

Sung Ho Kil

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Sung-Ho Kil is an Assistant Professor in the Department of Ecological Landscape Architecture Design at Kangwon National University, South Korea. His research interests include urban heat island, spatial ecology, restoration ecology, biotechnical engineering, landscape ecology, climate change, environmental impact assessment and natural disaster management.

EDUCATION

- Ph.D. *Landscape Architecture, Seoul National University, 2010 - 2014*
Dissertation Title: Development of Stability Evaluation Indicators on Revegetated Cut-slopes of Mountainous Terrain of Korea

Advisor: Dr. Dong-Kun Lee
Committee Members: Drs. Jong-wha Park, Nam-choon Kim, Gwan-su Park and Sang-jun Im
- MLA *Landscape Architecture, Seoul National University, 2005 - 2007*
Dissertation Title: A study on the Post-construction Evaluation of Green Roof Projects Supported by Seoul Metropolitan Government
Advisor: Dr. Byong-E Yang
Committee Members: Drs. Jong-wha Park, Hyun-su Kim, Dong-kun Lee and Choon-hyeon Oh
- BA *Landscape Architecture, Kangwon National University, 1997 - 2003*

ACADEMIC AND PROFESSIONAL WORK POSITIONS

- 2016 – Present** *Assistant Professor, Department of Ecological Landscape Architecture Design, College of Forest and Environmental Science, Kangwon National University, Chuncheon, Republic of Korea*
- 2014 - 2016** *Lead Research Assistant. The Department of Landscape Architecture & Urban Planning, Texas A&M University, USA*
- 2013 - 2014** *Instructor. Landscape Architecture, Kangwon National University, Chuncheon, Republic of Korea*
Taught two courses, including Ecological Design & Construction and Landscape Rehabilitation
- 2010 - 2014** *Project Manager and Lead Research Assistant. Landscape Architecture, Seoul National University, Seoul, Republic of Korea*
Managed and conducted research for 3 years, Technical study group for ecosystem adaptation & management and more another projects

- 2010 - 2011** ***Instructor. Landscape Architecture, Woosong College, Daejeon, Republic of Korea***
 Taught four courses, including Ecological Restoration, Computer Aided Design, Management of Landscape Architecture and Landscape Architecture Planting
- 2007 - 2010** ***Researcher. TOLIM co., Anyang, Republic of Korea***
- 2003 - 2007** ***Researcher. Environmental Planning Institute, Seoul National University, Seoul, Republic of Korea***
 Involved research for 4-year projects, Eco-friendly Landscape Design Manual, Management Plan for Biosphere Reserve of Jeju island and more another projects
- 2003 - 2006** ***Project Manager and Research Assistant. Korea Green Roof & Infrastructure Association, Seoul, Republic of Korea***

Licence

- 2003** License of Landscape Architecture Engineer (License #: 03202110309L)
 Korean Construction Engineer and Architect (KOCEA), Seoul, Republic of Korea

RESEARCH EXPERIENCE

- 2019 – Current** ***Co-Principal Investigator***
- Ministry of Environment (Chan Park [University of Seoul], PI)
 - Development of customized habitat management technique for urban species
- This study is to develop detection technology for habitat environment by incorporating state-of-the-art monitoring technology and guidelines for optimization and utilization of habitat information, South Korea.
- 2018 – Current** ***Principal Investigator***
- National Research Foundation of Korea (Sung-Ho Kil, PI)
 - The application plan and the use of vegetation index of slope revegetation using unmanned aerial vehicle
- This study is to investigate carbon storage and uptake through measurement of vegetation index and temperature after slope revegetation using UAV (Unmanned Aerial Vehicle), South Korea.
- 2017 – 2019** ***Co-Principal Investigator***
- Korea Forest Service (Hyun-Kil Jo [Kangwon National University], PI)
 - Development of model and technology for establishment management and evaluation of urban forests in living zone to improve carbon sequestration sources and multi-dimensional benefits against new climate change regime
- This study is to investigate and develop how to deal with spatial modeling of carbon stocks, carbon uptake, various particle matters and urban temperature mitigation according to vegetation coverage through field survey in Seoul, Daejeon, Daegu, Chuncheon, and Suncheon, South Korea.
- 2016 – Current** ***Co-Principal Investigator***
- Forest Science and Technology (Wan-Gun Park [Kangwon National University], PI)

