JungJin Kim, Ph.D.

Institute of Environmental Technology, SeoulTech
Email: kimjj82@gmail.com

CURRENT POSITION

August 2020 – Present   Research Professor and Head of Environmental Big Data Center

Institute of Environmental Technology, SeoulTech, Seoul, South Korea

EDUCATION

August 2011 – August 2017   **University of Idaho**   **Boise, ID, USA**
Doctor of Philosophy in Biological & Agricultural Engineering
- Dissertation: Integrated Sustainable Water Resources Management in a Changing Climate: Water Quality and Quantity, Alternatives, and Policy Making. (Advisor: Dr. Jae Ryu)

March 2008 – February 2010 **Gyeongkuk National University**   **Andong, Korea**
Master of Science in Environmental Engineering
- Thesis: Analysis of BMPs effectiveness on hydrology and non-point source pollutant load for LID application (Advisor: Dr. Ji-Hong Jeon)

March 2001 – August 2007   **Gyeongkuk National University**   **Andong, Korea**
Bachelor of Science in Environmental Engineering

RESEARCH INTERESTS

- Future climate data analysis (CMIP5, CMIP6)
- Hydrologic modeling: water quality and quantity simulation
- The impact assessment of climate and land use changes
- Computer parallelism for model calibration and data analysis
- Evaluation of BMPs and Low Impact Development
- Drought management and mitigation (visualization using big data: NLDAS, GCMs, and PRISM)
- Statistical Downscaling and Bias Correction: raw global climate data
- Estimation technique of missing climate data

- Big data analysis and visualization
- Text mining for environmental big data
- Application of environmental service platform
- GIS modeling and web applications
- Integrated water resources management and planning
- Machine learning process for environmental prediction
- Generative AI for environmental management
- Grazing management impacts on hydrologic components, water quality, and soil sequestration

QUALIFICATIONS

- Hydrologic and hydraulic models: BASINS 4.2, HSPF, L-THIA, SATEEC(RUSLE), SWAT, VIC, HEC-RAS.
- GIS software: ArcView, ArcGIS.
- Software / Computer language: R programming, PEST, BEOPEST, STELLA, Machine learning, Deep learning, MATLAB, Ms Office, C++, Parallel computing, Python, JavaScript, Google Earth, Linux, Android Studio, Sigma Plot, OpenDroneMap, Grid Analysis and Display(GrADS).
- Database: MySQL

RESEARCH EXPERIENCE / PROJECTS

August 2020 – Present   **Head of Environmental Big data center, Institute of Environmental Technology, SeoulTech, Seoul, South Korea**
(Research Professor)
- Development of an Environmental Intelligence Framework for Integrated Water Management in Agricultural Watersheds Based on Social–Ecological–Hydrological Interaction Analysis (2025 – present)
- Development and application of environmental service platform in local communities using big data and machine learning (2020 – present)
- Assessment of Integrated Water Resources Management under Climate Change using Environmental Big Data (2021-2024)
- Application of Generative AI for Prediction and Processing of Environmental Big Data (2023)
- Evaluation of the Implementation of 3rd Comprehensive Plan for Non-Point Source Pollution Management (2024)

• Analysis for Total Pollution Load Management in the Han River Watershed (2024)

September 2017 – July 2020   **Texas A&M AgriLife Research, Vernon, Texas, United State**
(Post-doctoral Research Associate)
      • Assess the impacts of streamflow, water quality, and soil sequestrations under management intensive grazing (MIG) adoption in the Great Plains using the hydrologic model (2017-2020)

August 2011 – August 2017 University of Idaho.   **Boise, Idaho, United State**
(Research assistant)
      • Advancing Drought Monitoring Using a Small Unmanned Aerial System (UAS) for Conjunctive Water Management in a Changing Climate.
      • Impact Assessment of Urbanization and Land Use Change Using Low Impact Development (LID) to Characterize Water Quantity and Quality in the Boise River.
      • Toward mapping gridded drought indices to evaluate local drought in a rapidly changing global environment.
      • Development of small-scale clusters for parallelizing model calibration

