

Yeonuk Kim

Ph.D. Student in RES, UBC

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EDUCATION

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| 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

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| 2017 - current | Graduate Research Assistant, UBC Ecohydro Lab, UBC (PI: Dr. Mark Johnson) |
| 2018 | Graduate Teaching Assistant, ENVR 420: <i>Ecohydrology of Watershed and Water Systems</i> , UBC |
| 2017 - 18 | Graduate Teaching Assistant, LFS 250: <i>Land, Food and Community 1</i> , 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

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| 2019 | Mitacs Globallink Research Award |
| 2018 - current | Four Years Doctoral Fellowships, <i>UBC</i> |
| 2017 - current | International Tuition Award, <i>UBC</i> |
| 2017 - 18 | Faculty of Science Graduate Award, <i>UBC</i> |
| 2018 | Excellence Prize, Idea contest for sustainable water management in South Korea, <i>Award by President of Korea Water Resources Corporation</i> |

Undergraduate program

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| 2017 | Grand Prize, Essay contest for a place with potential value to become a representative attraction of Cheongju city in Korea, <i>Award by Minister of Culture, Sports and Tourism</i> |
| 2017 | Excellent Degree Thesis Award, <i>College of Agriculture and Life Science, SNU</i> |
| 2015 | Grand Prize, SNU Undergraduate Research Award, <i>President of SNU</i> |
| 2015 | Evergreen Scholarship, <i>SNU Evergreen Scholarship Foundation</i> |
| 2014 - 15 | Agricultural Engineering Scholarship, <i>SNU Alumni Association of Agricultural Engineering</i> |
| 2011, 14-15 | Merit Based Scholarship (Scholarship of Superior Academic Performance), <i>SNU</i> |
| 2009 | National Scholarship for Science and Engineering, <i>Korea Student Aid Foundation</i> |

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

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| 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 Gyeonggi-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 (SFw)" 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/ 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

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| Aug. 2016 | International summer school, National Cheng Kung University, Taiwan, <i>Sustainable Development and Management for Lowland Environmental Resilience</i> |
| Aug. 2013 | International summer school, BTU Cottbus, Germany & Incheon National University, Korea, <i>Integrated Urban Environmental Planning: Challenges & Approaches</i> |
| 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 |