- Management and survey of ecological resources in Baekdudaegan, South Korea

This study is to investigate and manage how to deal with preservation of biodiversity by surveying ecological resources such as trees, animals, and insects in Baekdudaegan as an important maintain chain in South Korea.

2015 – 2016

Co-Principal Investigator

- Texas A&M University, The Department of Landscape Architecture and Urban Planning (Jun-Hyun Kim [Texas A&M University], PI)

- Implementing 3D Modeling and Advanced Mapping Process using a Unmanned Aerial Vehicle (UAV)

The main purposes is 1) to develop a measurement framework using a UAV in landscape architecture studies, 2) to produce 3D modeling and NDVI mapping outputs for the project site using a UAV through an empirical field test, and 3) to provide learning opportunities to graduate and undergraduate students in terms of applying up-to-date technologies in their site inventory and analysis process.

2011 - 2014

Co-Principal Investigator

- Korea Environmental Industry & Technology Institute (Dong-Kun Lee [Seoul National University], PI)

- Technical study group for ecosystem adaptation & management

This study is to develop urban ecosystem adaptation and management model to confront climate change and preserve biodiversity.

2012

Co-Principal Investigator

- The National Institute of The Korean Language (Dong-Kun Lee [Seoul National University], PI)

- Unabridged dictionary of Korean Language Knowledge as an Open Type

This study is to interpret various words of an environmental field resulted in social growth.

2011 - 2012

Co-Principal Investigator

- Ministry of Environment (Dong-Kun Lee [Seoul National University], PI)

- Establishment of Master Plan of National Parks

This study is to develop basic strategies for management methods of national parks, provincial parks and county parks for adaptation of climate change.

2010 - 2011

Co-Principal Investigator

- Ministry of Environment (Dong-Kun Lee [Seoul National University], PI)

- Reclassification and Cooperative Management of Protected Areas

This study is to develop and reclassify management methods for wise uses of overlapping protected areas.

2010 - 2011

Co-Investigator

- Ministry of Environment (Dong-Kun Lee [Seoul National University], PI)

- Development of integrated impact assessment system to support climate change policy for mitigation and adaptation in Korea

This study is to develop integrated impact assessment system to support climate change policy for mitigation and adaptation in South Korea.

2004 - 2005

Co-Principal Investigator

- SH Corporation (Byeong-E Yang [Seoul National University], PI)
- Eco-friendly Landscape Design Manual

This study is to develop a manual for eco-friendly landscape design for apartment construction.

2005

Co-Investigator

- Yeongwol-gun (Byeong-E Yang [Seoul National University], PI)
- Proposed development projects and basic research for the development of clean industry

This study is to develop clean industries and further basic perspectives for improvement of Yeongwol-gun.

2004 - 2005

Co-Investigator

- Jeju Island (Byeong-E Yang [Seoul National University], PI)
- Management Plan for Biosphere Reserve of Jeju island

This study is to design management policies to establish MAB (Man and Biosphere) of UNESCO for Jeju Island.

2004

Co-Investigator

- Yeongwol-gun (Byeong-E Yang [Seoul National University], PI)
- Pre-investigation for learning in ecotourism of Mulmuri valley in Yeongwol

This study is to investigate natural resources and neighboring environments to create an area for learning in ecotourism in Mulmuri valley, Yeongwol-gun.

2003 - 2004

Co-Investigator

- Korea Engineering Consultants Corporation (Byeong-E Yang [Seoul National University], PI)
- Investigation of natural ecosystem in Yeon-in mountain

This study is to investigate natural resources in Yeon-in mountain.

