Wonmin Sohn

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Landscape Architecture Program
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EDUCATION

Ph.D.	**Urban and Regional Sciences, Department of Landscape Architecture and Urban Planning, Texas A&M University, College Station, TX, 2019** Dissertation: The Impact of Climate and Land Use on Urban Stormwater Runoff, and Implication for Low Impact Development and Green Infrastructure Advisors: Drs. Robert Brown and Ming-Han Li Committee Members: Drs. Jun-Hyun Kim and Jaber Fouad
MLA	**Department of Landscape Architecture and Urban Planning, Texas A&M University, College Station, TX, 2015** GPA: 4.0/4.0 Final professional paper: Low Impact Development for Impervious Surface Connectivity Mitigation – Assessment of Directly Connected Impervious Area (DCIA) in the Energy Corridor District, Houston, TX Advisors: Drs. Ming-Han Li and Jun-Hyun Kim Committee Member: Dr. Tom Boutton
Certificate	**Sustainable Urbanism Certificate, Texas A&M University, College Station, TX, 2015**
BS	**Department of Landscape Architecture and Rural Systems Engineering, Seoul National University, Seoul, South Korea, 2011** Honors: Summa Cum Laude GPA: 4.0/4.3
Study Abroad	**University of New South Wales, Sydney, Australia, Spring 2011**

ACADEMIC & PROFESSIONAL WORK EXPERIENCE

2019-Present	***Assistant Professor***, Landscape Architecture Program, School of Planning, Design & Construction, Michigan State University, East Lansing, MI
2016-2019	***Instructor***, Department of Landscape Architecture and Urban Planning, Texas A&M University, College Station, TX
2014-2019	***Research Assistant***, Landscape Architecture and Urban Planning, Texas A&M University, College Station, TX
2017	***Research Assistant*****,** Landscape Ecology and Climate Change Adaptation Laboratory, Seoul National University, Seoul, South Korea
2015	***Teaching Assistant***, Landscape Architecture and Urban Planning, Texas A&M University, College Station, TX
2014-2015	***Student Worker*****,** Landscape Architecture and Urban Planning, Texas A&M University, College Station, TX

2013-2014 ***Graduate Assistant,*** Landscape Architecture and Urban Planning, Texas A&M University, College Station, TX

2010-2012 ***Research Assistant,*** Landscape Ecology and Climate Change Adaptation Laboratory (previously Landscape Ecology and Geographic Information System Laboratory), Seoul National University, Seoul, South Korea

2009 ***Intern*****,** Ga-one Urban Planning & Design Office, Seoul, South Korea

HONORS & AWARDS

2017-2018 **Schob Nature Preserve Scholarship**
Dept. of Landscape Architecture and Urban Planning, Texas A&M University, College Station, TX.

2017 **GIS Day Poster Award – Audience Favorite Prize**
Texas A&M University Libraries, College Station, TX.
- "Landscape Water Budget Tool", Lewis, A., Higgins, K., Potts, G., Rose, R., Noble, J., and **Sohn, W.**

CELA Outstanding Poster Award – Honorable Mention
Council of Educators in Landscape Architecture (CELA)
- "A system-oriented design approach for urban revitalization: Transit hub and mixed-use development in the Energy Corridor District, Houston, Texas, USA", **Sohn, W.**, Kim, J.-H., Ning, S., and Kim, Y.

2016-2017 **Urban and Regional Science Doctoral Departmental Scholarship**
Dept. of Landscape Architecture and Urban Planning, Texas A&M University, College Station, TX.

2016 **CELA Best Poster Award**
Council of Educators in Landscape Architecture (CELA)
- "Design Assessment for Sustainable Hydrologic System Development Using a Systematic Framework", **Sohn, W.**, Kim, J.-H., and Newman, G.

2015-2016 **University Top-Off Scholarship**
Texas A&M University, College Station, TX.

