

CURRICULUM VITAE

July 2020

Se-Hyeon Cheon

4800 Oak Grove Drive, Pasadena, CA 91109

(Email: Se-Hyeon.Cheon@jpl.nasa.gov)

▪ EDUCATIONAL BACKGROUND

- 2012-2017 Ph.D. in Civil and Environmental Engineering, Dept. of Civil and Environmental Engineering, Seoul National University, Seoul, S. Korea. (Advisor: Kyung-Duck Suh)
- 2003-2006 MEng. in Civil and Environmental Engineering, Dept. of Spatial Design & Engineering, Handong Global University, Pohang, S. Korea. (Advisor: Kyungmo Ahn)
- 1995-2003 BEng., Major : Construction Engineering / Urban Environmental Engineering, Minor : Computer Science, Dept. of Spatial Design & Engineering, Handong Global University, Pohang, S. Korea.

▪ PROFESSIONAL EXPERIENCE

- 6/2020 – Present: *Postdoctoral Research Fellow*, Jet Propulsion Laboratory, California Institute of Technology, Pasadena, CA
- 6/2018 – 10/2019: *Postdoctoral Scientist*, Old Dominion University Research Foundation, Norfolk, VA
- 6/2015 – 5/2018: *Project Scientist*, Old Dominion University, Norfolk, VA
- 3/2006 – 2/2012: *Full Time Researcher*, Environment and Construction Research Institute of Handong Global University. Pohang, South Korea
- 3/2010 – 8/2011: *Owner*, AQUASEN (Private Company of Aqua Sensor), Pohang, South Korea

▪ AWARDS AND FELLOWSHIPS

- 2016 Superior Presentation Awards (Fall, 2016)
- 2014 Global PhD Fellowship. (2nd phase)

2012, 2013 Global PhD Fellowship. (1st phase)

▪ **PROFESSIONAL SOCIETIES**

Member, Korean Society of Coastal and Ocean Engineers

▪ **PUBLICATIONS**

International Refereed Journal Papers:

1. Hamlington, B. D., Cheon, S. H., Piecuch, C. G., Karnauskas, K. B., Thompson, P. R., Kim, K. Y., ... & Frederikse, T. (2019). The Dominant Global Modes of Recent Internal Sea Level Variability. *Journal of Geophysical Research: Oceans*.
2. Cheon, S. H., Hamlington, B.D., & Suh, K. D. (2018). Reconstruction of Sea Level Around the Korean Peninsula Using Cyclostationary Empirical Orthogonal Functions. *Ocean Science, Ocean science journal*, (Accepted).
3. Cheon, S. H., & Suh, K. D. (2016). Effect of sea level rise on nearshore significant waves and coastal structures. *Ocean Engineering*, 114, 280-289.
4. Hamlington, B. D., Cheon, S. H., Thompson, P. R., Merrifield, M. A., Nerem, R. S., Leben, R. R., & Kim, K. Y. (2016). An ongoing shift in Pacific Ocean sea level. *Journal of Geophysical Research: Oceans*, 121(7), 5084-5097.
5. Suh, K. D., Kim, S. W., Kim, S., & Cheon, S. (2013). Effects of climate change on stability of caisson breakwaters in different water depths. *Ocean Engineering*, 71, 103-112.

Korean Refereed Journal Papers:

1. Oh, C., Ahn, K., & Cheon, S. H. (2019). Automatic Detection and Analysis of Rip Currents at Haeundae Beach using X-band Marine Radar. *Journal of Korean Society of Coastal and Ocean Engineers*, 31(6), 485-492 (in Korean).
2. Cheon, S. H., Suh, K. D., & Ahn, K. (2014). Short-term Sand Movement Analysis in Hujeong Beach using Empirical Orthogonal Functions. *Journal of Korean Society of Coastal and Ocean Engineers*, 26(4), 244-252 (in Korean).
3. Cheon, S. H., Suh, K. D., & Ahn, K. (2014). Short-term Sand Movement Analysis in Hujeong Beach using Empirical Orthogonal Functions. *Journal of Korean Society of Coastal and Ocean Engineers*, 26(4), 244-252 (in Korean).
4. Se-Hyeon Cheon and Kyung-Duck Suh (2013). "Change of Nearshore Random Waves in Response to Sea-level Rise." *Journal of Korean Society of Coastal*

