

Hoonshin Jung

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Education

M.S., Civil Engineering, Louisiana State University, Baton Rouge, LA (December 2008)

University of South Alabama, Marine Sciences, Mobile, AL, Ph. D. degree program coursework
(August 2003 – December 2006)

M.S., Oceanography, Inha University, Incheon, Korea (February 1998)

B.S., Oceanography, Inha University, Incheon, Korea (February 1996)

Work Experience

Research Associate (September 2012 - Present)

The Water Institute of the Gulf, Baton Rouge, Louisiana

- Simulated and analyzed hydrodynamics, sediment transport/morphodynamics, and water quality models
- Analyzed hydrodynamics, sediment transport/morphodynamics, and water quality changes

Research Associate (June 2009 – September 2012)

Center of Excellence - Center for Analysis and Response to Coastal Hazards (ARCH),
Mississippi eCenter, Jackson State University, Jackson, Mississippi

- Developed storm surge forecasting system tools
- Simulated storm surge models
- Evaluated flooding hazard and developed the flooding forecasting system
- Simulated coastal hydrodynamic models

Graduate Assistant (January 2007 – December 2008)

Department of Civil and Environmental Engineering, Louisiana State University, Baton Rouge,
Louisiana

- Used and developed hydrodynamic and mass transport models in riverine system
- Simulated sediment transport for rainfall-induced soil erosion
- Evaluated and studied the feasibility of stormwater BMPs for East Baton Rouge Parish

Graduate Assistant (August 2003 – December 2006)

Department of Marine Sciences, University of South Alabama, Mobile, Alabama

- Estimated non-point source loading using HSPF model
- Used hydrodynamic models in coastal system

Manager (July 2000 - July 2003)

R&D Division, Geosystem Research Corporation, Gunpo, Korea

- Used hydrodynamic and mass transport models in estuarine and coastal system

- Designed model run scenarios and field surveys for Environmental Impact Assessment (EIA) and coastal engineering projects

Researcher (December 1997 - June 2000)

Hydro Environment Research Institute, Samwoo Environmental Consultant Corporation, Seoul, Korea

- Used and developed hydrodynamic and mass transport models in estuarine and coastal system
- Observed and analyzed field data for tide, current, salinity, temperature, and water quality variables.

Research Assistant (March 1996 - November 1997)

Department of Oceanography, Inha University, Incheon, Korea

- Simulated heat exchange processes in Yellow Sea

Professional Society Memberships

American Geophysical Union (AGU), 2010 – Present

Applicable Skills

Numerical Model

- Hydrodynamic and mass transport model: ADCIRC, Delft-3D, Flow-3D, EFDC/HEM3D and POM
- Wave Model: SWAN and REF/DIF
- Hydrologic-Hydraulic Model: HEC-RAS and HSPF
- Outfall/Diffuser design model: CORMIX and CORHYD

Computer Skills

- General: Windows, Linux/Unix, MS Office
- Language: FORTRAN, Visual Basic, ASP.NET
- Applied Software: SMS, Matlab, ArcGIS, Auto CAD, Grapher, and Surfer

Equipment

- CTD and YSI 6920: Measuring temperature, salinity, and other water quality variables
- ADCP: Measuring water velocity
- RBG TG-205: Measuring surface elevation

Thesis

Jung, H.-S., 2008. Modeling of solute transport and retention in upper Amite River. Master Thesis, Department of Civil and Environmental Engineering, Louisiana State University, Louisiana.

Jung, H.-S., 1998. A hydrodynamic modeling of tide and monthly temperature distribution in the Yellow Sea. Master Thesis, Department of Oceanography, Inha University, Incheon, Korea.