2015 **ASLA Student Merit Award**
American Society of Landscape Architects (ASLA)

2014-2015 **Landscape Architecture Development Scholarship**
Dept. of Landscape Architecture and Urban Planning, Texas A&M University, College Station, TX.

Department Head Award - Department Head Prize
Dept. of Landscape Architecture and Urban Planning, Texas A&M University, College Station, TX.

2014 **University Olmsted Scholar**
Landscape Architecture Foundation (LAF)

Texas ASLA Student Design Competition Merit Awards (2 Awards)
Texas Chapter of the American Society of Landscape Architects (ASLA)
- "Eco-Radiation of Cross Creek Ranch: A System-Oriented Community", **Sohn, W.**, Zhang, Y., Wang, Y., and Li, Z.
- "Infiltr[Action]: Groundwater Infiltration as a SmartWater Use Strategy", **Sohn, W.**, Guo, R., and Su, X.

2013-2014 **Gene Schrickel Jr. '50 Endowed Scholarship**
Dept. of Landscape Architecture and Urban Planning, Texas A&M University, College Station, TX.

2013 **Texas ASLA Student Design Competition Award – Honorable Mention**
Texas Chapter of the American Society of Landscape Architects (ASLA)

- "Healing Veterans with Honor", **Sohn, W.**, Danielson, D., LaCroix, R., and Garcia, V.

2011 **Summa Cum Laude**
College of Agriculture and Life Science, Seoul National University, Seoul, South Korea.

The Best Honor Graduate & Grand Prize
Dept. of Landscape Architecture and Rural System Engineering, Seoul National University, Seoul, South Korea.

CALS Study Abroad Scholarship
College of Agriculture and Life Science (CALS), Seoul National University, Seoul, South Korea.

2010 **Design Award – Honorable Mention**
7th National Exhibition of Korean Landscape Architecture, Seoul, South Korea.
- "1.7% Interfacing", **Sohn, W.**, Jang, Y., and Choi, S.

National Science & Technology Scholarship
Korea Student Aid Foundation, Seoul, South Korea.

2008; 2009 **University Scholarships for Academic Excellence and Achievement**
Seoul National University, Seoul, South Korea.

2007; 2009 **External Scholarships for Academic Excellence and Achievement**
Korea Student Aid Foundation, Seoul, South Korea.

PUBLICATIONS

Peer-reviewed Journal Articles

Sohn, W., Kim, J.-H., Li, M.-H., and Brown, R. (2019). The Influence of Climate on the Effectiveness of Low Impact Development: A Systematic Review. *Journal of Environmental Management*. 236, 365-379.

Sohn, W., Kim, J.-H., and Li, M.-H. (2017). Low Impact Development for Impervious Surface Connectivity Mitigation: Assessment of Directly Connected Impervious Area (DCIA). *Journal of Environmental Planning and Management*. 60 (10), 1-19.

Kim, J.-H., Gu, D., **Sohn, W.**, Kil, S.-H., Kim, H., and Lee, D.-K. (2016). Neighborhood Landscape Spatial Patterns and Land Surface Temperature: An Empirical Study on Single-Family Residential Areas in Austin, Texas. *International Journal of Environmental Research and Public Health*. 13, 880.

Kim, J.-H., Lee, C., and **Sohn, W.** (2016). Urban Natural Environments, Obesity, and Health-related Quality of Life among Hispanic Children Living in Inner-city Neighborhoods. *International Journal of Environmental Research and Public Health*. 13(1), 121.

Kim, J.-H., Ning, S., **Sohn, W.**, Newman, G., and Thomas, M. (2015). The Energy Corridor District Comprehensive Master Plan, Houston, Texas, USA. *Landscape Architecture Frontiers*. 3(5), 82-97.

Newman, G., **Sohn, W.**, and Li, M.-H. (2014). Performance Evaluation of Low Impact Development: Groundwater Infiltration in a Drought Prone Landscape. *Landscape Architecture Frontiers*. 2(4), 122-133.

