

## SU JIN LEE

Spatial Sciences Institute  
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### EDUCATION

- 2012 Ph.D., Geography, University of Southern California, Los Angeles, California  
Dissertation Title: *Effects of Home Modifications and Municipal Policies on Green Space in Los Angeles County*
- 2005 M.Sc, Earth and Marine Sciences, Hanyang University, Korea  
Thesis Title: *A Study on the Precise Lineament Recovery of Alluvial Deposits Using Satellite Imagery and GIS*
- 2000 B.Sc, Earth and Marine Sciences, Hanyang University, Korea

### CURRENT APPOINTMENT

2012-present Lecturer, Spatial Sciences Institute, University of Southern California, Los Angeles, CA

### PUBLICATIONS

#### Refereed Journal Articles

- 2017 **Lee, S.J.**, Longcore, T., Rich, C., and Wilson, J. P., Increased home size and hardscape decreases urban forest cover in Los Angeles County's single-family residential neighborhoods, *Urban Forest and Urban Greening*, 24, 222-235
- 2009 Sheng, J., Wilson, J., and **Lee, S.J.**, Comparison of Land Surface Temperature (LST) modeled with a spatially-distributed solar radiation model (SRAD) and remotely sensing data. *Environmental Modelling & Software*, 24, 436-443
- 2007 Clarke, K., and **Lee, S.J.**, Spatial resolution and algorithm choice as modifiers of down-slope flow computed from Digital Elevation Models. *Cartography and Geographic Information Science*, 34, 215-230

#### Submitted Journal Articles for Review

- 2019 **Lee, S.J.**, Dodd, L., Mullarkey-Williams, L., Mercy, K., Healey, L., and Luevano, N. Conjecturing elements of past settlement on Santa Catalina Island, California through

consideration of traditional ecological knowledge embedded in hydrologic and hydraulic analysis modes, *Case Studies in Environment* (August 30, 2019)

### Conference and Symposium Proceedings

- 2014 **Lee, S.J.**, and Kim, K.H., GIS-Based Model Choice for computing Solar Irradiation from DEMs. Paper presented at AutoCarto, Pittsburgh, Pennsylvania
- 2010 **Lee, S.J.**, Longcore, T., and Wilson, J. P., Identification of Municipal Policies that Influence the Distribution of Green Cover across Metropolitan Regions. Paper presented at the Joint International Conference on Theory, Data Handling and Modelling in Geospatial Information Science, Hong Kong, 513-518
- 2005 **Lee, S.J.**, and Clarke, K., Assessment of Differences in Algorithms for Computing Fundamental Topographic Parameters. Paper presented at the AutoCarto, Las Vegas, Nevada
- 2003 **Lee, S.J.**, Hwang, J.S., Lee, D.C., Kim, J.W., and Suk, D.W., A Study on the Precise Lineament Recovery of Alluvial Deposits Using Satellite Imagery and GIS. Paper presented at the Asian Conference on Remote Sensing and International Symposium on Remote Sensing, Seoul, Korea, 363-368
- 2003 Hwang, J.S., Kim, S., Lee, S.H., Min K.D., Kim, J.W., and **Lee, S.J.**, Observation of the Earth's 2003 Magnetic Field from KOMPSAT-1. Paper presented at the Asian Conference on Remote Sensing and International Symposium on Remote Sensing, Seoul, Korea, 300-307

### Technical Reports

- 2011 Antos, M., Hogue, T., Longcore, T., **Lee, S.J.**, Kinoshita, A., Milanes, K., Morris, K., Pincetl, S., Shilling, F., Steele, N., Vos, R., and Washburn, B., *Assessing Ecosystem Values of Watersheds in Southern California*. Los Angeles, CA: Los Angeles and San Gabriel Rivers Watershed Council

