFE, Delhi, Vol.1, PP. 51-56

김승렬, 고영근, 고형배, 양희홍 (1995), 역타공법(Top-Down)의한 지하철 정거장 건설, 대한토목학회 1995 년 학술발표회 논문집(III), PP. 325-328

김승렬(1995), 연약지반의 특성 및 대표하는 이론, 한국지반공학회지 pp. 170-1

김승렬(1997), 지하철 터널 방수개념에 대한 고찰, 지하철기술회보 제 90 호, 서울특별시

Kim, S. R., Lin, D. G., Bergado, D. T. and Balasubramaniam, A. S. (1997). Critical State Models and Their Comparison with Triaxial Behaviour of Soft Bangkok Clay, Geotechnical Engineering Journal, Vol. 28. No. 2-2, pp. 209-248

Chun B. S., Kim S. S., Kho K. H., Kim S. R., Im H. S. (1997), An Application of Lime Stabilization to Marine Clay, 14th ICSMFE, Hamburg, Vol. 3, pp. 1673-1676

Kim S. R. (1999), Some Factors Affecting the Ground Improvement Design for the Pusan New Port poject, 11th Asian Regional Conference on soil Mechanics and Geotechnical Engineering, Seoul, ATC-7 workshop, pp. 65-91

김승렬, 박치면 (2001), 마산지역의 토질특성, 지반공학회 2001 년도 아시아지역기술위원회(ATC-7) 심포지움 논문집, pp.55-71

Balasubramaniam, A. S., Kim, S. R., and Oh, E. Y. N. (2003). Discussion on “Numerical Interpretation of a Shape of Yield Surface Obtained From Stress Probe Tests”, By Ichizo Kobayashi, Kenichi Soga, Atsushi Izuka and Hideki Ohta. Soils and Foundations, Vol. 43, No. 3, pp. 95-104.

Chu, J., Kim, S. R., Oh, Y. N., Balasubramaniam, A. S., and Bergado, D. T. (2004). An experimental and theoretical study on the dilatancy of sand and clays, Proceedings of the 9th Australia New Zealand Conference on Geomechanics, Auckland, New Zealand, 2, pp. 654-660

Kim, S. R., Koh K. H., and Park C. M., (2004), Experience from the performance of ground improvement in thick marine clay deposit, Keynote Lecture, Proceedings of the IS-Osaka2004, Japan, pp 607-621

Lee, C., J., Handali, S., Kim, S. R., Lee, Y. H., Oh, E. Y. N., Bolton, M, and. Balasubramaniam, A. S. (2004). New Method to Predict Pore Pressures For Settlement Calculations and Stability Analysis, Submitted to 15th Southeast Asian Geotechnical Engineering Conference, Vol.1, pp.803-808

Kim, S. R., Khan, M. R. A., Pornpong, A., Oh, E. Y. N., and Balasubramaniam A. S. (2004). Failure States For Normally and Overconsolidated Soft Bangkok Clay, Submitted to 15th Southeast Asian Geotechnical Engineering Conference,Vol.1, pp.37-42.

Kim, S. R.(2006), Technical Solutions and Case Histories for Soft Ground Tunnelling in Urban Area, Training Course Lecture, ITA-AITES World Tunnel Congress, Seoul, Korea, pp.79-116

Kim, S. R., Hwang, J. D., Park, C. M., Kwon, Y. C., Lee, H. J., Park, Y. H. (2007) Tunneling Through the Alluvial Deposit in Urban Area, Proceedings of the 13th Asian Regional Conference on Soil Mechanics and Geotechnical Engineering, Kolkata, India,Vol.1,pp.493-496

Kim, S. R.(2012), Use of Underground Space in Seoul and its Foreseeable Future, Keynote Lecture, Proceedings of the World Tunnel Congress 2012 (WTC2012), Bangkok Thailand
pp. 14-34

김승렬(2013), 지하공간기술의 활용과 도시의 발전, 한국지반공학회 봄학술발표회, 초청강연, pp. 21-32

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Further information is available at// www.escoeng.com