August 2004 – July 2011   Andong National University.   **Andong-si, South Korea**
(Research assistant)
      • Development of BMPs for Restoration of Four Major Rivers.
         sponsored by the Ministry of Land, Transport and Maritime Affairs.
      • Evaluation of Reduction Rates of BMPs for Korea TMDL.
         sponsored by Korea Environment Institute in Korea.
      • Development of Master Plan for Management of Soil Loss Erosion at Imha Watershed.
         sponsored by Gyeongsangbuk-Do in Korea.
      • Evaluation of BMPs and Development of Management Strategy for Reducing Soil Loss Erosion at Imha Watershed-2st Stage.
         sponsored by the Imha watershed council of water quality conservation in Korea.
      • BMPs Evaluation for Reducing Soil Loss Erosion at Imha Watershed-1st Stage.
         sponsored by the Imha watershed council of water quality conservation in Korea.
      • Development of BMPs for Reduction of Soil Loss Erosion at Multi-Purpose Dams.
         sponsored by the Dong-Bu engineering in Korea.
      • Characterization of Delivery of Non-point Source Pollution at Giran Watershed.
         sponsored Gyeongbuk Regional Environmental Technology Development Center.
      • Developing Method of Delivery Ratio of Point and Non-point Source Pollution for the TMDL at Geum River Basin.
         sponsored National Institute of Environmental Research.
      • Environment Impact Assessment in Andong Culture Tourism Housing Complex.

sponsored by Kyongbuk Tourism Development Corporation in Korea.

TEACHING EXPERIENCE

Andong National Univeristy   **Andong, South Korea**

2nd semester, 2008   *Environmental Engineering Experiment*
2nd semester, 2010   *Environmental Engineering Experiment*
2nd semester, 2010   *Waste Environmental Engineering*
2nd semester, 2021   *Water Resource Recovery Engineering*
2nd semester, 2021   *Waste Treatment Engineering Lab I*
2nd semester, 2023   *Environmental Impact Assessment*
2nd semester, 2023   *Water Quality Engineering*

Seoul National University of Science and Technology   **Seoul, South Korea**

1nd semester, 2021   *Prediction of AI and Physically Based Plastic Environmental Pollution*
1nd semester, 2023   *Prediction of AI and Physically Based Plastic Environmental Pollution*
2nd semester, 2023   *Environmental Hydraulics and Hydrology*

HONOURS AND AWARDS

August. 1, 2015   2015 KUSCO-KSEA Scholarship.
August 2004 – July 2007   Scholarships for outstanding student.

PATENT APPLICATION

March.   05, 2024   Apparatus and methods for training environment analysis
                                model based on generative artificial intelligence.

December. 22, 2021   Method and apparatus for providing community environmental
                              services information.

SPECIALIZED TRAINING

July 10~17, 2013   Intimidate parallel computing workshop. University of Louisiana, Baton
                     Rouge, LS, U.S.

June 08-12, 2009   AcrGIS Training Program. The Korea ESRI GIS education center, Korea.

PUBLICATIONS (English): PUBLISHED

1. **Kim, J.J**., Adamowski, J., Park, S., Lim, K., Jeong, H.S. 2025. A Systematic Study of Hyperparameter Tuning for Environmental Text Classification: Implications for Environmental Management. Journal of Environmental Informatics 46(1). https://doi.org/10.3808/jei.202500545.

2. **Kim, J.J**., Ale, S., Kreuter, U.P., Teague, W.R. 2023. Grazing management impacts on ecosystem services under contrasting climatic conditions in Texas and North Dakota. Journal of Environmental Management 347, 119213. https://doi.org/10.1016/j.jenvman.2023.119213.

3. **Kim, J.J**., Her, Y., Bhattarai, R., Jeong, H. 2023. Improving nitrate load simulation of the SWAT model in an extensively tile-drained watershed. Science of The Total Environment 904, 166331. https://doi.org/10.1016/j.scitotenv.2023.166331.

4. Dubey, S.K**., Kim, J.J**., Her, Y., Sharma, D., Jeong, H. 2023. Hydroclimatic Impact Assessment Using the SWAT Model in India—State of the Art Review. Sustainability 15(22), 15779. https://doi.org/10.3390/su152215779.

5. Dubey, S.K**., Kim, J.J.**, Hwang, S., Her, Y., Jeong, H. 2023. Variability of Extreme Events in Coastal and Inland Areas of South Korea during 1961–2020. Sustainability 15(16), 12537. https://doi.org/10.3390/su151612537.

6. **Kim, J.J**., Ale, S., Kreuter, U.P., Teague, W.R., DelGrosso, S.J., and Dowhower, S. 2023. Evaluating the impacts of alternative grazing management practices on soil carbon sequestration and soil health indicators. Agriculture, Ecosystems & Environment 342, 108234. https://doi.org/10.1016/j.agee.2022.108234.

