Anzy Lee

Department of Civil and Environmental Engineering, Utah State University ◇ Logan, UT 84322
anzy.lee@usu.edu ◇ https://anzylee.github.io

EDUCATION

Purdue University *Aug 2016 - May 2020*
Ph.D in Civil Engineering
Dissertation: Riverbed Morphology, Hydrodynamics and Hyporheic Exchange Processes
Advisor: Prof. Antoine Aubeneau

Seoul National University, Republic of Korea *Mar 2014 - Feb 2016*
MS in Civil and Environmental Engineering
Thesis: Determination of Near-global Optimal Initial Weights of Artificial Neural Network Using Harmony Search Algorithm: Application to Breakwater Armor Stones
Advisor: Prof. Kyung-Duck Suh

Handong Global University, Republic of Korea *Mar 2010 - Feb 2014*
BS in Spatial Environment System Engineering

EMPLOYMENT

Postdoctoral Research Scientist Apr 2023 - Current
Prof. Belize Lane *Utah State University*

- Development of an extensible geospatial data model for representing river channel and floodplain morphological attributes

Postdoctoral Scholar Aug 2020 - Mar 2023
Prof. Belize Lane *Utah State University*

- Quantified the effects of geomorphological parameters on ecohydraulics and ecosystem functions

Visiting Scholar Aug 2020 - Current
Prof. Greg Pasternack *Land, Air, and Water Resources, University of California, Davis*

- Synthesized a river archetype model representing various geomorphological features observed in natural riverine systems

Research Assistant Aug 2016 - Jul 2020
Prof. Antoine Aubeneau *Lyles School of Civil Engineering, Purdue University*

- Numerical modeling of hyporheic exchange processes in fractal riverbed

SPONSORED RESEARCH

Postdoc Researcher Aug 2020 - Current

- Application of methods and models to support the development and implementation of policies for water quality control for cannabis cultivation, California State Water Resources Board, Division of Water Rights **[$3,000,000]**
- Novel Geospatial Architecture of Channel and Floodplain Morphological Attributes within the OWP Hydrofabrics, NOAA **[$1,500,000]**

PEER REVIEWED PUBLICATIONS

A. Lee, B. A. Lane, G. B. Pasternack. (2023) Identifying key channel variability functions controlling ecohydraulic conditions using synthetic channel archetypes. *Ecohydrology*, e2533. doi:10.1002/eco.2533

A. Lee, A. Aubeneau, M. B. Cardenas, X. Liu. (2022) Hyporheic exchange due to cobbles on sandy beds. *Water Resour. Res.* 58, e2021WR030164. doi:10.1029/2021WR030164

A. Lee, A. Aubeneau, M. B. Cardenas, X. Liu (2021) Hyporheic Exchange in Sand Dunes Under a Freely Deforming River Water Surface. *Water Resour. Res.* 57, e2020WR028817. doi:10.1029/2020WR028817

A. Lee, A. Aubeneau, M. B. Cardenas (2020) The Sensitivity of Hyporheic Exchange to Fractal Properties of Riverbeds. *Water Resour. Res.* 56, e2019WR026560. doi:10.1029/2019WR026560

S. W. Kim, **A. Lee**, J. Mun (2018) A Surrogate Modeling for Storm Surge Prediction Using an Artificial Neural Network. *J. of Coastal Res.* 84, 866-870. doi:10.2112/SI85-174.1

A. Lee, J. W. Geem, K. D. Suh (2016) Determination of near-global optimal initial weights of artificial neural network using harmony search algorithm: Application to breakwater armor stones. *Appl. Sci.* 6(6), 164. doi:10.3390/app6060164

A. Lee, S. E. Kim, K. D. Suh (2016) An easy way to use artificial neural network model for calculating stability number of rock armor. *Ocean Eng.* 127, 349-356. doi:10.1016/j.oceaneng.2016.10.013

SERVICE

Peer Reviewer, *Water Resources Research* 2020 - 2022
Peer Reviewer, *Journal of Hydrology* 2022
Peer Reviewer, *Journal of Hydraulic Engineering* 2022

CONFERENCE PROCEEDINGS

A. Lee, B. Lane and G. B. Pasternack (2022) Developing Archetypal River Corridor Terrain Models for Various Channel Types. AGU 2022 Fall Meeting, Dec 2022, Chicago, United States

A. Lee, B. Lane, G. B. Pasternack and S. Sandoval-Solis (2021) Identifying key geomorphic parameters characterizing eco-hydraulic responses of river channels using RiverBuilder, AGU 2021 Fall Meeting, Dec 2021, New Orleans, United States

A. Lee, M. B. Cardenas, A. Aubeneau (2018) Investigation of hyporheic exchange in channels with high Froude Number flows: the importance of free surface water elevation changes, AGU 2018 Fall Meeting, Dec 2018, Washington, D.C., United States

A. Aubeneau, **A. Lee** (2018) Aris method for (reactive) transient storage models, AGU 2018 Fall Meeting, Dec 2018, Washington, D.C., United States

A. Lee, A. Aubeneau (2017) 3D Numerical Modeling of Hyporheic Exchange Processes in Fractal Riverbed, AGU 2017 Fall Meeting, Dec 2017, New Orleans, United States

TEACHING AND MENTORING

Lab Instructor and Grader Fall 2019
Elementary Hydraulics Laboratory *Instructor. Prof. D. A. Lyn, Purdue University*

- Prepared the experimental procedures, set up the experimental apparatus, introduced the experiment, responded to student questions during the experiment, and graded student reports