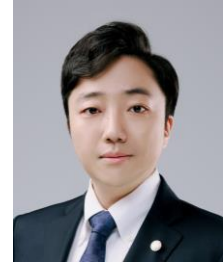


# CURRICULUM VITAE

**Hyun Dong Kim, Ph.D.**

E-mail : [h1kim@odu.edu](mailto:h1kim@odu.edu)



## EDUCATION AND CERTIFICATE

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- 2023 - 2025            University of Florida, Ph.D.  
Major: Coastal and Oceanographic Engineering (Coastal Ecosystem Dynamics)  
Center for Coastal Solutions (CCS affiliated)  
Advisor: Professor Xiao Yu / Co-Advisor: Professor David Kaplan  
Thesis Title: Fluid-Structure Interactions of Submerged Aquatic Vegetation in Coastal System
- 2017 - 2020            Osaka University, Ph.D.  
Major: Civil Engineering (AI focused)  
Advisor: Professor Shin-ichi Aoki  
Thesis Title: *Analysis of Beach Nourishment Effect using Artificial Intelligence*
- 2015 - 2017            University of Delaware, M.CE.  
Major: Civil and Environmental Engineering  
Advisor: Professor Nobuhisa Kobayashi  
Center for Applied Coastal Research (CACR affiliated)  
Thesis Title: *Coastal Protection Techniques for Storm Damage, Experimental and Numerical Study on Rock Seawall in Swash Zone to Reduce Wave Overtopping and Overwash of Sand Beach*
- 2010 - 2015            University of California, Los Angeles (UCLA), B.S.  
Major: Civil and Environmental Engineering  
Advisor: Professor Keith D. Stolzenbach., and Michael K. Stenstrom
- 2021                    Massachusetts Institute of Technology (on edX), Professional Certificate  
Title: Machine Learning, Modeling, and Simulation  
*-Machine Learning, Modeling, and Simulation Principles*  
*-Applying Machine Learning to Engineering and Science*

## APPOINTMENTS

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- Jul. 2025 - Present            **Assistant Professor (Tenure Track), Old Dominion University**  
Department of Civil and Environmental Engineering (Specialty in Coastal & Ocean)  
Director of Advanced Coastal and Ocean Systems Lab
- Jan. 2023 - Jul 2025            **Graduate Research Assistant, University of Florida**  
Department of Civil and Coastal Engineering, ESSIE  
Research Assistant to Professor Xiao Yu
- Oct. 2023 - Present            **Executive Board Member / Commission Chair, PIANC**  
(The World Association for Waterborne Transport Infrastructure)  
ExCom Member and Young Professional Commission Chair

July. 2023 - Jan. 2024	<b>Courtesy Adjunct Professor</b> , <i>Florida International College</i> Designed the Global Leadership Program, an exchange initiative between US and Korean Universities. Voluntarily delivered lectures for undergraduate and graduate students for 2023-24 summer and winter vacation
March. 2019 - Dec. 2024	<b>Secretary-General</b> , <i>PIANC Korea</i> / <b>Secretary</b> , <i>PIANC</i> (The World Association for Waterborne Transport Infrastructure) Secretary-General of the Korean National Section of the PIANC
Sept. 2021 - Oct. 2022	<b>Courtesy Postdoctoral Research Scholar</b> , <i>University of Florida</i> Department of Civil and Coastal Engineering, the University of Florida
May. 2017 - Jun. 2020	<b>Senior Research Engineer</b> , <i>Mirae Ocean Corporation</i> Engineering consultant based in South Korea. Research Team Manager and was in charge of Research Projects and Global Projects (Coast, Ocean, Environment), Best Employee of the Year Award Recipient
May. 2015 - April. 2017	<b>Graduate Research Assistant</b> , <i>Center for Applied Coastal Research</i> University of Delaware College of Civil & Environmental Engineering Research Assistant to Professor Nobuhisa Kobayashi
Feb. 2013 - Oct. 2014	<b>Head Recruiter</b> , <i>Seoul National University America Office</i> Office of International Affairs,
Feb. 2011 - April. 2012	<b>Teaching Assistant</b> , <i>University of California, Los Angeles</i> UCLA College of Art and Architecture