Manuscripts in Preparation

Sohn, W., Kim, J.-H., Li, M.-H., and Brown, R. (In preparation). The Influence of Land Use Composition and Configuration on Surface Runoff under Varying Climate Conditions.

Sohn, W., Kim, H., Kim, J.-H., and Li, M.-H. (In preparation). Assessing the Capitalization Effects of Retention and Detention Ponds on Single-Family Housing Values.

Sohn, W., Kim, J.-H., and Li, M.-H. (In preparation). Assessing the Effectiveness of Drainage Systems to Mitigate Flood Losses.

Kim, J.-H., Li, W., and **Sohn, W.** (In preparation). Neighborhood Landscape Spatial Patterns and Housing Market Values in Urban and Suburban Regions.

Peer-reviewed Papers in Conference Proceedings

Sohn, W., Kim, J.-H., and Li, M.-H. (2015). Low Impact Development Applications in Urban Watersheds: Efficacy Evaluation by Imperviousness Connectivity Estimations. *True Smart and Green City?* Proceedings of the 8th International Conference of the International Forum on Urbanism (IFoU).

Sohn, W., Kim, J.-H., and Newman, G. (2014). A BLUEprint for Stormwater Infrastructure Design: Implementation and Efficacy of LID. *Landscape Research Record*. 2, 50-61.

Peer-reviewed Published Abstracts

Sohn, W., Kim, H.-W., Kim, J.-H., and Li, M.-H. (2019). Assessing the Capitalization Effects of Retention and Detention Ponds on Single-Family Housing Values. Council of Educators in Landscape Architecture (CELA), March 6-9, Sacramento, CA.

Sohn, W., Kim, J.-H., and Li, M.-H. (2018). The Impact of Climatic Factors on the Efficiency of Low Impact Development: A Systematical Review of Empirical and Methodological Research. Council of Educators in Landscape Architecture (CELA), March 21-24, Blacksburg, VA.

Tao, Z., **Sohn, W.**, Wang, R., Cao, L., Newman, G., Li, M.-H., Arnold, M.A., and Kim, J.-H. (2018). Aggie B.L.U.E.print Laboratories: A Multi-Disciplinary Teaching and Service Learning Opportunity. Council of Educators in Landscape Architecture (CELA), March 21-24, Blacksburg, VA.

Sohn, W., Kim, J.-H., and Li, M.-H. (2017). What Factors Determine the Effectiveness of Low Impact Development Practices?: A Review of Current Literature. Council of Educators in Landscape Architecture (CELA), May 26-29, Beijing, China.

Sohn, W., Kim, J.-H., Ning, S., and Kim, Y. (2017). A System-oriented Design Approach for Urban Revitalization: Transit Hub and Mixed-Use Development in the Energy Corridor District, Houston, Texas, USA. Council of Educators in Landscape Architecture (CELA), May 26-29, Beijing, China.

Kim, J.-H., Gu, D., **Sohn, W.**, Kil, S.-H., Kim, H., and Lee, D.-K. (2017). Neighborhood Landscape Spatial Patterns and Land Surface Temperature: An Empirical Study on Single-Family Residential Areas in Austin, Texas. Council of Educators in Landscape Architecture (CELA), May 26-29, Beijing, China.

Kim, J.-H., Lee, C., and **Sohn, W.** (2016). Urban Natural Environments, Obesity, and Health-related Quality of Life among Hispanic Children Living in Inner-city Neighborhoods. Council of Educators in Landscape Architecture (CELA), March 23-26, Logan, UT.

Sohn, W., Kim, J.-H., and Newman, G. (2016). Design Assessment for Sustainable Hydrologic System Development using a Systematic Framework. Council of Educators in Landscape Architecture (CELA), March 23-26, Logan, UT.

