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Agricultural and Biological Engineering Department
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EMPLOYMENT

- Assistant Professor — Aug 2016 – Present
  Tropical Research and Education Center &
  Department of Agricultural and Biological Engineering
  University of Florida, Homestead, Florida
- Assistant Research Scientist — Nov 2014 – July 2016
  Blackland Research and Extension Center
  Texas A & M University, Temple, Texas
- Post-doctoral Associate — Feb 2011 – Oct 2014
  Department of Agricultural and Biological Engineering
  Purdue University, West Lafayette, Indiana
- Researcher and Assistant Manager — Mar 2002 – Jun 2006
  Department of Water Resource and Environment
  Dong-Bu Engineering Co., Ltd., Seoul, Republic of Korea (South Korea)

EDUCATION

- Doctor of Philosophy — Aug 2006 – May 2011
  Department of Biological Systems Engineering (Land and Water Division)
  Virginia Polytechnic Institute and State University, Blacksburg, Virginia
  Dissertation: HYSTAR- Hydrology and Sediment Transport Simulation using Time-Area Method
- Secondary Major: GSCR – Graduate Certificate Program (Secondary College: Interdisciplinary)
  Concentration: GITC – Geospatial Information Technology Certificate
- Master of Science in Engineering — Mar 2000 – Feb 2002
  Department of Agricultural Engineering
  Seoul National University, Seoul, Republic of Korea (South Korea)
  Thesis: Application of a GIS-based Soil Loss Estimation System
- Bachelor of Science in Engineering — Mar 1995 – Feb 2000
  Department of Agricultural Engineering
  Seoul National University, Seoul, Republic of Korea (South Korea)

PUBLICATIONS

Papers published in peer-reviewed journals

Google Scholar statistics: https://scholar.google.com/citations?user=kfAh-o8AAAAJ&hl=en

1. Mompremier, R. (G: Graduate Student), Y. Her, G. Hoogenboom, K. Migliaccio, R. Muñoz-Carpena, R. W. Colbert, and W. Jeune (2021), Modeling the responses of agricultural productivity to water availability in Haitian watershed and irrigation systems, Agricultural Water Management, 243(1), 106429. doi.org/10.1016/j.agwat.2020.106429.
2. Yu, X.(&: Visiting Scholar), Y. Her, A. Chang, J. Song(P: Post-doc), V. Campoverde, and B. Schaffer (2021), Assessing effects of irrigation water salinity on two ornamental crops by remote spectral

imaging, Agronomy, 11(2), 375. doi.org/10.3390/agronomy11020375.

