

Last updated: 2017. 08. 31

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Education

2016 **M.S.** College of Agriculture and Life Science, **Seoul National University**
Department of Landscape Architecture and Rural System Engineering (Rural System Engineering Major)

Master of Science in Agricultural and Rural System Engineering

(Advisor: Dr. Jin Yong Choi)

Thesis: Soil moisture simulation model development and application using simulated highresolution meteorological data

2014 **B.S.** College of Agriculture and Life science, **Seoul National University**
Department of Landscape Architecture and Rural System Engineering (Rural System Engineering Major)

Bachelor of Science in Agricultural and Rural System Engineering

(Advisor: Dr. Jin Yong Choi)

Thesis: Estimating proper amount of irrigation water by analyzing agricultural drought

Research Interests

Land surface hydrologic modeling, Soil-water-crop-atmosphere interactions.

Awards & Honors

2015 Outstanding Paper Presentation Award, The Korean Society of Agricultural Engineers

2015 Award for Outstanding Paper Presentation, Korea Water Resources Association
2014 Best Oral Presentation Award, International Society of Paddy and Water Environment
Engineering

Research & Participations

2014 - 2016 **Project Manager**

Seoul National University & National Center for Agro-Meteorology Co-operation
*Research Project : Development of Water Use Information Forecasting System for
Agricultural Eco-system Management*

2013 - 2014 **Graduate Research Assistant**

Seoul National University & Korea Institute of Planning and Evaluation for Technology in
Food, Agriculture and Fisheries(IPET)
*Research Project : Information Analysis Technique Development for Abnormal Behavior
Detection of Agricultural Reservoirs using Big Data related to Weather
Information and Water level*

2013 - 2014 **Environmental Field Scientist**

Seoul National University & Korea Institute of Planning and Evaluation for Technology in
Food, Agriculture and Fisheries(IPET)
*Research Project : Development of Intelligent System for Management of Irrigation and
Drainage*

2013 - 2014 **Undergraduate Research Assistant**

Seoul National University & National Center for Agro-Meteorology
*Research Project : Analysis of Water Balance in Agricultural Land for Utilizing Enhanced
Meteorological Data*

Publications

- [2] **Hong, M. K.**, S. H. Lee, S. J. Lee, J. Y. Choi, 2016. High resolution spatial analysis of soil moisture deficiency by developing a grid-based soil moisture model coupled with NACM-WRF meteorological data, *Agricultural and Forest Meteorology, In review.*
- [1] **Hong, M. K.**, S. H. Lee, J. Y. Choi, S. H. Lee, S. J. Lee, 2015. Estimation of Soil Moisture and Irrigation Requirement of Upland using Soil Moisture Model applied WRF meteorological data, *The Korean Society of Agricultural Engineering. Published*

Presentations

1. Oral presentations

- [4] **Hong, M. K.**, J. Y. Choi, S. J. Lee, S. H. Lee, S. H. Lee, 2015. A distributed soil moisture model for irrigation factors assessment using enhanced meteorological data. *PAWEES-INWEPF Joint*

- [3] **Hong, M. K.**, S. H. Lee, S. J. Lee, S. H. Lee, J. Y. Choi, 2015. Estimation of soil moisture and irrigation water requirement of upland using WRF meteorological data. *The 2015 KSAE Annual Conference*, Daejeon, Korea
- [2] **Hong, M. K.**, S. H. Lee, S. J. Lee, J. Y. Choi, 2015. Evaluation for the application of WRF meteorological data on grid-based soil moisture model in upland. *2015 KWRA annual meeting*, Gosung, Korea
- [1] **Hong, M. K.**, J. Y. Choi, S. H. Lee, S. H. Lee, 2014. . Development of a grid-based soil moisture model for using enhanced meteorological data. *PAWEES 2014 International Conference*, Kaohsiung, Taiwan

2. Poster presentations

- [1] **Hong, M. K.**, S. H. Lee, S. J. Lee, S. H. Lee, S. H. Lee, J. Y. Choi, 2015. Evaluation for the application of WRF meteorological data on grid-based soil moisture model in upland, Montpellier, France

Memberships

- 2015 - Member, Korea Water Resource Association (KWRA)
- 2014 - Member, The Korean Society of Agricultural Engineers (KSAE)

Relevant Skills

1. Experimental facilities and sampling

- Soil moisture detection - **Skilled**
 - FDR(Frequency Domain Reflectometry) – EnviroSCAN / EnviroPRO
 - Remote sensing
 - (CDMA modem)
 - Data loggers with soil moisture sensors
 - (OTT Duosens / OTT Logosens)
 - Data processing: OTT data operating program and Hydras 3
- Soil matric potential detection - **Skilled**
 - Porous media cup / Matric potential generator
- Portable Gas exchange measurements - **Experienced**
 - LI-6400XT

2. Certifications

- Licensed as Word processor

- Licensed as Craft-man Information processing
- Certification of big data management education course held in Seoul National University

3. Computer skills

- Programming language : C / Matlab / Fortran
- ArcGIS
- Microsoft office

4. Languages

- English and Korean