2003 - 2004

Co-Investigator

- Seoul Metropolitan Government (Byeong-E Yang [Seoul National University], PI)
- Development of Management Manual by Monitoring of Green Roof

This study is to develop a managing manual through monitoring of green roofs in Seoul.

2003 - 2004

Co-Investigator

- Seoul Metropolitan Government (Byeong-E Yang [Seoul National University], PI)

- Development of Management by Structure Safety Test and Monitoring of Green Roof
- This study is to

2003

Co-Investigator

- Seoul Metropolitan Government (Byeong-E Yang [Seoul National University], PI)
- Validity of Eco-friendly Restoration to tear down Covered Structure of Yang-je Stream

This study is to investigate validity of eco-friendly restoration to tear down covered roads and bridges on Yang-je Stream.

2003

Co-Investigator

- Siheung City Government (Byeong-E Yang [Seoul National University], PI)
- Master Plan and Basic Design for Green City of Siwha District

This study is to develop a master plan and a basic design for a green city of a Siwha district.

2002

Co-Investigator

- Research Institute for Kangwon (Jo Hyun-Kil [Kangwon National University], PI)
- Eco-friendly Development and Water Quality Improvement of Gong-ji Stream

This study is to develop design factors and methods to manage eco-friendly development and water quality improvement of Gong-ji stream.

2002

Co-Investigator

- Research Institute for Kangwon (Jo Hyun-Kil [Kangwon National University], PI)
- Development of Landscape Formation Design and Desirable Forests of Yang-gu gun

This study is to develop landscape formation design and desirable forests of Yang-gu gun.

REFEREED JOURNAL ARTICLES

Kil, S. H., Kim, J. H., Kim, H. G., Lee, D. K. (on going) The effect of urban ponds for mitigating urban temperature using multi-temporal Landsat TM/ETM. (Considering a journal selection)

Lee, D. H., **Kil, S. H.**, Jo, H. K., & Choi, B. K. (2019) Spatial distributions of carbon storage and uptake of urban forests in Seoul, South Korea. *Sensors and Materials*, 31(11), 3811-3826.

Park, H. C., **Kil, S. H.**, & Seo, O. H. (2019) The use of unmanned aerial vehicle for monitoring individuals of Ardeidae species in breeding habitat: A case study on natural monument in Sinjeop-ri, Yeouju, South Korea. *Journal of the Korea Society for Environmental Restoration and Revegetation Technology*, 22(1), 73-84. (in Korean)

Park, G. Y., Yun, Y. J., **Kil, S. H.**, & Rho, H. E. (2019) An improvement direction for increases of visitor satisfaction on arboretum by post-evaluation: Based on Jade garden. *Journal of the Korean Institute of Traditional Landscape Architecture*, 37(4), 60-72. (in Korean)

Jo, H. K., **Kil, S. H.**, Park, H. M., & Kim, J. Y. (2019) Carbon reduction by and quantitative models for landscape tree species in southern region: For *Camellia japonica*, *Lagerstroemia indica*, and *Quercus myrsinaefolia*. *Journal of the Korean Institute of Landscape Architecture*, 47(3), 31-38. (in Korean)

