

CURRICULUM VITAE
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Education

- 2010—2013 Department of Environmental Marine Sciences, Hanyang University, Korea (M.S.)
2008—2010 Department of Environmental Marine Sciences, Hanyang University, Korea (B.S.)

Research positions

- 2015—present Ph.D. candidate, Department of Marine Sciences and Convergent Technology,
Hanyang University, Korea
2013—2014 Researcher, Korea Institute of Oceans Science and Technology

Main research interests

- ◇ Iron–sulfur–phosphorus cycling in the coastal-marine sediments (rates and pathways of carbon oxidation e.g., Iron/Sulfate reduction)
 - Effects of bioturbation and plant roots on intertidal mud-flat biogeochemistry.
 - Artificial and environmental effects on the rates and pathways of carbon mineralization in the coastal ecosystems.

- ◇ Long-term variation of the coastal environments
 - The importance of benthic-pelagic coupling and the possibility of outwelling hypothesis.
 - Dynamic of bacterial carbon metabolism at the semi-enclosed bay influenced by tidal variation.

Publication list

- 13) **An S-U**, Cho H, Jung U-J, Kim B, Lee H, Hyun J-H (2019) Invasive *Spartina anglica* greatly alters the rates and pathways of organic carbon oxidation and associated microbial communities in an intertidal wetland of the Han River Estuary, Yellow Sea. *Frontiers in Marine Science*. (in revision) (IF: 3.086, 11.5% in Marine & Freshwater Biology).

- 12) Lee JS, Han JH, **An S-U**, Kim S-H, Lim D, Kim D, Kang D-J, Park Y-G (2019) Sedimentary organic carbon budget across the slope to the basin in the Southwestern Ulleung (Tsushima) Basin of the East (Japan) Sea. *JGR Biogeosciences*. 124(9):2804-2822. (IF: 3.621, 18.1% in Geosciences).

- 11) Kim B, **An S-U**, Kim T-H, Hyun J-H (2019) Uncoupling between Heterotrophic Bacteria and Phytoplankton and Changes in Trophic Balance Associated with Warming of Seawater in Gyeonggi Bay, Yellow Sea. *Estuaries and Coasts*. (<https://doi.org/10.1007/s12237-019-00606-1>) (IF: 2.686, 18.1% in Marine & Freshwater Biology).

- 10) Mok J-S, Kim S-H, Kim J, Cho H, **An S-U**, Choi A, Kim B, Yoon C, Thamdrup B, Hyun J-H (2019) Impacts of typhoon-induced heavy rainfalls and resultant freshwater runoff on the partitioning

of organic carbon oxidation and nutrient dynamics in the intertidal sediments of the Han River estuary, Yellow Sea. *Science of The Total Environment*. 691:858-867. (IF: 5.589, 10.6% in Environmental Sciences).