3. Jo, Y[(g)], J. Song[(P)], Y. Her, G. Provolo, S. Yoo, and Yoon, K. (2021), Assessing the potential of agricultural reservoirs as the sources of environmental flow, Water, 13(4), 508. doi.org/10.3390/w13040508.
4. Yu, X.[(&)], Y. Her, X. Zhu, C. Lu, X. Li (2021), Multi-temporal arable land monitoring in arid region of China using a new extraction index. Sustainability, 13(9), 5274. doi.org/10.3390/su13095274.
5. Jeung, M.[(g)], J. Beom[(g)], D. Choi, Y. Kim, Y. Her, K. Yoon (2021), Evaluation of surrogate monitoring parameters for SS and TP using multiple linear regression and random forest, Journal of the Korean Society of Agricultural Engineers 63(2), 51-60. doi.org/10.5389/KSAE.2021.63.2.051.
6. Beom, J.[(g: graduate student working with other faculty members)], M. Jeung[(g)], W. Choi[(g)], Y. Her, and K. Yoon (2020), Characteristics of chloride loading from urban and agricultural watersheds during storm and non-storm period. Water Supply. In Press.
7. Park, H.[(g)], J. Beom[(g)], M. Jeung[(g)], W. Choi[(g)], Y. Her, A. Shirmohammadi, and K. Yoon (2020), Identifying cost-effective nonpoint source pollutant sampling intervals for urbanized catchments. Water Supply. In Press.
8. Zhou, J.[(g)], Y. Her, B. Niu, M. Zhao, X. Li, X. Yu (2020), Regional-scale monitoring of underwater and dry ground subsidence in high phreatic coal mining areas using Landsat-8 OLI and Sentinel-1 TOPSAR imagery. PLoS One, 15(8), e0237878. doi.org/10.1371/journal.pone.0237878.
9. Song, J.[(P: Post-doctoral Researcher)], Y. Her, S. Hwang, J. Park, K. Yoon, and M. Kang (2020), Performance and complexity evaluation of drainage routing schemes for paddy fields, Journal of Irrigation and Drainage Engineering, In Press.
10. Song, J.[(P)], Y. Her, S. Shin[(G)], J. Cho, R. Paudel, Y. Khare, J. Obeysekera, and C. Martinez (2020), Performance of CMIP5 GCMs in reproducing the hydrological characteristics of rainfall events, Hydrological Sciences Journal, In Press. doi: 10.1080/02626667.2020.1750616.
11. Song, J.[(P)], Y. Her, S. Hwang[(g)], and M. Kang (2020), Uncertainty in irrigation return flow estimates: Comparing conceptual and physically based parameter approaches for ungauged watersheds, Water, 12(4), 1125. doi: 10.3390/w12041125.
12. Song J.[(P)], L. Ma, Y. Her, and Y. Li (2020), Immediate influences of a large dam construction on local storm event patterns and weather variables: A case study of the Three Gorges Project. Weather, In Press. doi: 10.1002/wea.3410.
13. Kim, C.[(g)], Y. Her, Y. Kim[(g)], C. Jung, H. Lim, and K. Suh (2019), Evaluating the Effectiveness of HOCl Application on Odor Reduction and Earthworm Population Growth during Vermicomposting of Food Waste employing Eisenia fetida, Plos One, 14(12). doi: 10.1371/journal.pone.0226229.
14. Song, J.[(P)], Y. Her, K. Seo, M. Kang, and H. Kim (2019), Regionalization of a rainfall-runoff model: limitation and potentials, Water, 11(11), 2257. doi: 10.3390/w11112257.
15. Hwang, S.[(g)], Y. Her, S. M. Jun[(g)], J. Song[(P)], and M. Kang (2019), Leaching characteristics of arsenic in sediments: Agricultural implications of abandoned mines, Applied Sciences, 9(21), 4628. doi: 10.3390/app9214628.
16. Song, J.[(P)], Y. Her, S. M. Jun, S. Hwang, J. Park, M. Kang (2019), Lessons from assessing uncertainty in agricultural water supply estimation for sustainable rice production, Agronomy, 9(10), 662. doi: 10.3390/agronomy9100662.
17. Jeung, M.[(g)], S. Baek[(g)], J. Beom[(g)], K. Cho, Y. Her, and K. Yoon (2019), Evaluation of random forest and regression tree methods for estimation of mass first flush ratio in urban catchments, Journal of Hydrology, 575, 1099-1110. doi: 10.1016/j.jhydrol.2019.05.079.
18. Choi, D.[(g)], B. Jina[(g)], W. Choi, Y. Her, and K. Yoon (2019), Characteristics of biochemical and chemical oxygen demand export from paddy fields during storm and non-storm periods affected

by farmer's water management practice, Paddy and Water Environment, 17, 165-175. doi: 10.1007/s10333-019-00708-3.

