

# Anzy Lee

Department of Civil and Environmental Engineering, Utah State University ♦ Logan, UT 84322  
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## EDUCATION

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### **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

## RESEARCH EXPERIENCE

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### **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

## JOURNAL ARTICLES

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**A. Lee**, B. A. Lane, G. B. Pasternack, S. Sandoval-Solis. Identifying key geomorphic parameters characterizing ecohydraulic responses of river channels (In preparation)

**A. Lee**, A. Aubeneau, M. B. Cardenas, X. Liu. Hyporheic exchange due to rocks on sandy beds (Under review)

**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](https://doi.org/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](https://doi.org/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/S185-174.1](https://doi.org/10.2112/S185-174.1)
- 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](https://doi.org/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](https://doi.org/10.1016/j.oceaneng.2016.10.013)

## CONFERENCE PROCEEDINGS

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- 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

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| <b>Lab Instructor and Grader</b> | Fall 2019   |
| Elementary Hydraulics Laboratory | <i>Instructor. Prof. D. A. Lyn, Purdue University</i> |
- Prepared the experimental procedures, set up the experimental apparatus, introduced the experiment, responded to student questions during the experiment, and graded student reports

## AWARDS, SERVICE AND EXTRACURRICULAR EXPERIENCE

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