## AWARDS AND HONORS

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2025	<b>Y30 Rising AI Leaders</b> Forbes Korea
2025	<b>ASCE Young Engineer of the Year</b> Awarded by ASCE Gainesville Branch; ASCE Young Engineer of the Year Florida Section Nominee
2025	<b>Melnick Scholar Award</b> Awarded by University of Florida
2025	<b>Osceola County Certificate of Appreciation</b> Awarded by Osceola County Commissioner, Cheryl Grieb
2024	<b>ASCE Past President's Scholarship - Graduate</b> Awarded by ASCE Florida Section at the Annual Conference
2024	<b>Best Technical Content Award</b> Network for Engineering with Nature (N-EWN) Partner Symposium
2023	<b>Certificate of Outstanding Merit</b> Awarded by Herbert Wertheim College of Engineering, and the International Center of University of Florida
2023	<b>Best Paper Presentation Award</b> Awarded by International Conference, <i>i-Coast</i>

- 2022 **Outstanding Teaching and Instructor Award**  
Awarded by the Korea Island Development Institute, Ministry of the Interior and Safety
- 2021 **Best Poster Presentation Award**  
Awarded by the KGU Materials and Surface Engineering Research Institute, Japan
- 2021 **Best Paper Award (KSCOPE President's Research Award)**  
Awarded by The Korean Society of Coastal and Ocean Engineers at the Korean Association of Ocean Science and Technology Societies Conference
- 2020 **Future Tech Hackathon (Marine Debris Image Data), Excellence Award, 2<sup>nd</sup> Place**  
Hosted by Presidential Committee on the Fourth Industrial Revolution
- 2020 **Outstanding Research Paper Award (President of the Incheon Port Authority Award)**  
Best research paper presented at the Incheon International Ocean Forum 2020 hosted by the Ministry of Oceans and Fisheries
- 2020 **Best Research Award**  
'Young Professionals Engineering Research Competition' sponsored by PIANC
- 2020 **Finalist**  
2020 Ocean Startup Contest by Ministry of Oceans and Fisheries, Korea
- 2019 **Best Employee of the Year Award**  
Awarded by the Mirae Ocean Corporation, South Korea
- 2018 **Grand Award**  
Awarded by the Korea Basic Science Institute and Ministry of Science and ICT of Korea for the research entitled 'Saving the Disappearing South Pacific Country, Tuvalu using the Nourishment Method'
- 2016 **2000 Outstanding Intellectuals of the 21<sup>st</sup> Century**  
Awarded by International Biographical Centre
- 2016 **The President's Lifetime Achievement Award**  
Accumulated a total of 5,000 hours of volunteer service (President Obama)
- 2015 **Mayor's Certificate of Appreciation, City of Los Angeles**  
Awarded by Mayor Eric Garcetti, City of Los Angeles, USA
- 2014 **ASCE PSWC 2014 Environmental Team Competition, 2<sup>nd</sup> Place**  
Awarded by American Society of Civil Engineers (ASCE) as an Environmental Team Director of ASCE UCLA Chapter
- 2014 **Certificate of Congressional Recognition**  
Awarded by the Member of Congress, 27<sup>th</sup> District, Judy Chu
- 2014 **University of California, Los Angeles Korean Alumni Scholarship Recipient**  
Awarded by the UCLA Korean Alumni Association
- 2012 **Doane Family Scholarship in Civil & Environmental Engineering Recipient**  
Awarded by University of California, Los Angeles College of Engineering

## PATENTS

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**Rip Current Analysis System Using Automatic Current Survey Drone**

Patent No. 10-2020-0026969.

**Ocean Cleaning Unit Using the Deep-Learning**

Patent No. 10-2019-00001015.

**Discovery System Using the Deep-Learning**

Patent No. 10-2019-00001021.

**Automatic Mooring System for Marine Observation Equipment**

Patent No. 10-2018-0050495.

**Motorboat Speed Control System for Improving the Low Velocity**

Patent No. 10-2018-0050522.

