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 Scholar Aug 2020 - Current
Prof. Belize Lane *Utah State University*

- Quantify 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*

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

Research Assistant Aug 2016 - Jul 2019
Prof. Antoine Aubeneau *Lyles School of Civil Engineering, Purdue University*

- Conducted numerical modeling of hyporheic exchange processes in fractal riverbed

Visiting Scholar Feb 2019 - Apr 2019
Prof. Xiaofeng Liu *Civil and Environmental Engineering, Penn State University*

- Developed boulder-driven hyporheic exchange model

Visiting Scholar Jan 2018 - Jan 2019
Prof. M. Bayani Cardenas *Jackson School of Geosciences, The University of Texas at Austin*

- Investigated hyporheic exchange in channels with high Froude Number flows: the importance of free surface water elevation changes

AWARDS AND EXTRACURRICULAR EXPERIENCE

Dorothy Faye Dunn Fellowship, *Purdue University* 2019
Climate Science Summer School, *NASA JPL Center for Climate Sciences* 2018
Delleur Award, *Purdue University* 2017, 2018
Summer Institute on Earth-Surface Dynamics, *National Center for Earth-surface Dynamics* 2017
Peer Reviewer, *The journal Engineering Optimization* 2015

SPONSORED RESEARCH

California State Water Resources Board Aug 2020 - Current

Application of Methodologies and Models to Support the Development and Implementation of Policies for Water Quality Control for Cannabis Cultivation Activities

Purdue Research Foundation 2016 - 2019

PEER REVIEWED PUBLICATIONS

A. Lee, B. A. Lane, G. B. Pasternack. Identifying key channel variability functions controlling ecohydraulic conditions using synthetic channel archetypes (Submitted)

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, 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