# Anzy Lee

**Postdoctoral Research Scientist**
Department of Civil and Environmental Engineering, Utah State University ◇ Logan, UT 84322
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## 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, ***National Oceanic and Atmospheric Association*** **[$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