19. Song, J.[(P)], Y. Her, J. H. Park, and M. Kang (2019), Exploring parsimonious daily rainfall-runoff model structure using the hyperbolic tangent function and Tank model, Journal of Hydrology, 574, 574-587. doi: 10.1016/j.jhydrol.2019.04.054.
20. Zhang, M.[(p: post-doctoral researcher working with other faculty members)], K. W. Migliaccio, Y. Her, and B. Schaffer (2019), A simulation model for estimating root zone saturation indices of agricultural crops in a shallow aquifer and canal system, Agricultural Water Management, 220, 36-49. doi: 10.1016/j.agwat.2019.03.044.
21. Her, Y., S. Yoo, J. Cho, S. Hwang, J. Jeong, and C. Seong (2019), Uncertainty in hydrological analysis of climate change: multi-parameter vs. multi-GCM ensemble predictions, Scientific Reports, 9, 4974. doi: 10.1038/s41598-019-41334-7.
22. Shin, S.[(G)], Y. Her, J. Song[(P)], and M. Kang (2019), Integrated sediment transport process modeling by coupling Soil and Water Assessment Tool and Environmental Fluid Dynamics Code: A case study of an agricultural reservoir, Environmental Modeling and Software, 116, 26-39. doi: 10.1016/j.envsoft.2019.02.002.
23. Choi, D.[(g)], H. Park[(g)], Y. J. Kim[(g)], J. Jung[(g)], W. Choi, Y. Her, and K. Yoon (2019), Curve numbers for rice paddies with different water management practices in Korea. Journal of Irrigation and Drainage Engineering, 145(5), 06019003. doi: 10.1061/(ASCE)IR.1943-4774.0001382.
24. Her, Y., K. T. Morgan, and Q. Wang (2019), An Excel-based computational template for irrigation scheduling using dual crop coefficients. Journal of Extension 57(1), 1TOT2.
25. Jeong, J., K. Wagner, J. J. Flores, T. Cawthon, Y. Her, J. Osorio, and H. Yen (2019), Linking watershed modeling and bacterial source tracking to better assess E. coli sources. Science of the Total Environment 648, 164-175. doi: https://doi.org/10.1016/j.scitotenv.2018.08.097.
26. Her, Y., and C. Heatwole (2018), Identification of hydrologically sensitive areas considering watershed process dynamics. Transactions of ASABE 61(6), 1891-1906. doi: 10.13031/trans.12792.
27. Her, Y. and J. Jeong (2018), SWAT+ versus SWAT2012: Comparison of sub-daily urban runoff simulations. Transactions of ASABE 61(4), 1287-1295. doi: 10.13031/trans.12600.
28. Shin, S.[(G)], S. Hwang, Y. Her, J. Song(P), H. Kim, and M. Kang (2018), Modeling sedimentation process in Ipjang reservoir using SWAT and EFDC. Journal of the Korean Society of Agricultural Engineers 60(3), 135-148. doi: 10.5389/KSAE.2018.60.3.135. (In Korean)
29. Yuan, Y.[(p)], M. Jiang, X. Liu, H. Yu, M. L. Otte, C. Ma, and Y. Her (2018), Environmental variables influencing phytoplankton communities in hydrologically connected aquatic habitats in the Lake Xingkai basin. Ecological Indicators, 91, 1-12. https://doi.org/10.1016/j.ecolind.2018.03.085.
30. Her, Y. and C. Seong[(p)] (2018), Responses of hydrological model equifinality, uncertainty, and performance to multi-objective parameter calibration. Journal of Hydroinformatics, 20(4), 864-885. doi: 0.2166/hydro.2018.108.
31. Her, Y., J. Jeong, J. Arnold, L. Gosselink, R. Glick, and F. Jaber (2017), A new framework for modeling decentralized low impact developments using Soil and Water Assessment Tool, Environmental Modeling and Software 96, 305-322. doi: 10.1016/j.envsoft.2017.06.005.
32. Her, Y., I. Chaubey, J. Frankenberger, and J. Jeong (2017), Implications of spatial and temporal variation in effects of conservation practices on water management strategy, Agricultural Water Management 180, 252-266. doi: 10.1016/j.agwat.2016.07.004.
33. Her, Y., J. Jeong, J. Arnold, and R. Srinivasan (2017), Implications of conceptual channel representation on SWAT streamflow and sediment modeling, Journal of the American Water Resources Association 53(4), 725-747. doi: 10.1111/1752-1688.12533.