7. Bawa, A., Samanta, S., Himanshu, S.K., Singh, J., **Kim, J.J**., Zhang, T., Chang, A., Jung, J., DeLaune, P., Bordovsky, J., Barnes, E., Ale, S. 2022. A Support Vector Machine and Image Processing based Approach for Counting Open Cotton Bolls and Estimating Lint Yield from UAV Imagery. Smart Agricultural Technology 100140. https://doi.org/10.1016/j.atech.2022.100140.

8. **Kim, J.J**., Bhattariai, R., Christianson, L.E., and Jeong, H. 2022. Advanced practice-aided tile drain configuration: A solution to achieving environmentally sustainable agricultural production. Journal of Cleaner Production 379, 134724. https://doi.org/10.1016/j.jclepro.2022.134724.

9. **Kim, J.J**., Kim, HU., Adamowski, J., Hatami, S., and Jeong, H. 2022. Comparative study of term-weighting schemes for environmental big data using machine learning. Environmental Modeling & Software 157, 105536. https://doi.org/10.1016/j.envsoft.2022.105536.

10. **Kim, J.J**., Ale, S., Teague, W.R., and Wang, T. 2022. Evaluation Hydrological Components and Streamflow Characteristics under Conventional and Adaptive Multi-paddock Grazing Management. River Research and Application. 1-12. https://doi.org/10.1002/rra.3948.

11. *Himanshu, S.K., Ale, S., Bordovsky, J.P.,* **Kim, J.J**., Samanta, S., Omani, N., and Barnes, E.M. 2021. Assessing the Impacts of irrigation termination periods on cotton productivity under strategic deficit irrigation regimes. Scientific Reports 11(1), 1-16. https://doi.org/10.1038/s41598-021-99472-w.

12. **Kim, J.J**., and Ryu, J.H. 2020. Decision-Making of LID-BMPs for Adaptive Water Management at the Boise River Watershed in a Changing Global Environment. *Water* **12(9)**, 2436. https://doi.org/10.3390/w12092436.

13. Ryu, J.H., and **Kim, J.J**. 2019. A study on climate-driven flood risks in the Boise River Watershed, Idaho. *Water* 11(5), 1039. https://doi.org/10.3390/w11051039.

14. **Kim, J.J**., and Ryu, J.H. 2019. Quantifying the performances of the semi-distributed hydrologic model in parallel computing- A Case Study. *Water* **11***, 823. https://doi.org/10.3390/w11040823*.

15. **Kim, J.J**., and Ryu, J.H. 2019. Modeling Hydrological and Environmental Consequences of Climate Change and Urbanization in Boise River Watershed, Idaho. *Journal of the American Water Resources Association* **55(1),** *133-153 https://doi.org/10.1111/1752-1688.12712. .*

16. **Kim, J.J**., and Ryu, J.H. 2016. A Heuristic Gap Filling Method for Daily Precipitation Series. *Water Resources Management* **30(7),** 2275-2294. https://doi.org/10.1007/s11269-016-1284-z.

17. **Kim, J.J**., and Ryu, J.H. 2015. Quantifying a threshold of missing values for gap filling processes in daily precipitation series. *Water Resources Management* **29(11)**, 4173-4184. https://doi.org/10.1007/s11269-015-1052-5.

18. Ryu, J.H., and **Kim, J.J.**, 2014. Runoff and Nonpoint Sources Control using LID for the Boise River Watershed, Idaho. Advances in Flowing Waters 2014, AWRA flowing Waters Technical Committee 12(1), 1-11.

19. **Kim. J.J.,** and Ryu, J.H. 2013. A threshold of basin discretization levels for HSPF simulations with NEXRAD inputs. *Journal of Hydrologic Engineering* **19(7)**, 1401-1412. https://doi.org/10.1061/(ASCE)HE.1943-5584.0000918.

PUBLICATIONS (Korean): PUBLISHED

1. **Kim, J.J**., Kim, T.D. 2023. Characterizing Hydrological Process Driven by Urbanization at the Kyoung-An Basin. Journal of the Korea Academia-Industrial cooperation Society 24(12), 373-379. https://doi.org/10.5762/KAIS.2023.24.12.373.

2. Jeong, W., **Kim, J.J**., Jeong, H. 2023. Information Extraction from Unstructured Data on Microplastics through Text Mining. Journal of Korean Society of Environmental Engineers 45(1), 34-42.