## COMMITTEE MEMBER

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***Ph.D. Student***

*Sebin Oh*, Civil and Environmental Engineering, Old Dominion University (2025-present)  
Serving as Committee Chair and Providing Full Research Assistantship Support

*Jinhyung Lee*, Civil and Coastal Engineering, University of Florida (2025-present)  
External committee member / Partially funding research stipends

## MENTORSHIP

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***Ph.D. Student***

*Asung Shin*, Chemical Engineering, Lehigh University (2023-present)  
Advised and conducted the research project.

*Jessica Yoon*, Marketing, University of Georgia (2025-present)  
Advising research on "A Multisensory Approach to Coastal Spaces: Integrating Digital Twin to Enhance the Beachfront Experience."

*Seongim Moon*, Interior Design, University of Florida (2023-present)  
Advising research on "A Multisensory Approach to Coastal Spaces: Integrating Digital Twin to Enhance the Beachfront Experience."

***Master's Student***

*Kathleen Schoenberg*, Environmental Science, University of Florida (2023-2025)  
Assisted with fieldwork analysis and collaborated on the NSF-funded project under the supervision of Dr. Xiao Yu and Dr. David Kaplan.

*Sebin Oh*, Computer Science, University of Florida (2024-2025)  
I mentor and collaborate with a student on the research titled "Predictive Analysis of Coastal Structure Failure Using AI."

*Jinhyung Lee*, Civil and Coastal Engineering, University of Florida (2023-2025)  
I mentor and collaborate with a student on the research titled "Hydrodynamic Variability for Artificial Estuarine Marshes: Implications for Riverine Resilience and Flood Mitigation"

## PROFESSIONAL AFFILIATIONS AND SERVICES

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### Reviewer/ Conference Committee

External Relations Director/ IT Director, KSEA UKC 2026 (2025-Present)  
 Program Chair, KSEA DMV Regional Conference 2026 (2025-2026)  
 Reviewer, International Conference on Coastal Engineering 2026 (2025-2026)  
 Local Organizing Committee Chair, PIANC Biennial Technical Visit 2025 (2024-2025)  
 Local Organizing Committee, PIANC Annual General Assembly 2025 (2024-2025)  
 Reviewer Committee, Korean Society of Coastal and Ocean Engineers (2021-2024)  
 Reviewer, Journal of Ocean Engineering and Marine Energy, Springer Nature (2023-Present)  
 Reviewer, Journal of Marine Science and Engineering, MDPI (2021-Present)  
 Executive Director, KSEA SERC 2025 (Southeastern Regional Conference) (2025)  
 Educational Committee, PIANC Smart River Conference 2025 (2023-2025)  
 Scientific Organizing Committee/ YP Award Chair, PIANC World Congress 2024 (2023-2024)  
 Editor Committee, Global Ports Reports by the Ministry of Oceans and Fisheries (19-23)  
 Reviewer, Marine Geodesy, Taylor & Francis Online (2021-2024)  
 Reviewer, UCLA Financial Aid and Scholarships (2020-2023)  
 Session Chair/YP Award Jury, PIANC Smart River Conference 2022 (2022)  
 Local Organizing Committee Member, International Conference on Coastal Engineering (2014)

### Professional Organization Member

American Society of Civil Engineers (ASCE)  
 American Geophysical Union (AGU)  
 Japanese Society of Civil Engineers (JSCE)  
 Korean Society of Civil Engineers (KSCE)  
 Korean Society of Coastal and Ocean Engineers (KSCOE)  
 Korea Water Resources Association (KWRA)  
 Korean-American Scientists and Engineers Association (KSEA)  
 The World Association for Waterborne Transport Infrastructure (PIANC)

### Professional Organization Committee Member

ASCE COPRI Subcommittee Chair, Coastal Engineering Education and Workforce Development Subcommittee (2025-present)  
 ExCom member, PIANC (2023-present)  
 Chair, PIANC-Young Professionals Commission (2025-present)  
 Co-Chair, PIANC-Young Professionals Commission (2023-2025)  
 Vice-Chair Alt., PIANC-Young Professionals Commission (2020-2023)  
 Secretary-General, PIANC Korean National Section (2019-2024)  
 President, KSEA Gainesville Florida Chapter (2024-2025)