Selected Publication

- Kyeong Park, Sean P. Powers, George S. Bosarge, **Hoon-Shin Jung**, 2014. Plugging the leak: Barrier island restoration following Hurricane Katrina enhances larval retention and improves salinity regime for oysters in Mobile Bay, Alabama, *Marine Environmental Research*, 94:48-55.
- Deng, Z.-Q., **H.-S. Jung**, and B. Ghimire, 2010. Effect of channel size on solute residence time distribution in rivers. *Advances in Water Resources*, DOI: 10.1016/j.advwatres.2010.06.016.
- Jung, H.-S.** and Z.-Q. Deng, 2010. Modeling of nitrogen retention in Amite River. *Water, Air, & Soil Pollution*, DOI:10.1007/s11270-010-0487-9.
- Deng, Z.-Q. and **H.-S. Jung**, 2009. Variable Residence Time Based Model for Solute Transport in Streams. *Water Resources Research*, 45, W03415, doi:10.1029/2008WR007000.
- Deng, Z.-Q. and **H.-S. Jung**, 2009. Scaling dispersion model for pollutant transport in river. *Environmental Modeling & Software*, 24:627-631.
- Deng, Z.-Q., João L.M.P. de Lima, and **H.-S. Jung**, 2008. Sediment transport rate-based model for rainfall-induced soil erosion. *Catena*, 76:54-62.
- Park, K., **H.-S. Jung**, H.-S. Kim, and S.-M. Ahn, 2005. Three-dimensional hydrodynamic-eutrophication model (HEM-3D): Application to Kwang-Yang Bay, Korea. *Marine Environmental Research*, 60(2), 171-193.

Chapter Book

- Das, H.S. and H.-S. Jung, 2013. An efficient tool to assess risk of storm surge using data mining. *Coastal Hazards*, American Society of Civil Engineers

Conference Proceedings

- Jung, H.-S.**, H. S. Das, G. Skelton, and R. W. Whalin, 2011. Rapid Estimation of High Resolution Local Storm and Interactive Operation with A Disaster Response Intelligent System, *The 3rd Annual Conference on Hurricanes, Major Disasters, Coastal Protection and Rapid Recovery in Texas and Gulf Coast Region*, August 5, 2011, Houston, Texas USA.
- Das, Himangshu S., **Hoon-Shin Jung**, Jane Smith, and Ty Wamsley, 2011. A High Resolution Unstructured Model to Study Storm Surge in the Pacific Island of Guam, 2011 Solutions to Coastal Disasters Conference, Anchorage, Alaska, June 26 to June 29, 2011, pp 22-29.
- Das, H.S., **H.-S. Jung**, B. Ebersole, T. Wamsley, and R.W. Whalin, 2011. An Efficient Storm Surge Forecasting Tool for Coastal Mississippi, *Proceedings of the International Conference on Coastal Engineering* (<http://journals.tdl.org/ICCE/article/view/1305>), Volume 1 Number 32.
- Herring, B., H.S. Das, **H.-S. Jung**, and R.W. Whalin, 2010. An Efficient Storm Surge Forecasting Tool for Coastal Mississippi Using Data Mining. *The Fourth Annual DHS University Network Summit*, March 10-12, 2010, Washington, D.C.

- Deng, Z.-Q., **H.-S. Jung**, and B. Ghimire, 2010. Hyporheic exchange-induced long-tailed residence time distributions of solute in rivers, *The 33rd Congress of the international Association of Hydraulic Engineering and Research (IAHR)*, August 9-14, 2009, Vancouver, Canada.
- Deng, Z.-Q. and **H.-S. Jung**, 2007. Scale-dependent dispersion in rivers, *The 32nd Congress of the International Association of Hydraulic Engineering and Research (IAHR)*, Venice, Italy.
- Park, K., **H.-S. Jung**, H.-S. Kim, and S.-M. Ahn, 2003. Estuarine and coastal water quality modeling: Concept and a case study in Korea. In: *Determining Environmental Carrying Capacity of Coastal and Marine Areas: Progress, Constraints, and Future Options* (H. Yu and N. Bermas, eds.), Workshop Proceedings No. 11, PEMSEA (Programme on Building Partnerships in Environmental Management for the Seas of East Asia), Quezon City, Philippines, pp. 98-114.