3. **Kim, J.J**., Jeong, H., Kim, T.D. 2022. A Study on the Major Keywords Analysis for Environmental Categories using Environmental Big Data. Journal of the Korean Society of Urban Environment 22(3), 129-139.

4. Ryu, J.H., **Kim, J.J**., and Lee, K.D. 2019. Development of Hydroclimate Drought Index (HCDI) and evaluation of drought prediction in South Korea. *Journal of The Korean Society of Agricultural Engineers Val 61(1), pp 41-44*.

5. **Kim, J.J**., and Ryu, J.H. 2013. GCMs-Driven Snow Depth and Hydrological Simulation for 2018 Pyeongchang Winter Olympics. *Journal of Korea Water Resources Association*. **46**(3), pp. 229-243.

6. **Kim, J.J**., Kim, T.D., Choi, D.H., Lim, K.J., and Jeon, J.H. 2011. Design of Structural BMPs for Low Impact Development (LID) Application and Modeling Its Effect on Reduction of Runoff and Nonpoint Source Pollution: Application of LDIMOD2. J*ournal of Korean Society on Water Quality*. **27**(5), pp. 580-591.

7. Jeon, J.H., **J.J. Kim**, Choi, D.H., Ha, J.W., and Kim, T.D. 2009. Guideline of LID-IMPs Selection and the Strategy of LID Design in Apartment Complex. *Journal of Korean Society on Water Quality*. **25**(6), pp. 886-895.

8. Jeon, J.H., Choi, D.H., **Kim, J.J.**, and Kim, T.D. 2009. Evaluating Calibration Methods of Stream Flow for Water Quality Management. *Journal of Korean Society on Water Quality*. **25**(3), pp. 432-440.

9. Jeon, J.H., Choi, D.H., **Kim, J.J.**, and Kim, T.D. 2009. Regionalization of CN Parameters for Nakdong Basin using SCE-UA Algorithm. *Journal of Korean Society on Water Quality*. **25**(2), pp. 245-255.

10. **Kim, J.J.**, Kim, T.D., Choi, D.H.., Lim, K.J., Engel, B.A., and Jeon, J.H. 2009. L-THIA Modification and SCE-UA Application for Spatial Analysis of Nonpoint Source Pollution at Gumho River Basin. *Journal of Korean Society on Water Quality*. **25**(2), pp. 311-321.

PRESENTATIONS (Conference)

1. **Kim, J.J.**, and Heong, H.S. A Comparative Study on Optimized Machine Learning Models for Environmental Text Classification. Proceedings of the 2022 Korean Society of Environmental Engineering Conference, November 9 – 11, 2022, Jejudo, Korea.

2. **Kim, J.J.**, and Heong, H.S. Environmental Bigdata Center: Sevice Plastform. Proceedings of the 2022 Korean Society of Environmental Engineering Conference, November 9 – 11, 2022, Jejudo, Korea.

3. **Kim, J.J.**, and Heong, H.S. Analysis of Changes in Key Words by Environmental Field using Text Mining. Proceedings of the 2022 Korean Society of Agricultural Engineers Conference, December 13 – 14, 2022, Daegu, Korea.

4. Bawa, A., Samanta, S., Himanshu S.K., **Kim, J.J.**, Singh, J., Ale, S., Chang, A., Jung, J., DeLaune, P., Bordovsky, J., and Barnes, E. Support vector machine and image processing based cotton boll counting approach from UAV Imagery. A conference proceeding on 2022 ASABE, July 17 – 20, 2022, USA.

5. **Kim, J.J.**, and Heong, H.S. A Comparative Study on Term-Weighting Schemes for Text Categorization of Environmental Big Data. Proceedings of the 2021 Korean Society of Environmental Engineering Conference, October 3 – 5, 2021, Jejudo, Korea..

6. **Kim, J.J.**, and Heong, H.S. Comparison of Term-Weighting Schemes for Environmental Big Data. Proceedings of the 2021 Korea Water Resources Association Conference, June 3 – 4, 2021, Gwangju, Korea.

7. Himanshu, S.K., Samanta, S., Chang, A., **Kim, J.J**., Ale, S., Bordovsky, A., Jung H., Barnes, E. Comparative Validation of UAV-Collected Cotton Phenological Dataset with Manual Measurements under different Irrigation Treatments. A conference proceeding on 2020 ASABE, July 13 – 15, 2020, USA.