### Student Organization

Faculty Advisor, ASCE COPRI, Old Dominion University Chapter, (2026-Present)  
 Founder and President, KSEA YG Group, Univ. of Florida Chapter, (2024)  
 Graduate Advisor, International Engineering Ambassador, Univ of Florida (2024-2025)  
 Department Representative, Engineering Graduate Student Council, Univ of Florida (2023-2025)  
 President, ASCE COPRI, Univ of Florida Chapter, (2023-2025)  
 Project Director, American Society of Civil Engineers, UCLA Chapter, (2013-2015)

President, World Korean Student Association Coalition (GLA), (2013-2015)  
 President, UCLA Korean Student Association (UKV), (2011-2013)  
 Vice President, University of Delaware Korean Student Association, (2015-2017)  
 Vice President (2012-2014), Event Coordinator (2011-12), Chi-Epsilon, UCLA Chapter  
 Member, Chi-Epsilon, Univ of Florida Chapter (2023-present)

## OTHER SERVICES

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**Presidential Advisory Council on Democratic and Peaceful Unification of South Korea (25-Present)**  
 Advisory Member

**Special Youth Aide to the President Geun-hye Park, Elect-President of South Korea (2013)**  
 Special Youth Aide to the President Elect Geun-hye Park for the Presidential Election Period

**Special Parliamentary Aide to Shim Yoon Joe, Member of the National Assembly (2013)**  
 Special Parliamentary Aide to Mr. Shim, the member of the National Assembly of Korea

## PUBLICATIONS

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### PEER-REVIEWED JOURNAL ARTICLES

\*Corresponding author

21. Oh, S., and **Kim, H.D.** (2026) “Physics-constrained Surrogate Model with Privileged Information for Threshold Boundary Extraction of Stem-to-Stem Contact”, *Nature Scientific Reports*, (Under review)
20. **Kim, H.D.**, and Yu, X. (2026) “Threshold Conditions for Hydrodynamic Interaction of Dual Flexible Vegetation Stems in Oscillatory Flows using Dimensionless Analysis”, *Nature Communications*, (Under Review)
19. Sohn, J.I., **Kim, H.D.**, and Ramakrishnan, K.A. (2025) “Sustainable Management of Erosive Shores: An Interdisciplinary Approach Integrating Engineering and Social Sciences at a Tide-Dominant Beach Area”, *Land*, 12, 2307.
18. **Kim, H.D.**, Yu, X., and Kaplan, D. (2024) “Steady Flow over a Finite Patch of Submerged Flexible Vegetation”, *Water Resource Research*, 60, e2023WR03522.
17. Shim, K.T., Kim, K.H., Cho, B.S., and **Kim, H. D.** (2024). “Study of Beach Profile Change and Prediction for Maritime Construction”, *J. of Coastal Research*, 116(SI): 668-672.
16. **Kim, H. D\***, Aoki, S., Oh, H.M., Kim, K. H., and Oh, J.H. (2021). “Seabed Sub-Bottom Sediment Classification using Artificial Intelligence”, *Journal of Coastal Research*, 114(SI): 305-309.
15. **Kim, H.D\***, Kim, K.H., Shim, K., and Oh, H.M. (2021). “Applicability Study of a Sunken Vessel as an Artificial Reef in a High Wave Energy Zone”, *Energies*, 14(14), 4374.
14. Sohn, J., Alakshendra, A., Kim, H.J., Kim, K.H., and **Kim, H. D\***. (2021). “Understanding the New Characteristics and Development Strategies of Coastal Tourism for Post-COVID-19: A Case Study in Korea”, *Sustainability*, 13(13), 7408.