### Laboratory Manuals

- 2013 **Lee, S.J.**, *Spatial LABS: Hurricane Katrina: Understanding Social and Physical Vulnerability* (2<sup>nd</sup> Edition). Redlands, CA, Esri Press, DVD
- 2012 **Lee, S.J.**, *Spatial LABS: Hurricane Katrina: Understanding Social and Physical Vulnerability* (1<sup>st</sup> Edition). Redlands, CA, Esri Press, DVD

### Other Publications

- 2016 Park, W., Chiang, Y., **Lee, S.J.**, and Yu, K., *Hot Spots of Tweets Related to Food, Entertainment, Work, and Study in Gangnam Area of Seoul, Korea*. Esri Map Book, Redlands, CA, 31: 104-105

## PRESENTATIONS

### Conferences and Workshops

- 2019 Malakoff, E., Levi, S., Hagedorn, K., Dodd, L., **Lee, S.J.**, and Hammond, D. *Detecting freshwater sources to enable clearer understanding of coastal geomorphology and water resource availability in Archaeological landscapes*. Society for California Archaeology. 53<sup>rd</sup> Annual Meeting, Sacramento, California
- 2019 Levi, S., Malakoff, E., Hagedorn, K., Hammond, D., **Lee, S.J.**, and Dodd, L. *Investigating submarine groundwater discharge on Santa Catalina Island, CA*. Los Angeles Geospatial Summit, Los Angeles, California
- 2018 Dodd, L., Levi, S., and **Lee, S.J.**, *Targeting the historical hydrology of Pimu (Santa Catalina Island) and questions of scale*. Society for California Archaeology 52<sup>nd</sup> Annual Meeting, San Diego, California
- 2016 Mercy, K., Luevano, N., **Lee, S.J.**, and Dodd, L., *Analysis of Spatial Characteristics of Freshwater Springs using Geospatial Technologies*. Annual Meeting of the Association of Pacific Coast Geographers, Portland, Oregon
- 2015 **Lee, S.J.**, *Teaching Spatial Data Acquisition in Online: Maximizing the Field Component*. Esri Education Conference, San Diego, California
- 2015 **Lee, S.J.**, Longcore T, Rich C., and Wilson J., *Effects of Increased Home Size on Green Cover in Los Angeles County's Single Family Neighborhoods*. The Vespucci Conference, the College of Atlantic, Maine
- 2014 **Lee, S.J.**, and Kim, K.H., *GIS-Based Model Choice for computing Solar Irradiation from DEMs*. AutoCarto 2014, Pittsburgh, Pennsylvania
- 2013 **Lee, S.J.**, Longcore, T., and Wilson, J. P., *Estimating Land Cover Changes using Object-Oriented Image Classification and GIS-Based Spatial Analysis Techniques in Metropolitan Areas of Los Angeles County*. Annual Meeting of the Association of American Geographers, Los Angeles, California
- 2012 **Lee, S.J.**, *Changing Character of Single Family Neighborhoods in Los Angeles County*. Second Annual Los Angeles Geospatial Summit, Los Angeles, California
- 2011 **Lee, S.J.**, Longcore, T., Clarke, K., Rich, C., and Wilson, J. P., *Monitoring Urban Land Cover Change Using Remote Sensing and GIS: A Case Study Los Angeles County*. Esri International User Conference, San Diego, California
- 2011 **Lee, S.J.**, Longcore, T., and Wilson, J. P., *A Study of the Ecological Consequences of Mansionization in Los Angeles County*. Annual Meeting of the Association of American Geographers, Seattle, Washington
- 2010 **Lee, S.J.**, Longcore, T., and Wilson, J. P., *Identification of Municipal Policies that Influence the Distribution of Green Cover across Metropolitan Regions*. Joint International Conference on Theory, Data Handling and Modelling in Geospatial Information Science, Hong Kong