- Sung, S. Y., Lee, D. K., Park, C., Kim, H. G. **Kil, S. H.**, Chae H. M. Park G. S. & Ohga S. (2018) Assessing effective sampling method and sample size for species distribution modeling of Korean red pine (*Pinus densiflora*). *Journal of the Faculty of Agriculture Kyushu University*, 63(2), 211-221.
- Kim, H. G., Lee, D. K., Park, C., Ahn Y., **Kil, S. H.**, Sung, S. Y., & Biging, G. S. (2018) Estimating landslide susceptibility areas considering the uncertainty inherent in modeling methods. *Stochastic Environmental Research and Risk Assessment*, 32, 2987-3019.
- Song, B. H. & **Kil, S. H.** (2018) Research trends for improvement of biotope area index. *Journal of People Plants and Environment*, 21(2), 103-116. (in Korean)
- Kim, J. H., Gu, D., Sohn W., **Kil, S. H.**, Kim W., Lee, D. K. (2018) The Influence of Urban Landscape Spatial Patterns on Mitigating the Urban Heat Island. *International Journal of Environmental Research and Public Health*. 45(1), 26-43.
- Kil, S. H.**, Yun, Y. J. (2018) Understanding the LST (Land Surface Temperature) effects of urban-forests in Seoul, Korea. *Journal of Forest and Environment Science*. 34(3), 246-248.
- Lee, D. H., **Kil, S. H.**, Jeon, S. W. (2018) Suitability analysis of eco-corridor for Korean water deer (*Hydropotes Inermis*) based on GIS and fuzzy function: A case study of Chuncheon city. *Journal of Korean Institute of Building Information Modeling*, 8(4), 72-79.
- Kim, J. H., Li, W. Newman, G., **Kil, S. H.**, Park S. Y. (2018) The influence of urban landscape spatial patterns on single-family housing prices. *Environment and Planning B: Planning and Design*. 45(1), 26-43.
- Heo, H. K., Kim H. G., & **Kil, S. H.** (2017) Preference analysis for driver and non-driver. *Journal of IDI urban studies*. 11, 251-284.
- Kil, S. H.** (2017) Analysis of elevation NDVI (Normalized Difference Vegetation Index) for *Taxus cuspidate*, *Pinus densiflora*, *Zelkova serrate* and *Acer palmatum*: Focused on landscaping trees in Kangwon National University. *Journal of the Korea Society for Environmental Restoration and Revegetation Technology*, 20(6), 151-160. (in Korean)
- Kil, S. H.** (2017) Analyzing LST distribution according to ponds and lakes in parks and public organizations of Seoul: Based on multi-temporal Landsat TM/ETM. *KIEAE journal*, 17(6), 63-72. (in Korean)
- Kil, S. H.** (2017) Characteristic analysis using the landscape preference in the urban historic temple. *Journal of People Plants and Environment*, 20(5), 567-578.
- Son, S. W., **Kil, S. H.**, Yun, Y.J., Yoon, J. H., Jeon, H. J. Son, Y. H., Kim, M. S. (2016) Analysis of Influential Factors of Roadkill Occurrence: A Case Study of Seorak National Park. *Journal of the Korean Institute of Landscape Architecture*, 44(3), 1-12. (in Korean)
- Kil, S. H.**, Kim, J. H., Newman, G., Park, G. S., & OHGA, S. (2016). Estimation and Change in Carbon Stock of *Robinia pseudoacacia* in Seoul, Korea. *Journal of the Faculty of Agriculture Kyushu University*, 61(1), 17-21.
- Kil, S. H.**, Lee, D. K., Park, G. S., Lee, S. J., & OHGA, S. (2016). Differences in carbon sink by land use using topographic correction in Seoul, Korea. *Journal of the Faculty of Agriculture Kyushu University*, 61(1), 7-15.