13. **Kim, H. D\***, and Kim, K.H. (2021).  
"Analysis of Characteristics of Rip Current using Dye Tracking Method", *Atmosphere*, 12(6), 719.
12. **Kim, H. D\***, and Aoki, S. (2021).  
"Analysis of Beach Erosion using Artificial Intelligence", *Journal of Marine Science and Engineering*, 9(6), 600.
11. Shim, K.T, Kim, K, **Kim, H.D.**, and Kwak, K. (2020).  
"Analysis on Sediment Transport System in the East Coast of Korea", *Journal of Coastal Research*, 95(SI): 643-648.
10. **Kim, H.D.**, Aoki, S, Kim, K.H., Kim, J., Shin, B.S., and Lee, K. (2020).  
"Bathymetric Survey for Seabed Topography using Multibeam Echo Sounder in Wando, Korea", *Journal of Coastal Research*, 95(SI): 527-531.
9. **Kim, H.D.**, Aoki, S, Kim, K.H., and Sohn, J. (2019).  
"Effectiveness of Eco-friendly Options in Pacific Island Nations", *International Conferences on Asian and Pacific Coasts 2019*, Springer.
8. Lee, Y, Kim, K.H., **Kim, H.D\***, Kim, J, Kwak, K., and Park, T. (2019).  
"High Wave Predictive Numerical Simulation for the Wave Alarm System", *Journal of Coastal Research*, 91(SI): 329-337.
7. **Kim, H.D.**, Kim, K.H., Aoki, S., Koo, S., and Kwak, K. (2019).  
"Gravel Beach Nourishment at a Low-Wave Energy Environment to Control the Effects of Global Warming", World Scientific, *Coastal Sediments 2019*, pp.329-337.
6. Kim, K.H., Cho, S., **Kim, H.D.**, Shim, K.T. (2018).  
"Wave Power Generation by Piezoelectric Sensor Attached to a Coastal Structure", *Journal of Sensor*, 2018(5):1-7
5. **Kim, H.D\***, Choi, J, and Kwak, K. (2018).  
"Analysis of River Velocity Measuring Methods for Low Velocity Considering the Characteristics of Rivers in Korea", *International Ocean and Polar Engineering*, 28th, pp. 899-902.
4. Lee, Y, **Kim, H.D\***, and Kwak, K. (2018).  
"Verification of Beach Erosion in West Coast of Korea", *Journal of Coastal Research*, 85(SI): 256-260.
3. Kobayashi, N. and **Kim, H.D.** (2017).  
"Rock Seawall in Swash Zone to Reduce Wave Overtopping and Overwash of Sand Beach", *Journal of Waterway Port Coastal and Ocean Engineering*, 143(6), ASCE.

2. **Kim, H.D\***, and Kim, K.H. (2014).

"Water Purification Investigation in the Lagoon", *Applied Mechanics and Materials*, Vols. 675-677.

1. Yoo, H.S., Min, B.G., **Kim, H.D.**, and Widayati, A.Y.W. (2009).

"Beach Erosion Investigation for Shoreline Protection in Jeoncheon Coast", *International Conference on Asian and Pacific Coasts 2009*, World Scientific.

## **BOOK / GUIDELINES**

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### **PIANC Technical Report/ International Guideline**

Kim, H.D. (WG Member). **Understanding Blue Carbon: A Practical Guide**

Working Group 256, Environmental Commission-Permanent Task Group on Climate Change, PIANC. Technical Report in progress, Sept 2024 – expected Sept 2026.

## **CONFERENCE PRESENTATIONS**

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**Kim, H.D.** (2025). Invited Keynote Speaker: Development of an Artificial Intelligence Framework for Marine Hazard Prediction at the *Forbes Korea AI Summit*, Seoul, Korea.

**Kim, H.D.**, and Lee, J. (2025). Influence of Artificial Marsh Configurations on Long-Term Morphodynamics and Vegetation Expansion. Oral Talk Presented at the APAC 2025, Busan, Korea.

**Kim, H.D.**, and Lee, J. (2025). Morphologic Variability in Artificial Estuarine Marshes: Implications for Vegetation Survival. Oral Talk Presented at the *PIANC Smart River 2025*, Memphis, USA.