- 2010 **Lee, S.J.**, Longcore, T., and Wilson, J. P., *Modeling the Ecological Impacts of Mansionization in Metropolitan Regions*. Annual Meeting of the Association of American Geographers, Washington, DC
- 2005 **Lee, S.J.**, and Clarke, K., *Assessment of Differences between Algorithms for Computing Fundamental Topographic Parameters*. AutoCarto, Las Vegas, NV
- 2003 **Lee, S.J.**, Hwang, J.S., Lee, D.C., Kim, J.W., and Suk, D.W., *A Study on the Precise Lineament Recovery of Alluvial Deposits Using Satellite Imagery and GIS*. Asian Conference on Remote Sensing and International Symposium on Remote Sensing, Seoul, Korea
- 2003 Hwang, J.S., Kim, S., Lee, S.H., Min K.D., Kim, J.W., and **Lee, S.J.**, *Observation of the Earth's 2003 Magnetic Field from KOMPSAT-1*. Asian Conference on Remote Sensing and International Symposium on Remote Sensing, Seoul, Korea

### Poster Presentations

- 2018 **Lee, S.J.**, Mercy, K., and Finnstrom, M., *Impact of municipal policies on trees in Los Angeles County*. Annual Meeting of the Association of American Geographers, New Orleans, LA
- 2017 Mullarkey-Williams, L., **Lee, S.J.**, Mercy, K., and Dodd, L., *Extracting hydrology information using DEMs*. Esri International User Conference, San Diego, CA
- 2017 Buth, C., Finnstrom, M., and **Lee, S.J.**, *Spatial Patterns of Air Pollution (PM2.5) in Los Angeles County*. 19<sup>th</sup> USC Undergraduate Symposium, Los Angeles, CA
- 2017 Mercy, K., Mullarkey-Williams, L., **Lee, S.J.**, and Dodd, L., *Life-Sustaining Water on Pimu/Santa Island as a Foundation for Understanding Past and Future Settlement Decisions*. 19<sup>th</sup> USC Undergraduate Symposium, Los Angeles, CA
- 2017 Mercy, K., Mullarkey-Williams, L., **Lee, S.J.**, and Dodd, L., *A Comparison of Hydrological Features in Different DEM Resolutions*. Annual Meeting of the Association of American Geographers, Boston, MA
- 2017 Mercy, K., Dodd, L., **Lee, S.J.**, Mullarkey-Williams, L., and Luevano, N., *Analysis of Spatial Characteristics and Traditional Knowledge of Spring Persistence in Support Predictive Modeling*. Society for American Archaeology. 82<sup>nd</sup> Annual Meeting, Vancouver, British Columbia, Canada
- 2017 Mercy, K., Luevano, N., **Lee, S.J.**, and Dodd, L., *A Study on Spring Water using DEM and Geospatial Technologies*. Seventh Annual Los Angeles Geospatial Summit, Los Angeles, CA
- 2016 Luevano, N., Mercy, K., Dodd, L., and **Lee, S.J.**, *A Study on Spatial Distribution of Freshwater Springs using Geospatial Technologies*. Summer Undergraduate Research Symposium, the University of Southern California, Los Angeles, CA
- 2015 Cooper, J., Gilsemanm N., Reger, C., and **Lee, S.J.**, *Measuring Geographic Change with Geospatial Technology and Landscape Photography in Two Harbors, California*. Annual Meeting of the Association of American Geographers, Chicago, Illinois

- 2015 Park, W.J., Chiang, Y.-Y., **Lee, S.J.**, and Yu, K., *Hot Spots of Tweets related to food, entertainment, work and study in Gangnam area of Seoul, Korea*. Esri International User Conference, San Diego, CA

### Webinar and Videos

- 2014 **Lee, S.J.**, *General Information Session: SSCI 587-GPS/GIS Field Techniques* (Webinar). Geographic Information Sciences and Technology Graduate Programs, University of Southern California
- 2013 **Lee, S.J.**, *General Information Session: SSCI 587-GPS/GIS Field Techniques* (Webinar). Geographic Information Sciences and Technology Graduate Programs, University of Southern California
- 2013 Wilson, J.P., Ruddell, D., and **Lee, S.J.**, *Spatial Sciences Institute* (Video). Dana and David Dornsife College of Letters, Arts and Sciences, University of Southern California.
- 2012 **Lee, S.J.**, *General Information Session: GIST Programs* (Webinar). Geographic Information Sciences and Technology Graduate Programs, University of Southern California