34. Song, J.(g), Y. Her, J. Park(g), and M. Kang (2017), Simulink implementation of hydrologic model: A tank model case study, Water, 9(9), 639. doi: 10.3390/w9090639.
35. Wang, R.(g), L. C. Bowing, K. A. Cherkauer, C. Raj, Y. Her, and I. Chaubey (2017), Biophysical and hydrological effects of future climate change including trends in CO2, in the St. Joseph River watershed, Eastern Corn Belt, Agricultural Water Management 180, 280-296. doi: 10.1016/j.agwat.2016.09.017.
36. Cho, J., Y. Her, and D. Bosch (2017), Sensitivity of simulated conservation practice effectiveness to representation of field and in-stream processes in the Little River watershed, Environmental Modeling and Assessment 22(2), 159-173. doi: 10.1007/s10666-016-9530-6.
37. Her, Y., and C. D. Heatwole (2016), Comparing impacts of parameter and spatial data uncertainty for a grid-based distributed watershed model, Journal of Hydroinformatics 18(6), 961-974. doi: 10.2166/hydro.2016.003.
38. Kang, M. S., P. Srivastava, J. H. Song, J. Park(g), Y. Her, S. M. Kim, and I. Song (2016), Development of a component-based modeling framework for agricultural water-resource management, Water 8(8), 351. doi: 10.3390/w8080351.
39. Her, Y., I. Chaubey, and J. Frankenberger (2016), Effect of conservation practices implementation by USDA programs at field and watershed scales, Journal of Soil and Water Conservation 71(3), 249-266. doi: 10.2489/jswc.71.3.249.
40. Her, Y., and C. D. Heatwole (2016), HYSTAR sediment model: Distributed two-dimensional simulation of watershed erosion and sediment transport using time-area routing, Journal of the American Water Resources Association 52(2), 376-396. doi: 10.1111/1752-1688.12396.
41. Her, Y., and C. Heatwole (2016), Two-dimensional continuous simulation of spatiotemporally varied hydrological processes using the time-area method, Hydrological Processes 30(5), 751-770. doi: 10.1002/hyp.10644.
42. Her, Y., C. Seong(p), and J. Jeong (2016), Alternative CN averaging methods for unbiased direct runoff depth estimation: Quadratic averaging and exact methods, Journal of Irrigation and Drainage Engineering 142(6), 06016004. doi: 10.1061/(ASCE)IR.1943-4774.0001021.
43. Her, Y., and I. Chaubey (2015), Impact of the numbers of observations and calibration parameters on equifinality, model performance, and output and parameter uncertainty, Hydrological Processes 29(19), 4220-4237. doi: 10.1002/hyp.10487.
44. Her, Y., C. D. Heatwole, and M. S. Kang (2015), Interpolating SRTM elevation data to a higher resolution to improve hydrologic analysis, Journal of the American Water Resources Association, 51(4): 1072-1087. doi: 10.1111/jawr.12287.
45. Feng, Q.(g), I. Chaubey, Y. Her, R. Cibin(p), B. Engel, J. Volenec, and X. Wang (2015), Hydrologic/water quality impacts and biomass production potential on marginal land, Environmental Modeling and Software 72, 230-238. doi: 10.1016/j.envsoft.2015.07.004.
46. Her, Y., J. Frankenberger, I. Chaubey, and R. Srinivasan (2015), Threshold effects in HRU definition of the Soil and Water Assessment Tool, Transactions of ASABE 58(2): 367-378. doi: 10.13031/trans.58.10805.
47. Seong, C. H.(p), Y. Her, and B. L. Benham (2015), Automatic calibration tool for Hydrologic Simulation Program – FORTRAN using Shuffled Complex Evolution algorithm, Water 7(2), 503-527. doi:10.3390/w7020503.
48. Her, Y., I. Chaubey, and C. Raj(g) (2015), Application of parallel computing methods for improving efficiency of optimization in hydrologic and water quality modeling, Advanced Engineering in Agriculture 31(3), 455-468. doi: 10.13031/aea.31.10905.
49. Her, Y., and S. Hwang (2015), Evaluating applicability of sediment transport capacity equations through sensitivity analysis, Journal of the Korean Society of Agricultural Engineers 57(6), 79-90. doi: 10.5389/KSAE.2015.57.6.079.