**Kim, H.D.**, Yu, X., and Kaplan, D. (2024). A 3D Model Study of Steady Flow Over a Finite Patch of Submerged Flexible Vegetation. Poster presented at the *American Geophysical Union Fall Meeting 2024*, Washington DC.

**Kim, H.D.**, and Yu, X. (2024). Dynamic Interactions of Submerged Aquatic Vegetation Under Oscillatory Flow. Poster presented at the *American Geophysical Union Fall Meeting 2024*, Washington DC.

**Kim, H.D.**, and Yu, X. (2024). A Two-Phase Model Framework for Wave Attenuation by Submerged Flexible Vegetation. Poster presented at the *N-EWN Partner Symposium 2024*, St. Augustine, Florida, USA.

**Kim, H.D.**, Yu, X and Smith, J. (2024). Sustainable Coastal Management: A Case Study for Resilient Island Nation. Talk presented at the *PIANC World Congress 2024*, Cape Town, South Africa.

**Kim, H.D.**, Yu, X., and Kaplan, D. (2024). Oscillatory Flow Over a Finite Patch of Submerged Flexible Vegetation. Poster presented at the *Ocean Science Meeting 2024*, New Orleans, Louisiana, USA.

- Kim, H.D.**, Yu, X., and Kaplan, D. (2023). Numerical Study of Steady Flows Over a Finite Patch of Flexible Submerged Aquatic Vegetation. Poster presented at the *American Geophysical Union Fall Meeting*, San Francisco.
- Shim, K., Kim, K.H., Shin, B-S., and **Kim, H.D.** (2023). Analysis on Failure Causes of Dock due to Abnormal Wind Waves. *Coastal Engineering Proceedings*, Sept 2023
- Kim, H.D.**, Lee, Y., Kim, H.J., Sohn, J.I. (2022). **Award Winner:** Sustainable Island Development and Conservation Plan using Ecotourism. Presented at *2<sup>nd</sup> Korea Island Forum*
- Kim, H.D.** (2021). **Invited Speaker:** Artificial Intelligence Application on Sediment Transport Talk presented at *PIANC YP-Com International Virtual Event*.
- Kim, H.D.**, Kim, K., Oh. H. (2021). Stability Analysis of Sunken Vessel for Artificial Reef Use Presented at *European Conference on Renewable Energy System (ECRES 2021)*, Istanbul, Turkey.
- Kim, H.D.** (2021). **Invited Lecture:** Artificial Intelligence Application on Engineering Talk presented at *The International Symposium on Materials Science and Surface Technology 2020 (MSST 2020)*, KGU Media Center, Yokohama, Japan.
- Kim, H.D.** (2020). **Invited Short Course:** Introduction to PIANC and Young Professionals Commission presented at the *KSCOE Conference*, Jeju Island, South Korea
- Kim, H.D.**, Oh, H.M. (2020). Seabed Sub-Bottom Sediment Classification using AI Talk presented at the *i-COAST International Conference*, Busan, South Korea
- Kim, H.D.** (2020). Stability Analysis of Sinking Vessel as a Coastal Protection Talk presented at the *Korean Society of Civil Engineers*, Jeju Island, South Korea
- Kim, H.D.** (2020). Artificial Intelligence Application on the Beach Nourishment Technique Talk presented at the *Korean Association of Ocean Science and Technology Societies*, Busan, South Korea
- Kim, H.D.**, Kwak, K., Kim, J.H. (2019). Analysis of Rip Current Survey using Drone Talk presented at the *Hydrographic Society of Korea Fall Meeting*, Seoul, South Korea
- Kim, H.D.**, Aoki, S., Kim, K.H., and Sohn, J. (2019). Effectiveness of Eco-Friendly Design Options in Pacific Island Nations. Talk presented at the *International Conference on Asian and Pacific Coasts*, Hanoi, Vietnam.
- Kim, H.D.**, Kim, K.H., and Aoki, S. (2019). Gravel Beach Nourishment at a Low-Wave Energy Environment to Control the Effects of Global Warming. Talk presented at the *International Conference on Coastal Sediments*, St. Petersburg, FL, USA.
- Kim, H.D.**, Lee, Y.B, Lee, S.H, and Kim, J. (2018). Predictive Numerical Simulations for Deadly High Waves Caused by Hurricanes, Typhoons and Cyclones. Talk presented at the *American Geophysical Union Fall Meeting*, Washington, D.C.
- Kim, H.D.**, Shim, K.T., Kim, I.S., and Kwak, K. (2018). A Study on the Beach Profile Change Under Abnormal Wind Condition. Talk presented at the *Korean Society of Coastal and Ocean Engineering Fall Meeting*, Gangwon, Korea.