8. Ale, S., **Kim, J.J**., Park, J.Y., Teague, W.R. Role of Adaptive Multi-paddock Grazing on Downstream Flood Mitigation and Climate Change Adaptation – Invited Presentation. A conference proceeding on 2020 ASABE, July 13 – 15, 2020, USA.

9. **Kim, J.J**., Ale, S., Teague, W.R., and Grosso, S.D. Impact of Grazing Management Practices on Soil Carbon Sequestration under Contrasting Climatic Conditions in the U.S. Great Plains. A conference proceeding on 2020 ASABE, July 13-15, 2020, USA.

10. Ale, S., **Kim, J.J.**, and Teague, W.R. Simulated Impact of Grazing Management Practices on Sediment and Nutrient Losses, and Soil Carbon Sequestration. A conference proceeding on 2019 ASA-CSSA-SSSA International Annual Meeting, November 10 – 13, 2019, San Antonio, TX, USA.

11. Wang, T., **Kim, J.J.**, Ale, S., and Teague, W.R. Simulated Watershed-scale impacts of grazing management practices on streamflow characteristics and downstream flooding. Proceedings of 2019 American's Grasslands Conference, Aug 20-22, 2019, Bismarck, MD, USA.

12. **Kim, J.J.**, and Ryu, J.H. Adaptive Water Management at the Boise River Watershed in a Changing Global Environmental. A conference proceeding on 2019 UKC, Aug 14-16, 2019, Chicago, IL, USA.

13. **Kim, J.J.**, Ale, S., and Teague, W.R. Responses of Streamflow, Water Quality, and Soil Carbon Sequestration under Alternative Grazing Management Practices in a Cold Climate Region. A conference proceeding on 2019 UKC, Aug 14-16, 2019, Chicago, IL, USA.

14. Ale, S., **Kim, J.J.**, and Teague, W.R. Influence of Climate and Soil Properties on Hydrological Function and Soil Carbon Sequestration under Different Grazing Management Practices. A conference proceeding on 2019 ASABE, July 7 – 10, 2019, Boston, MA, USA.

15. **Kim, J.J.**, Ale, S., and Teague, W.R. Impact of Grazing Management Practices on Water Catchment Functions and Soil Carbon Sequestration. A conference proceeding on 2018 ASABE, July 29-Aug 1, 2018, Detroit, MI, USA.

16. **Kim, J.J.**, Ale, S., and Teague, W.R. Simulated Impacts of Grazing Management Practices on Hydrologic Components, Streamflow Pattern, and Water Quality. A conference proceeding on 2018 UKC, Aug 1-4, 2018, Queens, NY, USA.

17. **Kim, J.J.**, and Ryu J.H. Integrated Water Resources Management in a Changing Climate: Case Study in Boise River Watershed, A conference proceeding on ERWI, May 21-25, 2017, Sacramento, California, USA.

18. Ryu, Jae H., **Kim, J.J.** Advancing Drought Monitoring using a Small Unmanned Aerial System (sUAS) for Conjunctive Water Management in a Changing Climate. A conference proceeding on 2016 AGU Fall Meeting, American Geophysics Union (AGU). December 12-16, 2016, San Francisco, California, USA.

19. **Kim, J.J.**, and Ryu J.H. Parallelizing HSPF to Improve Hydrological Simulations using a Linux Cluster. A conference proceeding on UKC2016, August 10-13, 2016, Dallas, TX, USA

20. **Kim, J.J.**, and Ryu J.H. Parallelizing HSPF to Improve Hydrological Simulations using a Linux Cluster. A conference proceeding on EWRI 2016, May 22-26, 2016, West Palm Beach, Florida, USA.

21. **Kim, J.J.**, and Ryu, J.H. Improving Gap-filling Method using a Cluster Based Approach with Statistical Correlation. A conference proceeding on UKC2015, July 31, 2015, Atlanta, GA, USA.

22. **Kim, J.J.**, and Ryu, J.H. Spatial and Temporal Analysis of Hydrologic response for Land use change at Kyoung-An Stream Watershed, Korea. A conference proceeding on UKC2015, August 6-9, 2014, San Francisco, CA, USA.

23. Ryu, J.H., **Kim, J.J.** Hydrologic modeling and pollution control using LID to mitigate impacts of urbanization. A conference proceeding on 2014 AWRA Summer Specialty, John Ascuaga's Nugget, June 30 – July 2, Reno, Nevada.

