

Yeonuk Kim

Ph.D. Student

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Education

2017 - current PhD Student in Resources, Environment and Sustainability (RES)
University of British Columbia (UBC), Canada

2016 B.S.E. Dept. of Landscape Architecture and Rural Systems Engineering,
-Cum laude- **Seoul National University (SNU)**, Korea

International Summer School

Aug. 2016 National Cheng Kung University, Taiwan,
Sustainable Development and Management for Lowland Environmental Resilience

Aug. 2013 BTU Cottbus, Germany & Incheon National University, Korea,
Integrated Urban Environmental Planning: Challenges & Approaches

Professional & Teaching Experience

2017 - current Graduate Research Assistant, UBC Ecohydrology Lab, UBC

2017 - 2018 Graduate Teaching Assistant, LFS 250: *Land, Food and Community 1*, UBC

2016 Researcher, National Center for AgroMeteorology (NCAM), Korea

2014 - 2015 Undergraduate Research Assistant, Complex Systems Science Lab, SNU

Research Interests

Ecohydrology, Biosphere-Atmosphere Interactions, Coupling of carbon and water cycles

- Interactions of soil, hydrological cycle, carbon cycle, GHG fluxes, energy flux, and biota
- Impacts of human & climate change on ecohydrological systems and their feedbacks

Awards & Scholarships

2017 - 2018 Faculty of Science Graduate Award, UBC

2017 - 2018 International Tuition Award, UBC

2017 Excellent Degree Thesis Award, College of Agriculture & Life Science, SNU

2015 **Grand Prize**, SNU Undergraduate Research Award, President of SNU

2015	Evergreen Scholarship, SNU Evergreen Scholarship Foundation
2014 - 2015	Agricultural Engineering Scholarship, SNU Alumni Association of Agri. Eng.
2011, 14-15	Merit Based Scholarship (Scholarship of Superior Academic Performance), SNU
2009	National Scholarship for Science and Engineering, Korea Student Aid Foundation

Professional Memberships

Student member, American Geophysical Union (since 2017)
Associate member, Korean Meteorological Society (since 2015)

Research Participations

2017 - current	Agricultural Water Innovation in the Tropics (AgWIT), Water JPI 2016 Joint Call for Transnational Collaborative Research Projects, Natural Sciences and Engineering Research Council of Canada (NSERC)
2016	Constructing the foundation of core technologies for custom-made agricultural & forest meteorological services, Korea Meteorological Administration
2015	<u>Principal Investigator</u> , Understanding the methane emission mechanism in an intermittently irrigated rice paddy and suggesting mitigation strategy. Funding: 3,000,000 (Korean won), SNU undergraduate research program
2015	Constructing the terrestrial ecosystem carbon database for the Carbon-Tracker-Asia improvement, Korea Meteorological Administration
2014 - 2015	Development of time series database for CO ₂ fluxes and investigation of ecosystem carbon dynamics, Korea Meteorological Administration

Publications

1. Peer- reviewed journal articles:

<International Journals>

- [1] **Kim, Y.**, Talucder, M. S. A., Kang, M., Shim, K. -M., Kang, N. & Kim, J. (2016). Interannual variations in methane emission from an irrigated rice paddy caused by rainfall during the aeration period. *Agriculture, Ecosystems & Environment*. 223, 67-75.

※ SCI. 2016 IF=4.099, Rank=1/56 (Agriculture, Multidisciplinary). **Time Cited: 8**

<Korean Journals>

- [1] Choi, S.W., Kim, H., **Kim, Y.**, Kang, M. & Kim, J. (2016). Estimation and mapping of methane emission from rice paddies in Gyunggi-do using the modified water management scaling factor. *Korean Journal of Agricultural and Forest Meteorology*. 18(4), 320-326

2. Selected presentations & posters:

- [4] **Kim, Y.** & Johnson, M. S. (2017). Spectral entropy as a mean to quantify water stress history for natural vegetation and irrigated agriculture in a water-stressed tropical environment. *2017 AGU Fall Meeting*. New Orleans, Louisiana, USA (Poster)
- [3] Johnson, M. S., Lathuilliere, M. J., Morillas, L., Dalmagro, H. J., D'Acunha, B., **Kim, Y.**, Suarez, A. & Couto, E. G. (2017). Carbon and water fluxes and footprints in tropical agricultural systems under rainfed and irrigated conditions. *2017 AGU Fall Meeting*. New Orleans, Louisiana, USA (invited)
- [2] Choi, S.W., Kang, M., Indrawati, Y.M., Kim, H., **Kim, Y.** & Kim, J. (2016). Carbon footprint estimation using long-term flux measurement in Haenam, Korea: Implication for climate-smart agriculture. *EcoSummit 2016*. Le Corum, Montpellier, France (Poster)
- [1] **Kim, Y.**, Talucder, M. S. A., Kang, M., Kang, N., Shim, K. -M. & Kim, J. (2015). Changes in methane emission from rice paddy triggered by rainfall during the mid-season Drainage (in Korean). *The 2015 Korean Meteorological Society Fall Conf*. Jeju, Korea (Oral)

3. Books (Non-refereed):

- [1] Group1: Lee, J. et al., Group2: Kim, J. et al., Group3: **Kim, Y.** et al. (2015). World seeing through Rural Systems Engineering (in Korean). *SNU Rural Systems Engineering*. 5

4. Copyright registration (in Korea):

- [2] Copyright: NCAM (developer: Kim, J. & **Kim, Y.**), 2016, Computing power spectral density and spectral entropy within specific bands. # C-2016-026366.
- [1] Copyright: NCAM (developer: Kim, J. & **Kim, Y.**), 2015, Computing "Scaling factor for water regime (SF_w)" to estimate CH₄ emission from rice paddy (in Korean), # C-2015-028272.

Relevant Skills

1. Experimental facilities

- Eddy covariance system (H₂O, CO₂, CH₄ & Heat fluxes)
 - LI-7700/7500(A)/7200 gas analyzers, LI-610 dew point generator (LI-COR), CSAT3 ultrasonic anemometer, AP200 profile system, Dataloggers (Campbell Sci.), Data managing & processing: EddyPro (LI-COR), LoggerNet (Campbell Sci.)
- Meteorological and ecological sensors
 - CNR4 net radiometer, CS616 tensiometer, TCAV soil thermometers, Rain gauge, HMP temperature and relative humidity probe, LWS-L leaf wetness sensor, etc.
- Leaf area index: LAI-2200C (LI-COR)

2. Computer skills

Proficient in: R/R studio, MATLAB, Google Earth Engine, MS Office, EndNote, Window
Experience in: Javascript, Python, QGIS, ArcGIS, Linux

3. Languages: English & Korean

Certifications & Other Activities

2012	Craftsman Environmental, National Qualifications, Korea
2011 - 2013	Civil Engineer (Military service), Republic of Korea Air Force
Jan. 2010	Volunteering for teaching sciences, Korea Foundation for the Advancement of Science and Creativity
2009-10, 13-14	Teaching math, Private tutor