- Kil, S. H.**, Lee, D. K., Kim, J. H., Li, M. H., & Newman, G. (2016). Utilizing the Analytic Hierarchy Process to Establish Weighted Values for Evaluating the Stability of Slope Revegetation based on Hydroseeding Applications in South Korea. *Sustainability*, 8(1), 58.
- Kim, H. G., Lee, D. K., Jung, H., **Kil, S. H.**, Park, J. H., Park, C., & Oh, K. (2016). Finding key vulnerable areas by a climate change vulnerability assessment. *Natural Hazards*, 1-50.
- Kil, S. H.**, Lee, D. K., Kim, H. G., Kim, N. C., Im, S., & Park, G. S. (2015). Comparing potential unstable sites and stable sites on revegetated cut-slopes of mountainous Terrain in Korea. *Sustainability*, 7(11), 15319-15341.
- Kim, H.G., Lee, D. K., Park, C., **Kil, S.H.**, Son, Y., & Park, J. H. (2015). Evaluating landslide hazards using RCP 4.5 and 8.5 scenarios. *Environmental Earth Sciences*, 73(3), 1385-1400.
- Kil, S.H.**, Lee, D.K., Sung, H.C., Lee, G.G., Kim, H.G., Koo, M. and Mo, Y.W. (2014). Application of IUCN Category Regarding the Designation of Overlapping Protected Areas. *Journal of Environmental Impact Assessment*. (in Korean)
- Lee, S.J., Park, G.S., Lee, D.K., Lee, E.H., Jang, S.W., Kim, M.H., **Kil, S.H.**, Lee, H.G., Jang, G.W., Yun, J.Y., Gwon, O.J. (2013). A Study on the Changes of Plant Species and Soil Environmental Characteristics on Green Roofs at Seoul Women's University. *Journal of the Korea Society for Environmental Restoration and Revegetation Technology*, 16(6), 109-117. (in Korean)
- Park, Y.J., Lee, H.P., Lee, S.Y., Park, G.S., **Kil, S.H.** and Ohga, S. (2013). Development of a woody fuel moisture prediction model following rainfall events for a deciduous forest in yeondong region of Korea. *Journal of the Faculty of Agriculture Kyushu University*, 58(1), 7-15.
- Lee, S.Y., Kwon, C.G., Ko, D.W., Lee, H.P., **Kil, S.H.** and Ohga, S. (2013). A study on the Combustion of Living Leaves of Abors for Crown Fire Identification in Korean Temperature Forest Zone. *Journal of the Faculty of Agriculture Kyushu University*, 58(1), 17-22.
- Kil, S.H.** and Yang, B.E., Scale Estimation of External Garden by Landscape Components and Fractal Structure in Seoseokjiwon(瑞石池園). *Journal of the Korean Institute of Landscape Architecture*, 41(5), 57-67. (in Korean)
- Kim, H.G., Lee, D.K., Mo, Y.W., **Kil, S.H.**, Park, C., Lee, S.J. (2013). Prediction of Landslides Occurrence Probability under Climate Change using MaxEnt Model. *Environmental Impact Assessment*, 22(1), 39-50. (in Korean)
- Lee, S.J., Park, G.S., Kim, D.I., Lee, D.K., **Kil, S.H.**, Jang, S.W., Park, B.H., Yun, J.Y., Jang, G.W., Lee, H.Y. and Kwon, O.J. (2013). Change of Vegetation and Soil Characteristics of Green Roofs in Dongguk University. *Journal of the Korea Society for Environmental Restoration and Revegetation Technology*, 16(1), 193-206. (in Korean)
- Bae, C.Y., Park, C., **Kil, S.H.**, Choi, I.K. and Lee, D.K. (2012). Analysis of Urban Runoff with LID Application: Focused on Green Roofs and Permeable Paver. *Journal of Korea Planners Association*, 47(6), 39-47. (in Korean)
- Kil, S.H.**, Lee, D.K., Ahn, T.M., Koo, M. and Kim, T.Y. (2012). A Study on the Vegetation Properties of Slope Areas according to the Soil Hardness, *Journal of the Korea Society for Environmental Restoration and Revegetation Technology*, 15(5), 115-127. (in Korean)

Kil, S.H., Lee, D.K., Cho, M.H. and Yang, B.E., (2011). A Study on the Factors Affecting Vegetation Cover After Slope Revegetation: Focused on a JSB Method of Construction. *Journal of the Korea Society for Environmental Restoration and Revegetation Technology*, 14(5), 127-136. (in Korean)

Kil, S.H., Song, B.H. and Yang, B.E. (2011). A Study on Quantitative Classification of Styles through Analysing Characteristics of Components in Green Roofs: Focused on the examples in Seoul. *Journal of Korea Institute of Ecological Architecture and Environment*, 11(1), 21-28. (in Korean)

PEER-REVIEWED CONFERENCE PAPER AND PRESENTATIONS

Kil, S. H., Kim, J. H., Newman, G. and Lee, D.K. (2015). Effects of Green Space Size on Land Surface Temperature (LST). Council of Educators in Landscape Architecture: CELA: Kansas State University. [Oral presentation]