### Invited Lectures, Seminars, and Talks

- 2019 *Effects of increased home size on the green cover in Los Angeles County's single-family neighborhoods*. Winter 2019 WTMS- Building Greener Communities - The Huntington Library and Gardens, San Marino, California
- 2019 *Effects of increased home size on the green cover in Los Angeles County's single-family neighborhoods*. ARCH 447: Urban Forestry. University of Southern California, Los Angeles, California
- 2018 *Effects of increased home size on green cover in Los Angeles County's single-family neighborhoods*. National History Museum Los Angeles County, Los Angeles, California
- 2018 *Mansionization and tree loss*. Over L.A.: Aerial accounts. The Huntington-USC Institute on California and the West; the USC Sidney Harman Academy for Polymathic Study; and the USC Libraries Collections Convergence Initiative, Los Angeles, California
- 2018 *Impact on urban development on green cover*. ARCH 546: Urban Forestry. University of Southern California, Los Angeles, California
- 2018 *Introduction to ArcGIS and its applications*. ITP 322: Using GIS Technology for Social Impact. University of Southern California, Los Angeles, California
- 2017 *Using Geospatial Technologies to Monitor Los Angeles' Urban Forest: It is getting smaller?* The RAND Corporation, Santa Monica, California
- 2016 *Effects of Increased Home Size on Green Cover in Los Angeles County's Single Family Neighborhoods*. TreePeople, Beverly Hills, California

- 2015 *Geospatial Technologies at SSI. Coastal Impacts Visualization Environment Meeting.* University of Southern California, Los Angeles, California
- 2014 *Spatial Thinking and Geographic Information System Training.* The Communication, Organization, Planning and Administration (COPA) Program, USC School of Social Work, Los Angeles, California
- 2014 *Developing Safety Contents Seminar with Korea National Disaster Management Institute.* University of Southern California, Los Angeles, California
- 2014 *Introduction to GIS and GPS.* The USC Wrigley Institute, Catalina Island, California
- 2013 *Development of Technology on Disaster Risk Assessment and Response in Korea with Korea National Disaster Management Institute.* University of Southern California, Los Angeles, California
- 2013 *Using LAR-IAC data in the GIST Program at the University of Southern California.* LAR-IAC4 Kick Off Meeting, Los Angeles, California
- 2013 *Introduction to GIS and GPS.* USC Wrigley Institute, Catalina Island, California
- 2013 *Got Geospatial? Roles of Geospatial in Natural Hazard.* Hanyang University, Korea
- 2013 *Got Geospatial?* Sejong University, Korea
- 2013 *Introduction to GIS and Its Applications.* Kongjoo National University, Korea
- 2012 *An Overview of GIS Technology and Its Application across A Range of Disciplines.* The Mork Family and Scholars, USC Wrigley Institute, Catalina Island, California
- 2012 *Introduction of How to Use a Trimble GPS Unit and How to Do Post Processing.* Spatial Sciences Institute, University of Southern California, Los Angeles, California
- 2010 *Introduction of GIS and Remote Sensing.* Hanyang University, Korea
- 2009 *Identification of Municipal Polices that Influence the Distribution of Green Cover across Metropolitan Regions* Korea Institute of Geoscience and Mineral Resources, Korea

## GRANTS

- 2019-2020 *Monitoring the sustainability USC campus using geospatial technologies*  
University of Southern California Undergraduate Research Associates Program; PI;  
\$1,112.5
- 2018-2019 *A study on house values in Los Angeles County*  
University of Southern California Undergraduate Research Associates Program; PI; \$5,000