- Kim, H. D.**, Choi, J., and Kwak, K. (2018). Analysis of River Velocity Measuring Methods For Low Velocity Considering the Characteristics of Rivers in Korea. Talk presented at the International Society of Offshore and Polar Engineers, Sapporo, Japan.
- Kim, H.D.**, and Kobayashi, N. (2018). Settlement of Rock Seawall on Eroding Foreshore of Sand Beach. Talk presented at the *International Conference on Coastal Engineering*, Baltimore, MD, USA.
- Kim, H.D.**, Aoki, S., Lee, Y.B., Kwak, K., Kobayashi, N., and Onaka, S. (2018). The Effective Method of Beach Nourishment Placement. Talk presented at the *International Conference on Coastal Engineering*, Baltimore, MD, USA.
- Kim, H.D.**, Kobayashi, N., and Xavier, C.C. (2016). Comparison of Rock Seawall and Dune for Storm Damage Reduction. Talk presented at the *International Conference on Coastal Engineering*, Istanbul, Turkey.
- Kim, H.D.** (2015). **Invited Lecture:** Environmental Improvement using Aeration Techniques Talk presented at *The International Symposium on Materials Science and Surface Technology 2015 (MSST 2015)*, KGU Media Center, Yokohama, Japan.
- Kim, H.D.**, and Kim, K.H. (2014). Water Purification Investigation in the Lagoon. Talk Presented at *International Conference on Renewable Energy and Environmental Technology*, Dalian, China

## PROJECTS

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### RESEARCH PROJECTS

1. “Next Generation Science and Technology Leader NET”, Korea Institute of Science and Technology, Korea, PI (2025)
2. “A Framework for Modelling Flow Over Flexible Submerged Aquatic Vegetation”, National Science Foundation [Award#1945685], USA, Primary Student Researcher (PI: Dr. Xiao Yu) (2023 – 2025)
3. “Combined Waves and Currents over Multi-Scale Topography: From Boundary Layer Dynamics to Parameterization”, National Science Foundation [Award#2123709], USA, Primary Student Researcher (PI: Dr. Xiao Yu) (2023 – 2025)
4. “Next Generation Science and Technology Leader NET”, Korea Institute of Science and Technology, Korea, Co-PI (2024)
5. “Review of Coastal Erosion Effect from Anin Thermal Power Plant Construction Project”, Samsung C&T, Korea, Co-PI (Jan 2021 – 2023)
6. “Planning Task for Circulating Adaptive Coastal Erosion Management Technology Development for Climate Change Response”, Korea Institute of Marine Science & Technology, Korea, Primary Researcher (Oct. 2021 – 2023)
7. “A Study on the Movement Path Prediction of Drowned Person in a Marine Accident” 416 Foundations, Korea, PI (December 2020 – July 2021)

8. “Practical Technologies for Coastal Erosion Control and Countermeasure Part III”  
Ministry of Oceans and Fisheries / KIMST, Korea, Primary Researcher (January 2020 – December 2020)
9. “Numerical Simulation for Beach Profile Change using Artificial Intelligence”  
Ministry of Education / LINC+, Korea, PI (September 2019 – January 2020)
10. “Practical Technologies for Coastal Erosion Control and Countermeasure Part II”  
Ministry of Oceans and Fisheries / KIMST, Korea, Primary Researcher (January 2019 – December 2019)
11. “Practical Technologies for Coastal Erosion Control and Countermeasure Part I”  
Ministry of Oceans and Fisheries / KIMST, Korea, Primary Researcher (July 2018 – December 2018)
12. Delaware Sea Grant NOAA SG2016-18 R/RCE-9  
National Oceanic and Atmospheric Administration, USA, Primary Researcher (2016 - 2018)