Sung, S. Y., Lee, D., **Kil, S. H.**, & Kim, H. G. (2014). Assessment of Soil Carbon Stock Change on Cut-Slope. 20th World Congress of Soil Science: Jeju-do, South Korea. [Poster presentation by Sung]

Kil, S.H., Lee, D.K., Kim, H.G. and Sung, S.Y. (2013). Development of Evaluation Indicators of Failure Risk after Construction of Slope Revegetation. The Korea Society for Environmental Restoration and Revegetation Technology. [full paper and oral presentation] (in Korean)

Kil, S.H., Kim, H.G., Koo, M. Lee, D.K., Sung, H.C. and Lee, G.G. (2012). Application of IUCN Category Regarding the Designation of Overlapping Protected Areas, The Korea Society for Environmental Restoration and Revegetation Technology. [full paper and oral presentation] (in Korean)

Kil, S.H., Lee, D.K. and Ahn, T.M. (2012). Vegetation Properties of Slope Areas according to the Soil Hardness. The Korea Society for Environmental Restoration and Revegetation Technology. [full paper and oral presentation] (in Korean)

Im, J.H., Lee, D.K., Park, C. and **Kil, S.H.** (2011). Analyzing Vulnerable Areas of Urban Green Service as a Public Service: Focused on Seoul Metropolitan City. Environmental Impact Assessment. [abstract and oral presentation by Im] (in Korean)

Kil, S.H., Cho, M.H. and Lee, D.K. (2011). Vegetation Variation of Post-construction of Slope Revegetation. Environmental Impact Assessment. [full paper and oral presentation] (in Korean)

Song, B.H, **Kil, S.H.** and Yang, B.E. (2005). A Study on the Design Factors for Ecological Design of Outdoor Space of Apartment Complex in Seoul . Korea Institute of Ecological Architecture and Environment. [full paper and oral presentation by Song] (in Korean)

HONORS AND AWARDS

2017 Excellent Thesis Award. 2016 Conference of the Korean Federation of Science and Technology Societies. COEX, Seoul, Republic of Korea. (Title of thesis: Kil, S.H. Evaluating erosion risk of revegetated cutslope with seed spraying. *Journal of the Korea Society of Environmental Restoration Technology*, 19(6), 63~76. (in Korean))

- 2017 Excellent Thesis Award. 2016 Spring Conference of the Korea Society of Environmental Restoration Technology. Seoul National University. Seoul, Republic of Korea. (Title of thesis: Kil, S.H. Evaluating erosion risk of revegetated cutslope with seed spraying. Journal of the Korea Society of Environmental Restoration Technology, 19(6), 63~76. (in Korean))
- 2014 Excellent Thesis Award. 2013 Spring Conference of the Korean Institute of Landscape Architecture. Gachon University. Seongnam, Gyeonggi-do, Republic of Korea. (Title of thesis: Kil, S.H. and Yang, B.E., Scale Estimation of External Garden by Landscape Components and Fractal Structure in Seoseokjiwon(瑞石池園). The Korean Institute of Landscape Architecture, 41(5), 57-67. (in Korean))
- 2013 Excellent Announcement Award. 2013 Spring Conference of the Korea Society for Environmental Restoration and Revegetation Technology. Chungnam University. Daejeon, Republic of Korea
- 2011 Excellent Announcement Award. 2011 Spring Conference of Environmental Impact Assessment, Jeju Convention Center, Jeju Island, Republic of Korea
- 2006 Appreciation Plaque Award. Korea Green Roof & Infrastructure Association, Seoul, Republic of Korea
- 2005 Grand Prize Award. Gwanak-gu Office. “Improvement of Pedestrian Environments for Eco-campus”, Seoul, Republic of Korea
- 2005 Gold Prize Award. Graduate School of Environmental Studies at Seoul National University. “Regeneration of Living Campus through Improvement of Pedestrian Environments ”, Seoul, Republic of Korea