- 2017-2018     *Impact of land use policy on urban development and human-environment systems change in Los Angeles County*  
University of Southern California Undergraduate Research Associates Program; PI; \$4,500
- 2016-2017     *Relationships between the presence of street trees and levels of air pollution along major roads in Southern California*  
University of Southern California Undergraduate Research Associates Program; PI; \$6,400
- 2015-2016     *Estimating Solar Insolation on Building Rooftops at USC using Geospatial Technologies*  
University of Southern California Undergraduate Research Associates Program; PI; \$3,200

## TEACHING

### Graduate Courses Taught as Instructor

Spatial Sciences Institute, University of Southern California

- SSCI 581: Concepts for Spatial Thinking
- SSCI 583: Spatial Analysis
- SSCI 584: Spatial Modeling
- SSCI 585: Geospatial Technology Project Management
- SSCI 587: Spatial Data Acquisition
- SSCI 588: Remote Sensing for GIS

### Undergraduate Courses Taught as Instructor

Spatial Sciences Institute, University of Southern California

- SSCI 135: Maps in the Digital World
- SSCI 382: Principles of Geographic Information Science

### Undergraduate Labs Taught as Instructor

Spatial Sciences Institute, University of Southern California

- SSCI 301: Maps and Spatial Reasoning
- SSCI 382: Principles of Geographic Information Science
- SSCI 383: Geospatial Modeling and Customization

### Undergraduate Labs Taught as Co-Instructor

Spatial Sciences Institute, University of Southern California

- SSCI 165: Sustainability Science in the City
- SSCI 301: Maps and Spatial Reasoning
- SSCI 382: Principles of Geographic Information Science
- SSCI 383: Geospatial Modeling and Customization

### Theses Directed

- 2015     Mark Dustin, M.S., Geographic Information Science and Technology, University of Southern California  
Thesis title: *Monitoring Parks with Inexpensive UAVs: Cost Benefit Analysis for Monitoring and Maintaining Parks Facilities*
- 2015     Dustin Reed, M.S., Geographic Information Science and Technology, University of Southern California

Thesis title: *Historical Temperature Trends in Los Angeles County, California*

2015 Rachel Rodriguez, M.S., Geographic Information Science and Technology, University of Southern California

Thesis title: *Integration of Topographic and Bathymetric Digital Elevation Model using ArcGIS Interpolation Methods: A Case Study of the Klamath River Estuary*

2014 Caroline Carl, M.S., Geographic Information Science and Technology, University of Southern California

Thesis title: *Calculating Solar Photovoltaic Potential on Residential Rooftops in Kailua Kona, Hawaii*

### **Short Course Taught as Instructor**

2012-2013 *GPS Short Course*

One-day short course offered four times at Spatial Sciences Institute, University Southern California, Los Angeles, California

### **Published Works via Multimedia**

2017 Mike McPhate reviewed and edited a published paper "Increased home size and hardscape decreases urban forest cover in Los Angeles County's single-family residential neighborhoods." Published it at *New York Times, California Today*

2017 Ian Chaffee reviewed and edited a published paper "Increased home size and hardscape decreases urban forest cover in Los Angeles County's single-family residential neighborhoods." Published titled "Plant a tree, save the world?" Published at *University Southern California News*

### **PROFESSIONAL EXPERIENCE**

University of Southern California

2011-2012 Graduate Teaching Assistant. Spatial Sciences Institute

2009-2010 Graduate Teaching Assistant Fellow, Center for Excellence in Teaching

2008-2010 Graduate Teaching Assistant Mentor, Center for Excellence in Teaching

2007-2010 Graduate Teaching Assistant. Department of Geography

University of California Santa Barbara

2004-2006 Visiting Scholar, National Center for Geographic Information and Analysis, Department of Geography

Sejong University, Korea

2001-2004 Associate Researcher, Research Institute of Geoinformatics and Geophysics

2000-2001 Assistant Researcher, Research Institute of Geoinformatics and Geophysics