Sohn, W., Kim, J.-H., and Li, M.-H. (2015). Low Impact Development Applications in Urban Watersheds: Efficacy Evaluation by Imperviousness Connectivity Estimations. International Forum on Urbanism (IFoU), June, 22-24, Incheon, South Korea.

Sohn, W., Guo, R., and Kim, J.-H. (2015). Multi-functional Infiltration: WaterSmart Management for Campus Landscape. Environmental Design Research Association (EDRA), May 27-30, Los Angeles, CA.

Sohn, W., Kim, J.-H., and Newman, G. (2015). Groundwater Infiltration as a WaterSmart Use Strategy: Performance Evaluation of Low Impact Development in Conroe, Texas. Council of Educators in Landscape Architecture (CELA), March 24-28, Manhattan, KS.

Sohn, W., Kim, J.-H., and Li, M.-H. (2015). Low Impact Development for Impervious Surface Connectivity Mitigation: Assessment of Directly Connected Impervious Area (DCIA) in the Energy Corridor District, Houston, TX. Council of Educators in Landscape Architecture (CELA), March 24-28, Manhattan, KS.

Sohn, W., Kim, J.-H., and Newman, G. (2015). An Efficacy Assessment Model for Integrated LID Designs: Application to Three LID Based Projects in Texas. International LID Conference of the American Society of Civil Engineers (ASCE), January 19-21, Houston, TX.

Sohn, W., Kim, J.-H., and Newman, G. (2014). A BLUEprint for Stormwater Infrastructure Design: Implementation and Efficacy of LID. Council of Educators in Landscape Architecture (CELA), March 26-30, Baltimore, MD.

Sohn, W., Kim, J.-H., Bardenhagen, E., Newman, G., Zhang, Y., Wang, Y., Li, Z., and Baumgarten, M. (2014). Systems-oriented design approach for creating a walkable and sustainable community. Council of Educators in Landscape Architecture (CELA), March 26-30, Baltimore, MD.

PRESENTATIONS

Invited Guest Lectures

2017 ***Graphical Communication for Urban Design***
URPN 483 Studio in Urban & Regional Science, Texas A&M University, College Station, TX.

Quantitative Design Assessment of Low Impact Development Projects
LAND 312 Landscape Design IV, Texas A&M University, College Station, TX.

Site Analysis and Inventory for Urban Design
URPN 483 Studio in Urban & Regional Science, Texas A&M University, College Station, TX.

2015 ***Introduction to Landscape Design***
LAND 101 Introduction to Landscape Architecture Practices, Texas A&M University, College Station, TX.

2014 ***Methods to Measure Benefits of Low Impact Development Projects***
LAND 312 Landscape Design IV, Texas A&M University, College Station, TX.

Practices in Landscape Architecture
Youth Adventure Program: Summer Design Camp for High School Students, Texas A&M University, College Station, TX.

RESEARCH PROJECTS & ACTIVITIES

Competitive Research Grants

2018 **Principal Investigator**, "The Impact of Climate Conditions on The Urbanization-Runoff Process and Implications for Low Impact Development" funded by the Texas Water Resources Institute (TWRI) (Co-PI: Li/ $5,000)

- Doctoral dissertation grant.
- Involved in all phases of the project including proposal writing, literature review, research design, data collection, spatial and statistical analyses, and documentation.

2018-2019 **Research Assistant**, "Green Infrastructure Plans for Flood and Storm Water Hazards Reduction in the Texas Coastal Region" funded by the Texas Sea Grant and National Oceanic and Atmospheric Administration (PI: Van Zandt, Co-PIs: Newman, Woodruff/ $222,516)

- Lead spatial analysis in collecting longitudinal landscape data and running FRAGSTATS to quantify land use patterns.