- and Ocean Engineers* 25(4), 244-254 (in Korean).
5. Se-Hyeon Cheon, Kyungmo Ahn and Kyung-Duck Suh (2013). "Beach Sand Grain Size Analysis using Commercial Flat-bed Scanner." *Journal of Korean Society of Coastal and Ocean Engineers* 25(5), 301-310 (in Korean).
 6. Seung-Woo Kim, Se-Hyeon Cheon and Kyung-Duck Suh (2012). "Development of Time-Dependent Reliability-Based Design Method Based on Stochastic Process on Caisson Sliding of Vertical Breakwater." *Journal of Korean Society of Coastal and Ocean Engineers* 24(5), 305-318 (in Korean).
 7. Se-Hyeon Cheon and Kyungmo Ahn (2008). "Numerical Simulation of Beach Profile Changes." *Journal of Korean Society of Coastal and Ocean Engineers* 20(1), 101-109 (in Korean).
 8. Hyuck Min Kweon, Hyun Suck Park, Kyungmo Ahn and Se-Hyeon Cheon (2006). "Comparisons of the Expected Overtopping Probability along Korean Coast Utilizing by Reliability Analysis" *Journal of Korean Society of Civil Engineers* 21(4), 399-404 (in Korean).

International Conference Proceeding Papers:

1. Hamlington, B. D., Piecuch, C. G., Reager, J. T., Chandanpurkar, H., Frederikse, T., Nerem, R. S., ... & Cheon, S. H. (2020). Origin of interannual variability in global mean sea level. *Proceedings of the National Academy of Sciences*.
2. Cheon, S.-H. and Suh, K.-D. (2014). "Change of nearshore significant waves in response to sea level rise." *Proceedings of 34th International Conference on Coastal Engineering*, Seoul, Korea, (submitted).
3. Ahn, K.M., Chun, H., and Cheon, S.-H. (2014). "New calibration method applicable to significant wave heights obtained by x-band radar." *Proceedings of 34th International Conference on Coastal Engineering*, Seoul, Korea, (submitted).
4. Park, Y.-H., Edge, B.L., and Cheon, S.-H. (2014) "Accelerated beach erosion along the Upper Texas Coast" *Proceedings of 34th International Conference on Coastal Engineering*, Seoul, Korea, (preparing).
5. Suh, K.-D., Lee, T.-H., Cheon, S.-H., and Matsushita, H. (2014) "Stability Formula for Rakuna-IV Armoring a Rubble Mound Breakwater." *Proceedings of 24th International Ocean and Polar Engineering Conference, ISOPE*, Busan, Korea, CD-ROM, Vol. 3, pp. 970-977.

6. Ahn, K., Kim, S. K., & Cheon, S. H. (2012). "On the Probability Distribution of Freak Waves in Finite Water Depth" *Proceedings of 33th International Conference on Coastal Engineering*, Santander, Spain, Vol.1, 2748-2758.
7. Cheon, S.-H., Chun, J., and Ahn, K. (2007). "Performance of Beach Nourishment with Detached Submerged Breakwater" *Proceedings of PACON 2007*.