#### ***GOVERNMENT PROJECTS AND SERVICES***

1. “Enhancement of International Capabilities and Promotion of Cooperation in Ocean Technologies”, Ministry of Oceans and Fisheries, Korea, Co-PI (January 2019 – 2025)
2. “Analyzing the Sea Level Rise and Countermeasure in Korea”, Ministry of Oceans and Fisheries, Korea, Co-PI (August 2022 – 2024)
3. “Disaster Safety Port Construction Analysis and Policy Development”,  
Ministry of Oceans and Fisheries, Korea, Co-PI (August 2020 – March 2024)
4. “Producing 100 m grid Resolution Prediction Data for the Numerical Simulation Prediction Model using Artificial Intelligence”,  
Korea Hydrographic and Oceanography Agency, Korea, Primary Researcher (May 2020 – December 2020)
5. “Analysis of the Occurrence Characteristics of Rip Current for the Marine Forecast Infrastructure”, Korea Hydrographic and Oceanography Agency, Korea, PI (May 2019 – December 2019)
6. “Stability Evaluation of Sunken Vessel Reef for the Marine Park in Gangneung, Korea”  
Korea Fisheries Resources Agency, Korea, PI (December 2018 – June 2019)
7. “Master Plan and Feasible Study for Tuvalu Coastal Erosion Protection”  
Ministry of Oceans and Fisheries, Korea, Primary Researcher (October 2017 – June 2018)
8. “Hydrographic Investigation for Large River Main Stream Analysis of Changes on Water Quality Characteristics”, Ministry of Environment, Korea, Primary Researcher (June 2017 – December 2017)

**TEACHING EXPERIENCE**

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***INSTRUCTOR OF RECORD***

Spring, 2026	<b>Engineering Dynamics (CEE 205)</b> Old Dominion University, USA
Winter, 2024	<b>Innovation and Development in Engineering (Undergraduate)</b> Adjunct Professor, Florida International College, USA
Summer, 2023	<b>Technology Sustainable Tomorrow (Graduate course)</b> Adjunct Professor, Florida International College, USA
1 <sup>st</sup> Semester, 2021	<b>Design of Irrigation Channels (Undergrad course) (711652-01)</b> Guest Lecturer, Catholic Kwandong University, Korea
1 <sup>st</sup> Semester, 2021	<b>Wave Mechanics (Graduate course) (2523-01)</b> Guest Lecturer, Catholic Kwandong University, Korea
2 <sup>nd</sup> Semester, 2020	<b>Civil Engineering Data Analysis using Deep Learning (070730-01)</b> Guest Lecturer, Catholic Kwandong University, Korea
Winter, 2019	<b>Artificial Intelligence Application in Ocean Engineering</b> Internal Training Instructor, Mirae Ocean Corporation
Fall, 2019	<b>Using UAV, ROV and Drone for the Ocean Survey</b> Internal Training Instructor, Mirae Ocean Corporation
1 <sup>st</sup> Semester, 2017	<b>MATLAB in Civil Engineering (Graduate course)</b> Guest Lecturer, Catholic Kwandong University, Korea
1 <sup>st</sup> Semester, 2017	<b>Exploring Civil Engineers (Undergrad course)</b> Guest Lecturer, Catholic Kwandong University, Korea

***TEACHING ASSISTANTSHIPS***

Winter, 2016	<b>Introduction to Coastal Engineering (CIEG 471)</b> TA, University of Delaware, USA
Fall 2011- Fall 2012	<b>Advanced World Music Performance (ETHNOMU 161J)</b> TA, University of California, Los Angeles (UCLA), USA
Fall 2011- Fall 2012	<b>World Music Performance (ETHNOMU 91J)</b> TA, University of California, Los Angeles (UCLA), USA

website: [www.hyundongkim.com](http://www.hyundongkim.com)