

KYUNGMIN LEE

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EDUCATION

PhD	Univesity of Delaware, Energy and Environmental Policy	2024
	Dissertation: “The Impact of Human Behaviors and the Built Environment on Energy Use and Heat in Cities” Committee: Dr. Gregory Dobler (chair), Dr. Kalim Shah, Dr. Thomas Powers, and Dr. Clayton Miller	
MCP	Seoul National University, Environmental Studies	2018
BA	Sungshin Women’s University, Economics	2014

RESEARCH FOCUS

Energy and Electricity Policy, Global Climate Policy, Community Development and Urban Policy, Data Science, Machine Learning, Computer Vision, Remote Sensing

PUBLICATIONS

Publications

* -Indicate lead author/mentor publications

1. Arjunan, P., Dobler, G., **Lee, K.**, Miller, C., Biljecki, F., & Poolla, K. (2021, November). Operational characteristics of residential air conditioners with temporally granular remote thermographic imaging. In *Proceedings of the 8th ACM international conference on systems for energy-efficient buildings, cities, and transportation* (pp. 184-187).
2. * **Lee, K.**, & Yun, S. (2018). Positive Effects and Problematic Conditions of Adopting the Benefit Sharing Mechanism in Renewable Energy Projects: Focusing on the Case of Onshore Wind Farms in Jeju Island. *Space & Environment*: Vol.65. (pp.227~270). doi: 10.19097/kaser.2018.28.3.227
 - Featured in the *Monthly Electrical Technology & Information* 2019 January

Policy Reports

1. Cho, H., Lim, Y., Kim, S., Jeong, H., & **Lee, K.** (2019) Technical Assistance for the Development of an Urban Adaptation Plan for Kurunegala Project, D4.1 Report on the Results of Climate Change Risk and Vulnerability Assessment. CTCN Requests No. 2018000009 Vol 3.
2. Cho, H., Rubio, C., Jeong, H., **Lee, K.**, & Odawa, S. (2019) Technical Assistance for the Development of an Urban Adaptation Plan for Kurunegala Project, D4.2 Climate Change Risk Assessment Guidelines. CTCN Requests No. 2018000009 Vol 4.
3. Kim, G., & **Lee, K.** (2016). A Comparative Study of Humanitarian Programs for Climate Refugees. Energy Climate Policy Institute. *ENERZINE FOCUS*: Vol.69
4. Kim, T., Maeng, J., Park, J., & **Lee, K.** (2014). A Study on Environmental Assessment Guideline for Site Selection of Offshore Wind Farm Project. Sejong: *Korea Environment Institute*.

PRESENTATIONS AND INVITED LECTURES

Paper Presentation

“An Exploratory Study on Carbon Neutrality Monitoring Models and Scenarios for the Establishment of a Sustainability Assessment System: A Comparison of Korea and Countries Enacted Legally Binding Agreements,” The 4th Environmental Research Forum. Korea Safety, Health, and Environment Foundation, 2022, November.

“An Influence of the Benefit Sharing Mechanism to the Local Acceptance and Environmental Awareness: Focusing on the Case of Onshore Wind Farms in Jeju Island,” The 2nd International Conference on Bio-resources, Energy, Environment, and Materials Technology, 2018, June.

“An Exploratory Study on Positive Effects of and Problematic Conditions of Adopting the Benefit Sharing Mechanism: Focusing on the Case of Onshore Wind Farms in Jeju Island,” Spring Session of the Korea Environmental Policy and Administration Society Conference, 2018, February.

“A Study on Impacts from Price Subsidy and Tax Policy of EVs in South Korea,” 2016 International Conference on Climate Change and Sustainable Innovation of Korea Environmental Economics Association, 2016, June.

Invited Lecture

“Data-Driven Policy Making For Disaster Management, Department of Public Administration”, Chungnam National University, 2023, April.

“Overview of Data Science and Machine Learning Tools in Energy and Environmental Policy Field, Department of Public Administration”, Chungnam National University, 2021, November.

“A Case Study of Machine Learning Applications in Energy and Environmental Policy”, Department of Public Administration, Chungnam National University, 2020, October.

Symposium

“Extraction of Air Conditioner Unit Indicators from Proximal Infrared Remote Sensing of Buildings,” UD Data Science Symposium, 2021, November.

Keynote Address

“An Exploratory Study on Carbon Neutrality Monitoring and Scenario Evaluation: Comparative Analysis of Korea and Countries that Enacted Carbon Neutrality,” 2022, Debriefing Conference, 2022, November.