Korean Conference Proceeding Papers:

1. Se-hyeon Cheon, Kyung-Duck Suh, and Kyungmo Ahn (2014). Analysis of Sand Movement in Hu-Jeong Beach Using Empirical Orthogonal Functions. *Proceedings of 2014 Joint Conference of Korean Association of Ocean Science and Technology Societies*, USB, pp. 1385-1388 (in Korean).
2. Se-hyeon Cheon, Chul-Hwan Yoo, Anzy Lee, and Kyung-Duck Suh (2014). A Study of Wind and Wave Load Factors for Long-Span Bridge Based on the Reliability Design. *Proceedings of 2014 Joint Conference of Korean Association of Ocean Science and Technology Societies*, USB, pp. 1472-1475 (in Korean).
3. Jihee Oh, Se-hyeon Cheon and Kyung-Duck Suh (2014). "A Study of High Swell in the East Coast Using CSEOF Analysis." *Proceedings of 2014 Joint Conference of Korean Association of Ocean Science and Technology Societies*, USB, pp. 1479-1482 (in Korean).
4. Eun Jong Min, Se-hyeon Cheon, and Kyung-Duck Suh (2014). "Experimental study of stability coefficient of Tetrapod armor layer depending on placement methods." *Proceedings of 2014 Joint Conference of Korean Association of Ocean Science and Technology Societies*, USB, pp. 1487-1491 (in Korean).
5. Cheon, S. H., Ahn, K., & Suh, K. D. (2013). "Development of Beach Sand Grain Size Analysis Method Using Commercial Flat-bed Scanner" *Proceedings of Coastal and Ocean Engineering in Korea*, Vol. 21, pp. 124-127 (in Korean).
6. Cheon, S. H., Suh, K. D., & Ahn, K. (2013). "Short-term Beach Change Analysis at Hu-Jeong Beach Using Empirical Orthogonal Functions." *Proceedings of 39th Conference of Korean Society of Civil Engineers*, USB, pp. 558-562 (in Korean).
7. Cheon, S. H. & Suh, K. D. (2013). "Change of Nearshore Waves in Response to Sea-level Rise: Random waves." *Proceedings of 2013 Joint Conference of*

Korean Association of Ocean Science and Technology Societies, CD-ROM, pp. 1579-1582 (in Korean).

8. Ahn, K. & Cheon, S. H. (2010). "The swash mechanism for the generation and maintenance of the beach cusps." *Proceedings of Coastal and Ocean Engineering in Korea*, Vol. 19, pp. 109-112 (in Korean).
9. Ahn, K., Chun, J., Cheon, S. H., & Lee, J. Y. (2010). "Investigating the Cause of Beach Erosion by Using Longshore Sediment Transport Rate." *Proceedings of 37th Conference of Korean Society of Civil Engineers*, CD-ROM, pp. 544-547 (in Korean).
10. Ahn, K., Cheon, S. H., & Kim, S. (2009). "Probability Analysis on the Occurrences of Freak Waves." *Proceedings of Coastal and Ocean Engineering in Korea*, Vol. 18, pp. 33-36 (in Korean).
11. Cheon, S. & Ahn, K. (2008). "Analyzing Grain size of sand by using of normal flat type scanner." *Proceedings of 2008 Joint Conference of Korean Association of Ocean Science and Technology Societies*, CD-ROM, pp. 2504-2507 (in Korean).
12. Cheon, S., Chun, J., Lee, J., & Ahn, K. (2007). "The Calibration of x-band radar wave gage", *Proceedings of 2007 Joint Conference of Korean Association of Ocean Science and Technology Societies*, CD-ROM, pp. 2118-2121 (in Korean).
13. Cheon, S. & Ahn, K. (2005). "Numerical Simulation of Beach Profile Change." *Proceedings of 2005 Annual Conference of Korean Society of Civil Engineers*, CD-ROM, pp. 768-771 (in Korean).

▪ **PATENT (registered)**

(Registered no. 10-0985040), "Real-time method for monitoring long period wave", 2010.09.28.

(Registered no. 10-0950301), "Calibration Method of Significant Wave Height in Radar Type Wave Gauge System", 2010.03.23.

(Registered no. 10-0733977), "System for analyzing grain size of sand by using normal flat type scanner and personal computer", 2007.06.25.