24. **Kim, J.J.**, and Ryu, J.H. Analysis of Runoff Characteristic and Nonpoint Source Pollution for Landuse Change at Kyoung-An Stream Watershed, South Korea. 2014 summer specialty conference proceeding on 2014 AWRA Summer Specialty, June. 30-July.2, 2014, Reno, NV, USA.

25. **Kim, J.J.**, and Ryu, J.H. Mapping Drought Vulnerability Driven by future climate change and variability in South Korea. A conference proceeding on ERWI, May 19-25, 2013, Cincinnati, Ohio, USA.

26. **Kim, J.J.**, Hoekema, D, and Ryu, J.H. Validating Local Droughts to Enhance Climate-Resilient Agricultural Water Management in Idaho. A conference proceeding on EPSCOR, March 27-28, 2013, Las Vegas, Nevada, USA.

27. Hoekema, D., **Kim, J.J.**, Ryu, J.H. Evaluating Drought in Managed System: Matters of Water Supply and Demand, Proceeding of 2013 annual Water Resources Conference, American Water Resources Association, Red Lion Hotel, November 4-7, 2013, Portland, Oregon.

28. **Kim, J.J.** and Ryu, J.H. Comparison of Hydrological Simulation Performance using HSPF at Different Basin Scales. A conference proceeding on UKC2012, August 8-11, 2012, Los Angeles, CA, USA.

29. Jeon, J.H., **Kim, J.J.**, Kim, T.D., Chio, D.H., Lim, K.J., and Ryu, J.H. Analysis of Non-Point Source Pollution for Land Use Change at Kyoungan Watershed, Korea. A conference proceeding on 14th International Conference, IWA Diffuse Pollution Specialist Group, DIPCON 2011. pp.204-210, Beaupre, Canada.

30. **Kim, J.J**., Kim, T.D., Choi, D.H., and Jeon, J.H. Effectiveness Analysis of Surface Runoff Reduction using LID at Apartment Area. Proceedings of the 2009 Chuncheon Global Water Forum. September 2009, Chuncheon, Korea.

31. **Kim, J.J**., Kim, T.D., Choi, D.H., and Jeon, J.H. Comparison of Yearly Surface Runoff using LID at Apartment Area. Proceedings of the 2009 Spring Conference Korea Society on Water Quality pp. 461-462. April 2009, Suwon, Korea.

32. Kim, T.I., Kim, T.D., Choi, D.H., **Kim, J.J.**, and Jeon, J.H. Analysis of Soil Loss Erosion by Different Methods for LS Generation. Proceedings of the 2009 Spring Conference Korea Society on Water Quality pp. 463-464. April 2009, Suwon, Korea.

33. **Kim, J.J**., Kim, T.D., Choi, D.H., and Jeon, J.H. Analysis of Sediment Yield by Different Methods for Sediment Delivery Ratio. Proceedings of the 2009 Spring Conference Korea Society on Water Quality pp. 459-450. April 2009, Suwon, Korea.

34. **Kim, J.J**., Kim, T.D., Choi, D.H., and Jeon, J.H. Analysis of Soil Loss Reduction Effect with Roundabout Channel Installation for Alpine Upland. Proceedings of the 2009 Spring Conference Korea Society on Water Quality, pp. 457-458. April 2009, Suwon, Korea.

35. **Kim, J.J**., Kim, T.D., Choi, D.H., and Jeon, J.H. Analysis of Soil Loss in the Andong-dam Watershed using SATEEC System. Proceedings of the 2008 Autumn Conference Korea Society on Water Quality, pp.462-463. November 2008, Seoul, Korea.

PROFESSIONAL MEMBERHIP

1. American Society of Civil Engineers (ASCE).
2. Environmental and Water Resources Congress (EWRI)
3. Korean-American Scientists and Engineers Association (KSEA)
4. American Society of Agricultural and Biological Engineers (ASABE)

GRADUATE LEVEL COURSEWORK

System Dynamics Models / Environmental System / Parallel Programming / Hydrological Modeling & Application / Date Mining Topics & Technique / Experience Methods Fluid Dynamics / River Restoration / Hydrological Applications / GIS-Remote Sensing / Advance Environmental Engineering / Advance Wastewater Treatment / Water quality modeling / Impact Assessment / Environmental Biotechnology / Advance Hazardous Waste Management / Advance River Management Engineering / Water Resource Engineering / Practical Dam Management / Statistical Research Methods.