HONORS AND AWARDS

Research Fellowships

UD Doctoral Fellowship for Excellence (\$2,444-2,528/month), 2023 – 2024
UD Summer Doctoral Fellowship (\$4,500), 2022

Research Grants/Awards

Korea Safety, Health, and Environment Foundation - Environmental Research Forum Excellence Research Award (~\$250), 2022
Korea Energy Climate Policy Institute - Research Grant Program Competition Grant (~\$1,550), 2015

Honors

Aspen Institute - Future Leaders Climate Summit Cohort (Travel Award), 2022
Ministry of Environment of Korea - Global Environmental Leaders Program Fellowship, (~\$6,000), 2017
Korea Meteorological Administration - International Meteorological Expert Program Fellowship (~\$3600), 2016
Korea National Assembly Climate Change Forum – Climate Change Academy, Model UN Excellence Award & UNFCCC COP20 Lima Conference Observer (Travel Award), 2014

Academic Distinctions / Scholarships

University of Delaware - Tuition and Assistantship, 2019 – 2023
Seoul National University - Merit-based & Work-Study Scholarship, 2015 – 2016
Sungshin Women’s University, Merit-based Scholarship, 2011 – 2013

RESEARCH EXPERIENCE

- University of Delaware**, Research Assistant (Dr. Dobler) Feb. 2020 - Present
- Applied the Urban Observatory methodology for researching dynamics in complex urban systems through time-dependent proximal remote imaging.
 - Featured urban energy metabolism related to energy-end user behavior, urban heat island effect, and data privacy via infrared imaging.
 - Developed Random Forest, 1D CNN, and 3D CNN modes to identify air conditioners from infrared images of a residential building in Singapore with senior researchers.
 - Applied data science tools for predicting flood impacts on sea rise around the Delaware coast areas using OpenStreetMap.
- Korea Environment Institute**, Researcher Apr. 2019 – May. 2019
- Assisted UNFCCC Climate Technology Centre Network (CTCN)’s Technical Assistance for the Development of a Climate Smart City in Kurunegala, Sri Lanka
 - Supported climate change risk assessment and climate change adaptation plan related to international development
- Seoul National University**, Research Assistant (Dr. Yun) Sep. 2015 – Aug. 2016
- Supported seminars for Southeast Asia development projects in Seoul National University Asia Center.
 - Drafted environmental education development project related to water security, climate change, and recycling for Samsung engineering project.
 - Drafted case study of the smart green cities focusing on finance and citizen participation based on the community development approach for Green Technology Center.
- Korea Environment Institute**, Research Intern Apr. 2014 – Dec. 2014
- Supported drafting policy report on environmental assessment guideline for site selection of offshore wind farm project

TEACHING EXPERIENCE

- University of Delaware**, U.S.A. Aug. 2019 – Dec. 2022
- Teaching Assistant**, *Biden School of Public Policy and Administration*
- Taught one or more lectures every semesters and supported discussion sections during lectures
 - Graded exams and long essays, and hold regular office hours
- Crafting Public Policy (UAPP225)**
- Teaching lectures:
- | | |
|--|-------------|
| Non-Governmental Actors: Interest Groups | Spring 2022 |
| Environmental and Energy Policy | Spring 2021 |
| Policy Implementation and Regulatory Rule-Making | Spring 2020 |

Introduction to Energy and Environmental Policy (ENEP250)

Global Environmental Law and Policy/Climate Policy/Seminar
Study Team Workshop
Environmental Law and Policy

Fall 2022
Spring 2022
Fall 2020

Political Economy of the Environment (ENEP410)

Global Capitalism and the Environment

Fall 2021

Environmental Sustainability: Political and Economic Analysis (ENEP410)

Global Financing: Climate Change and the Least Developed Countries

Fall 2019

WORK EXPERIENCE

Korea Marine Environment Management Corporation, Specialist Jun. 2018 – Sep. 2018

United Nations Environment Program (UNEP), Intern Mar. 2017-Aug. 2017

**United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP)-
East and North-East Asia Office (ENEA)**, Intern Sep. 2016 – Feb. 2017

PROFESSIONAL AFFILIATIONS

Association for Public Policy Analysis and Management (APPAM), Member

American Planning Association (APA), Member

SERVICE

UD Computational Social Science Association, Interim President, 2022-2023

UD Data Science Institute, Graduate Fellow, 2021-2023

UD Biden School Student Association Secretary, 2021-2022

UD Korean Graduate Student Association Officer, 2021-2022

UD Energy and Environmental Policy Student Association Alumni Chair, 2020-2021

Korean Youth Climate Change Network BIGWAVE, Steering Committee Member, 2016-2019

LANGUAGES

English: Fluent, **Korean**: Native

COMPUTER SKILLS

Programming: *Python*, R, SPSS, ArcGIS, EVIEWS