

# Hoonshin Jung

## Research Scientist - The Water Institute of the Gulf

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### Education

#### **M.S. in Civil Engineering, 2008**

Louisiana State University, Baton Rouge, Louisiana

#### **Ph.D. degree program coursework in Marine Sciences, 2006**

University of South Alabama, Mobile, Alabama

#### **M.S. in Oceanography, 1998**

Inha University, Incheon, Korea

#### **B.S. in Oceanography**

Inha University, Incheon, Korea

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### Research Interests:

Estuarine and coastal hydrodynamics; water quality processes, including dispersion of pollution, eutrophication and hypoxia/anoxia; wave attenuation by vegetation; storm surge; numerical modeling.

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### Professional Experience:

<b>The Water Institute of the Gulf</b> Baton Rouge, Louisiana	<b>2016-present</b>
<ul style="list-style-type: none"><li>• <i>Research Scientist</i></li></ul>	
<b>The Water Institute of the Gulf</b> Baton Rouge, Louisiana	<b>2012-2016</b>
<ul style="list-style-type: none"><li>• <i>Research Associate</i></li></ul>	
<b>Center of Excellence- Center for Analysis and Response to Coastal Hazards</b> Jackson, Mississippi	<b>2009-2012</b>
<ul style="list-style-type: none"><li>• <i>Research Associate</i></li></ul>	
<b>Department of Civil and Environmental Engineering</b> Baton Rouge, Louisiana	<b>2007-2008</b>
<ul style="list-style-type: none"><li>• <i>Graduate Assistant</i></li></ul>	
<b>Department of Marine Sciences</b> University of South Alabama, Mobile, Alabama	<b>2003-2006</b>

- *Graduate Assistant*

### **Applicable Skills:**

- 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
- General: Windows, Linux/Unix, MS Office
- Language: FORTRAN, Visual Basic, ASP.NET
- Applied Software: SMS, Matlab, ArcGIS, Auto CAD, Grapher, and Surfer
- CTD and YSI 6920: Measuring temperature, salinity, and other water quality variables
- ADCP: Measuring water velocity
- RBG TG-205: Measuring surface elevation

### **Professional Society Memberships:**

- American Geophysical Union (AGU)

### **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.

### **PUBLICATIONS**

1. Park, K., Powers, S.P., Bosarge, G.S., & Jung, H.-S. (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.
2. Das, H.S. & Jung, H.-S. (2013). An efficient tool to assess risk of storm surge using data mining. *Costal Hazards*, American Society of Civil Engineers.
3. Deng, Z.-Q., Jung, H.-S., & Ghimire, B. (2010). Effect of channel size on solute residence time distribution in rivers. *Advances in Water Resources*, DOI: 10.1016/j.advwatres.2010.06.016.
4. Jung, H.-S. & Deng, Z.-Q. (2010). Modeling of nitrogen retention in Amite River. *Water, Air, & Soil Pollution*, DOI:10.1007/s11270-010-0487-9.
5. Deng, Z.-Q. & Jung, H.-S. (2009). Variable Residence Time Based Model for Solute Transport in Streams. *Water Resources Research*, 45, W03415, doi:10.1029/2008WR007000.
6. Deng, Z.-Q. & Jung, H.-S. (2009). Scaling dispersion model for pollutant transport in river. *Environmental Modeling & Software*, 24:627-631.

7. Deng, Z.-Q., Lima, J., & Jung, H.-S. (2008). Sediment transport rate-based model for rainfall-induced soil erosion. *Catena*, 76:54-62.
8. Park, K., Jung, H.-S., Kim, H.-S., & Ahn, S.M. (2005). Three-dimensional hydrodynamic-eutrophication model (HEM-3D): Application to Kwang-Yang Bay, Korea. *Marine Environmental Research*, 60(2), 171-193.

#### **CONFERENCE PROCEEDINGS AND PRESENTATIONS**

1. Jung, H.-S., Das, H.S, Skelton, G., & Whalin, R.W. (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.
2. Das, H.S., Jung, H.-S., Smith, J., & Wamsley, T. (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.
3. Das, H.S., Jung, H.-S., Ebersole, B., Wamsley, T., & Whalin, R.W. (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.
4. Herring, B., Das, H.S., Jung, H.-S., & Whalin, R.W. (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.
5. Deng, Z.-Q., Jung, H.-S. & Ghimire, B. (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.
6. Deng, Z.-Q. and Jung, H.-S. (2007). Scale-dependent dispersion in rivers, The 32nd Congress of the International Association of Hydraulic Engineering and Research (IAHR), Venice, Italy.
7. Park, K., Jung, H.-S., Kim, H.-S. & Ahn, S.-M. (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.