2016-2019 **Research Assistant**, "Aggie B.L.U.E.print Laboratories: Building Lasting University Environments" funded by the Tier One Program (TOP) Interdisciplinary Education Grant, Texas A&M University (PIs: Newman, Kim, Li, Arnold, and Chu/ $300,000)

- Operated water samplers to monitor and analyze water quantity and quality of stormwater runoff before and after construction of a bioswale.
- Submitted a conference abstract.

2017 Summer **Research Assistant**, "Ecological Impact Assessment of Land Development" funded by the Korea Forest Service (PI: Dr. Lee/ $402,600)

- Assisted the Soil and Water Assessment Tool (SWAT) simulation to assess the impacts of land use conversion to runoff yields.

2014-2017 Summer — **Research Assistant**, "Natural Resources Monitoring and Management Plan Development Study of the Baekdudaegan Mountains" funded by the Korea Forest Service (PI: Dr. Kim/ $663,866)
- Involved in data collection and literature review on natural resource preservation and management plan.

2016 — **Research Assistant**, "New Perspectives for the Schob Nature Preserve: Implementing 3D Modeling and Advanced Landscape Analysis Process using an Unmanned Aerial Vehicle (UAV)" funded by the Schob Scholars LAUP Mini-Grant Program, Department of Landscape Architecture & Urban Planning, Texas A&M University (PI: Dr. Kim/ $3,000)
- Collected high-resolution imagery to extract Normalized Difference Vegetation Index (NDVI) using a UAV unit.

2012 — **Research Assistant**, "Development of Ecological Indicators for Forest Ecosystem Management" funded by the Korea Forest Conservation Association (PI: Dr. Lee/ $53,680)
- Involved in creating landscape indicators and criteria for evaluating the ecosystem value of forested lands and classifying purposes of forest management.

2010-2011 — **Research Assistant**, "An Ecological Aesthetic of Forest Landscape Design" funded by the Korea Forest Service (PI: Dr. Lee/ $89,500)
- Involved in visual simulations of alternative designs for nature reserves using Photoshop.

DESIGN PROJECTS & ACTIVITIES

Selected Service-Learning Projects

2014-2015 — **Design Team Leader**, "The Energy Corridor District Master Plan – 1st Phase Plan" funded by The Energy Corridor District, Houston, TX (PI: Dr. Kim/ $8,500)
- Involved in site analysis, concept design, and master plan development.
- Submitted a conference abstract and published a journal article.

2013 — **Design Team Leader,** "The TAES Annex Building WaterSmart Design" funded by the Texas Sea Grant Program (PI: Dr. Newman/ $8,745)
- Involved in site analysis, concept design, master plan development, and performance evaluation.
- Submitted two conference abstracts.

Design Team Leader, "LoneStar Groundwater Conservation District – Low Impact Development" funded by the LoneStar Groundwater Conservation District, Conroe, TX (PIs: Drs. Newman and Li/ $4,500)
- Involved in site analysis, concept design, and master plan development.
- Submitted two conference abstracts and published a journal article.
- Published in the *Architects Newspaper*: https://archpaper.com/2013/07/water-aggies/ (a Merit Award of Texas American Society of Landscape Architects, 2014).

Design Team Leader, "Developing the Hydraulics, Sedimentation and Erosion Control Laboratory to Become a Hands-on Training and Educational Center" funded by the Southwest Region University Transportation Center (PIs: Drs. Li, Newman, McFalls, and Storey/ $45,000)
- Involved in site analysis, concept design, master plan development, and post-design impact assessment.

Selected Studio Projects

2014 **Urban Riverfront Redevelopment, Dali, China**
Redeveloped a riverfront mixed-use CBD area for urban vitality.

2013 **Systems-Oriented Community Design, Fulshear, TX**
Designed a master planned community by incorporating four design systems: walkability, connectivity, water resource management, and community attachment
(A Merit Award of Texas American Society of Landscape Architects, 2014).

2012 **Healing Garden, Hampton VA Medical Center, Virginia**
Designed a healing garden for injured veterans
(An Honorable Mention in the of Texas American Society of Landscape Architecture, 2013).