50. Her, Y. (2015), Evaluating hydrologic behavior of Hydrology Simulation using Time Area (HYSTAR) model through sensitivity analysis, Journal of the Korean Society of Agricultural Engineers 57(3), 41-54. doi: 10.5389/KSAE.2015.57.3.041.
51. Cho, J., Y. Her, and D. Bosch (2015), Assessing applicability of SWAT calibrated at multiple spatial scales from field to stream, Journal of the Korean Society of Agricultural Engineers 57(3), 21-39. doi: 10.5389/KSAE.2015.57.3.021.
52. Kang, M. S., J. H. Goo, I. Song, J. A. Chun, Y. Her, S. W Hwang, and S. W. Park (2013), Estimating design floods based on the critical storm duration for small watersheds, Journal of Hydro-Environment Research 7(3), 209-218. doi:10.1016/j.jher.2013.01.003.
53. Her, Y., and S. Yoo(p) (2013), Evaluating applicability of SRTM DEM in hydrologic analysis: A case study of Geum River and Daedong River, Journal of the Korean Society of Agricultural Engineers 55(6), 101-112. doi: 10.5389/KSAE.2013.55.6.101. (In Korean)
54. Hwang, S.(p), Y. Her, and S. Chang(g) (2013), Uncertainty in regional climate change impact assessment using bias-correction technique for future climate scenarios, Journal of the Korean Society of Agricultural Engineers 55(4), 95-106. doi: 10.5389/KSAE.2013.55.4.095. (In Korean)
55. Cho, J.(p), R. R. Lowrance, D. D. Bosch, T. C. Strickland, Y. Her, and G. Vellidis (2010), Effect of watershed subdivision and filter width on SWAT simulation of a coastal plain watershed, Journal of the American Water Resources Association 46(3), 586-602. doi: 10.1111/j.1752-1688.2010.00436.x.
56. Kang, M. S., J. H. Koo, J. A. Chun, Y. Her, S. W. Park, and K. Yoo (2009), Design of drainage culverts considering critical storm duration, Biosystems Engineering 104, 425-434. doi:10.1016/j.biosystemseng.2009.07.004.
57. Her, Y., M. S. Kang, and S. W. Park (2006), Estimating USLE soil erosion through GIS-based decision support system, Journal of the Korean Society of Agricultural Engineers 48(7), 3-14. doi: 10.5389/KSAE.2006.48.7.003.
58. Kang, M. S., S. W. Park, and Y. Her (2001), A water environment management and evaluation systems for a small watershed (2), Journal of Korean Society of Rural Planning 7(1), 15-25. (In Korean)

Book chapter

1. Her, Y., K Boote, K. W. Migliaccio, C. Fraisse, D. Letson, O. Mbuya, A. A. Swamy, H. Chi, and L. Ngatia, and S. Asseng (2017), Chapter 8: Climate Change Impacts and Adaptation in Florida's Agriculture, In Florida's Climate: Changes, Variations, and Impacts, 1st Ed., Florida Climate Institute, CreateSpace Independent Publishing Platform.

Extension publications

1. Her, Y., and Z. Yu (2021), Mapping the U.S. Census Data Using the TIGER/Line Shapefiles. ABE557.
2. Shin, S.(G), and Y. Her, Publicly Available Geographic Information Sources and Common Analysis Tools. AE550. https://edis.ifas.ufl.edu/publication/AE550
3. Her, Y., A. Smyth, Z. Brym, and E. Bassil (2020), How is our future climate projected? AE546. https://edis.ifas.ufl.edu/publication/AE546
4. Her, Y., Z. Brym, A. Smyth, and E. Bassil (2020), What might agriculture and natural resources in Florida be like under future climate projections? AE545. https://edis.ifas.ufl.edu/publication/ae545
5. Her, Y., A. Smyth, J. Qiu, E. Bassil, U. Stingl, and L. Raynolds (2020), Online sources for sea level rise education and extension, AE543. https://edis.ifas.ufl.edu/publication/AE543

6. Shin, S.[(G)], Y. Her, G. Zhang, and W. Lusher, What does Florida weather during the past 20 years look like? (2020), Florida weather represented by the Florida Automated Weather Network (FAWN), AE537: https://edis.ifas.ufl.edu/ae537.
7. Her, Y., A. Smyth, P. Fletcher, E. Bassil, U. Stingl, Z. Brym, and J. Qiu (2018), Hurricane Impacts on Florida's Agriculture and Natural Resources. AE528, https://journals.flvc.org/edis/article/view/105526.
8. Her, Y., W. Lusher, and K. Migliaccio (2018), How Likely is a 100-year Rainfall Event During the Next 10 Years, AE523: https://edis.ifas.ufl.edu/pdffiles/AE/AE52300.pdf.
9. Zhang, M., Y. Her, K. Migliaccio, and C. Fraisse (2017), Florida Rainfall Data Sources and Types, AE517: https://edis.ifas.ufl.edu/ae517.

AWARDS & HONORS

1. **Early Career Florida Climate Institute Faculty Fellow** of 2020.
2. **Superior Paper Award** of 2019 American Society of Agricultural and Biological Engineers: Her, Y., and C. Heatwole, (2018). Identification of hydrologically sensitive areas considering watershed process dynamics. Transactions of ASABE 61(6), 1891-1906. doi: 10.13031/trans.12792.
3. **Outstanding Reviewer** for the Natural Resources & Environmental System community of 2016 American Society of Agricultural and Biological Engineers.