Yeonuk Kim

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EDUCATION

2017 - current **Ph.D. Student.** Resources, Environment and Sustainability, University of British Columbia (UBC)

2016 **B.S.** Rural Systems Engineering, Seoul National University (SNU)
-Cum laude-

PROFESSIONAL & TEACHING APPOINTMENTS

2017 - current Graduate Research Assistant, UBC Ecohydro Lab, UBC (PI: Dr. Mark Johnson)

2018 Graduate Teaching Assistant, ENVR 420: *Ecohydrology of Watershed and Water Systems*, UBC

2017 - 18 Graduate Teaching Assistant, LFS 250: *Land, Food and Community 1*, UBC

2016 Researcher, National Center for AgroMeteorology, Korea

2014 - 15 Undergraduate Research Assistant, Complex Systems Science Lab, SNU (PI: Dr. Joon Kim)

RESEARCH INTERESTS

Ecohydrology, Biosphere-Atmosphere Interactions, Land Use Change, Land and Water Management

- Interactions of soil, hydrological cycle, carbon cycle, GHG fluxes, energy flux, and biota
- Impacts of human & climate change on ecohydrological systems and their feedbacks
- Evapotranspiration, moisture recycling, and cascading effect of drought over Amazonia

AWARDS, FELLOWSHIPS, & SCHOLARSHIPS

Graduate program

2019 Mitacs Globallink Research Award

2018 - current Four Years Doctoral Fellowships, *UBC*

2017 - current International Tuition Award, *UBC*

2017 - 18 Faculty of Science Graduate Award, *UBC*

2018 Excellence Prize, Idea contest for sustainable water management in South Korea, *Award by President of Korea Water Resources Corporation*

Undergraduate program

2017 Grand Prize, Essay contest for a place with potential value to become a representative attraction of Cheongju city in Korea, *Award by Minister of Culture, Sports and Tourism*

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

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

2015 Evergreen Scholarship, *SNU Evergreen Scholarship Foundation*

2014 - 15 Agricultural Engineering Scholarship, *SNU Alumni Association of Agricultural Engineering*

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, European Geoscience Union (since 2019)
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
2016	Constructing the foundation of core technologies for custom-made agricultural & forest meteorological services, Korea Meteorological Administration
2015	**Principal Investigator,** 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 - 15	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: 10**

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:

[5] **Kim, Y.**, Johnson, M. S., Knox, S., Black, T. A., Dalmagro, H. J., Kang, M., Kim, J., Ryu, Y., Baldocchi, D. (2019). CH4 flux gap-filling approaches for eddy covariance data: a comparison of three machine learning algorithms and marginal distribution sampling method with and without principal component analysis. *2019 EGU General Assembly.* Vienna, Austria (Poster)

[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 CH_4 emission from rice paddy (in Korean), # C-2015-028272.

RELEVANT SKILLS

1. Experimental facilities

- Eddy covariance system (H_2O, CO_2, CH_4 & Heat fluxes)
  LI-7700/ LI-7500(A)/ LI-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

Aug. 2016	International summer school, National Cheng Kung University, Taiwan, *Sustainable Development and Management for Lowland Environmental Resilience*
Aug. 2013	International summer school, BTU Cottbus, Germany & Incheon National University, Korea, *Integrated Urban Environmental Planning: Challenges & Approaches*
2012	Craftsman Environmental, National Qualifications, Korea
2011 - 13	Civil Engineer (Military service), Republic of Korea Air Force
Jan. 2010	Volunteer for teaching sciences, Korea Foundation for the Advancement of Science and Creativity
2009-10, 13-14	Teaching math, Private tutor