2010 **Inner Harbor Redevelopment, Incheon, South Korea**
Transformed an old inner harbor into an open waterfront park (An Honorable Mention in the 7th National Exhibition of Korean Landscape Architecture, 2010).

2009 **Urban Park Design, Seoul, South Korea**
Designed a double-layered structure of an urban park connected to the existing underground city.

Urban Plaza Design, Seoul, South Korea
Designed an observatory square in the heart of Seoul viewing towards historic palaces and mountains.

Waterfront Community Design, Yongin, South Korea
Designed a sustainable eco-village on a reservoir preserving natural resources.

TEACHING EXPERIENCE

2016-2019 ***Instructor***, Department of Landscape Architecture and Urban Planning, Texas A&M University, College Station, TX

- *LAND 231 Landscape Construction I: Introductory Site Engineering (4 credits for 29 sophomores in 2018; 35 sophomores in 2017)*
  Landscape construction and site engineering course focusing on aspects of site engineering and consideration of earth-bound elements in land development; contours, landform, grading design, drainage principles, cut and fill computations, basic hydraulics and hydrology, stormwater management.
- *LAND 331 Landscape Construction III: Advanced Site Engineering (4 credits for 32 juniors in 2019; 33 juniors in 2018; 21 juniors in 2017)*
  Advanced landscape construction course focusing on sustainable water management techniques in landscape development; theory, principles and techniques of low impact development; construction document preparation, working drawings, project layout and design; theory and principles of irrigation design.
- *URPN 483 Design Studio in Urban & Regional Science: Introductory Urban Design Studio for Sustainable Development (1-6 credits for 26 juniors and seniors in 2017)*
  Urban design studio introducing concepts of urban form and the confluence of ecological, environmental, economic, social, and cultural forces impacting the planning, design, and development of complex urban environments; comprehensive site analysis, land planning and design practices.
- *URPN 220 Digital Communication I: Integrating Technology into Site Design (3 credits for 17 freshmen and sophomores in 2016)*
  Digital graphic communication course introducing concepts and principles of graphic

composition; applications of computer graphics and rendering in landscape architecture and urban design using diverse visualization software (e.g., AutoCAD, Photoshop, SketchUp, and InDesign).

2015 ***Teaching Assistant***, Department of Landscape Architecture and Urban Planning, Texas A&M University, College Station, TX

- *LAND 311 Landscape Design III: Advanced Landscape Design Studio for Urban Resiliency (Instructors: Drs. Newman and Hurst; 5 credits for 26 juniors in 2015)*

  Advanced landscape design studio focusing on design process, sustainable landscape design, synthesis and design refinement.

  Delivered two lectures:
  - *"Concepts and Methods of Drawing Creative Infographics"*
  - *"A Tutorial on Master Plan Rendering"*

PROFESSIONAL AFFILIATIONS

2014-Present **Olmsted Scholar,** Landscape Architecture Foundation (LAF)
2012-2015 **Member,** American Society of Landscape Architects (ASLA)

SKILLS AND INTERESTS

Computer Skills	Spatial Analysis (GIS & Remote Sensing): ArcGIS, ENVI
	Hydrology Model: SWAT, SWAT-CUP
	Geostatistic Model: FRAGSTATS, GeoDa, GeoDaSpace
	Statistic Model: JMP, SPSS, STATA, R
	Graphic Tools: Land F/X, AutoCAD, SketchUp, Adobe Illustrator, Photoshop, InDesign
	Computer Programming: Python
	MS office: Word, Excel, PowerPoint
Design/Teaching Interests	Urban waterfront development; hydrologically sensitive design; low impact development; flood-resilient design; landscape construction; site planning
Research Interests	Low impact development (green infrastructure); stormwater management; flood-mitigation policy; hydrologic modeling; land use pattern analysis; landscape performance; landscape ecology; urban resilience; climate change; sustainable development