Hanyang University, Korea

2000-2002 Graduate Research Assistant, Department of Earth and Marine Sciences



**PROFESSIONAL SERVICE**

## University of Southern California

- 2018-present Faculty Affiliate, Wrigley Institute for Environmental Studies
- 2017-2019 Member, Archaeology Advisory Board
- 2018-2019 Chair of the TA Award committee, Spatial Sciences Institute
- 2017-2018 Member, Faculty Hiring Committee, Spatial Sciences Institute
- 2016-2019 Member, Dornsife Faculty Affairs Caucus
- 2014-present Mentor, Undergraduate Research Associates Program
- 2014-present Faculty Affiliate, Population Research Center
- 2014-2015 Thesis Jury, Geographic Information Science & Technology Master's SSCI 594a Thesis Research, Spatial Sciences Institute
- 2013-present Mentor, NSF-funded Research Experiences for Undergraduates Program, the Wrigley Institute
- 2013-present Member, Students Search Committee. NSF-funded Research Experiences for Undergraduates Program, the Wrigley Institute
- 2012-2013 Member, Thesis Prize Committee. Geographic Information Science & Technology Master's Thesis Prize, Spatial Sciences Institute
- 2012 Interviewer. USC Geographic Information System Library Fellow Search

## Professional Society

- 2016 Member, Student Paper Judge. Association of Pacific Coast Geographers, Portland, OR

## Los Angeles County

- 2015-2016 Member, Technical Advisory Board. Department of Parks and Recreation.

**ACADEMIC REVIEWS****Academic Journal Reviews**

- Computers and Geosciences
- Environmental Earth Sciences
- International Journal of Applied Geospatial Research
- Transactions in GIS

**AWARDS, FUNDS, and FELLOWSHIPS****Professional**

- 2019-2020 Dornsife RTPC Faculty Development Fund, University of Southern California, \$500
- 2018-2019 Dornsife RTPC Faculty Development Fund, University of Southern California, \$350
- 2017-2018 Dornsife RTPC Faculty Development Fund, University of Southern California, \$500
- 2016-2017 Dornsife RTPC Faculty Development Fund, University of Southern California, \$500
- 2014-2015 Dornsife NTT Faculty Development Fund, University of Southern California, \$500

**Graduate**

- 2011 AAG Student Travel Fund, Korean American Association for Geospatial and Environmental Sciences, \$500
- 2010-2011 Dornsife Conference Travel Fund, University of Southern California, \$500

- 2011 Best Graduate Teaching Assistant Award, Dana and David Dornsife College of Letters, Arts and Sciences, University of Southern California, \$1,000
- 2010-2011 Doctoral Merit Fellowship, Dana and David Dornsife College of Letters, Arts and Sciences, University of Southern California
- 2008 Graduate Teaching Assistant Award, Center for Excellence in Teaching (Department of Geography), University of Southern California
- 2006-2007 Doctoral Merit Fellowship, Dana and David Dornsife College of Letters, Arts and Sciences, University of Southern California
- 2004 International Research Internship Program Award, Korea Science and Engineering Foundation (KSEF), Korea
- 2000-2002 Graduate Science Fellowship, Department of Earth and Marine Sciences, Hanyang University, Korea

### **Undergraduate**

- 1994 Vice Departmental Students Representative Fellowship, Department of Earth and Marine Sciences, Hanyang University, Korea
- 1993 Freshman Departmental Students Representative Fellowship, Department of Earth and Marine Sciences, Hanyang University, Korea

### **PROFESSIONAL CERTIFICATIONS**

- 2018 FAA UAS Drone Pilot License. Federal Aviation Administration, USA
- 2015 Geographic Information Systems Professional. GIS Certification Institute, USA
- 2007 Graduate Certificate in Geographic Information Sciences and Technology, Geography, University of Southern California

### **PROFESSIONAL SOCIETY MEMBERSHIPS**

Association of American Geographers  
Association of Pacific Coast Geographers  
Korea-America Association for Geospatial and Environmental Sciences  
Korean-American Scientists and Engineers Association