- 9) **An S-U**, Mok J-S, Kim S-H, Choi J-H, Hyun J-H (2019) A large artificial dyke greatly alters partitioning of sulfate and iron reduction and resultant phosphorus dynamics in sediments of the Yeongsan River estuary, Yellow Sea. *Science of The Total Environment*. 655:752-761. (IF: 5.589, 10.6% in Environmental Sciences).
- 8) Kim J-G, Gwak J-H, Jung M-Y, **An S-U**, Hyun J-H, Kang S, Rhee S-K (2019) Distinct temporal dynamics of planktonic archaeal and bacterial assemblages in the bays of the Yellow Sea. *PLoS ONE*. 14(8): e0221408. (IF: 2.776, 34.1% in Multidisciplinary Sciences).
- 7) Kim S-H, **An S-U**, Lee W-C, Lee JS, Hyun J-H (2019) Influence of Manila clam aquaculture on the partitioning of organic carbon oxidation coupled to sulfate and iron reduction in sediments of the Keunso Bay, Yellow Sea. *Aquaculture Environment Interactions*. (in revision) (IF: 2.380, 25.5% in Marine & Freshwater Biology).
- 6) Lee M-H, Jung H-J, Kim S-H, **An S-U**, Choi JH, Lee H-J, Huh I-A, Hur J (2017) Potential linkage between sediment oxygen demand and pore water chemistry in weir-impounded rivers. *Science of The Total Environment*. 619-620:1608-1617. (IF: 5.589, 10.6% in Environmental Sciences).
- 5) Lee JS, **An S-U**, Park Y-G, Kim E, Kim D, Kwon JN, Kang D-J, Noh J-H (2015) Rates of total oxygen uptake of sediments and benthic nutrient fluxes measured using an in situ autonomous benthic chamber in the sediment of the slope off the southwestern part of Ulleung Basin, East Sea. *Ocean Science Journal*. 50(3):581-588. (IF: 0.514, 91.7% in Oceanography).
- 4) Lee JS, Han JH, **An S-U**, Na T, Kwon JN, Kim E-S (2015) Sedimentary organic carbon budget of coastal sediments and the importance of benthic-pelagic coupling off Namhae Island in the South Sea of Korea. *Ocean Science Journal*. 49(4):433-447. (IF: 0.514, 91.7% in Oceanography).
- 3) Hyun J-H, Kim S-H, Mok J-S, Lee JS, **An S-U**, Lee W-C, Jung R-H (2013) Impacts of long-line aquaculture of Pacific oysters (*Crassostrea gigas*) on sulfate reduction and diffusive nutrient flux in the coastal sediments of Jinhae-Tongyeong, Korea. *Marine Pollution Bulletin*. 74: 187-198. (IF: 3.782, 4.17% in Marine & Freshwater Biology).
- 2) Lee JS, Kim E-S, **An S-U**, Kim J, Kim J-K, Khang S-H, Kang D-J (2013) Two-dimensional oxygen distribution in a surface sediment layer measured using an RGB color ratiometric oxygen planar optode. *Ocean and Polar Research*. 35(3): 229-237.
- 1) Kim B, Choi A, **An S-U**, Kim H-C, Jung R-H, Lee W-C, Hyun J-H (2011) Rates of sulfite reduction and iron reduction in the sediment associated with abalone aquaculture in the southern coastal waters of Korea. *Ocean and Polar Research*. 33(4): 435-445.

Manuscript in preparation to be submitted

- 3) Mok J-S, Choi A, Kim B, **An S-U**, Lee W-C, Kim J, Yoon C, Hyun J-H. Phosphorus dynamics associated with iron- and sulfate reduction in the sediment exposed to fish farming. (Submitted in *Marine Pollution Bulletin*).
- 2) Baek J-W, Choi A, **An S-U**, Kim HC, Lee W-C, Hyun J-H. Impact of finfish aquaculture on benthic

biogeochemistry in Tongyeong, Southern coast of Korea. (in preparation).

- 1) **An S-U**, Hyun J-H. *Spartina anglica* invasion changes sediment biogeochemistry associated with rates and pathways of anaerobic organic carbon oxidation following spatial and temporal variation in intertidal wetland of the Han River Estuary, Yellow sea. (in preparation).

Conference presentation

- 6) The Korean Society of Oceanography (2018) "Effects of invasive *Spartina anglica* on the partitioning of sulfate- and iron reduction in the intertidal sediments of the Han River estuary, Yellow Sea". Oral.
- 5) Aquatic Sciences Meeting (2017) "Impact of artificial dykes on the Fe-S-P cycles and benthic P release in the Yeongsan River Estuary, Yellow Sea". Poster.
- 4) The Korean Society of Oceanography (2016) "Rates of sulfate reduction and iron reduction in the sediment associated with manila clam (*Ruditapes philippinarum*) in the Seonjae Island, Gyeonggi Bay". Poster.
- 3) The Korean Society of Oceanography (2014) "Rates of sulfate reduction and iron reduction in the sediment in the Southern East sea". Poster.
- 2) The Korean Society of Oceanography (2012) "Effects of nutrient flux and primary production associated with iron and phosphate distribution in the sediments of Yeongsan River Estuary". Oral.
- 1) The Korean Society of Oceanography (2012) "Rates of sulfate reduction and iron reduction in the sediment associated with artificial dyke in the Yeongsan River". Poster.