David Litwin
Johns Hopkins University
Department of Environmental Health and Engineering
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Research Interests

Catchment hydrology, groundwater, landscape evolution.

Education

Ph.D., Geography and Environmental Engineering 2018-present
Johns Hopkins University, Baltimore, MD

B.S., Civil Engineering, *University Honors* 2013-2018
University of Illinois at Urbana-Champaign, Urbana, IL

B.M., Instrumental Music Performance 2013-2018
University of Illinois at Urbana-Champaign, Urbana, IL

Research Experience

Doctoral Research 2018-present
Johns Hopkins University

INSTAAR research associate 2019
University of Colorado Boulder

NSF-REU: Earth Systems Research for Environmental Solutions 2017
Biosphere 2, University of Arizona

REU: National Great Rivers Research and Education Center 2016
NGRREC and University of Illinois at Urbana-Champaign

Teaching Experience

500.113 Gateway Computing: Python Lead Course Assistant 2021
Johns Hopkins University
- Weekly office hours
- Three-times weekly course assistance
- Grading

570.353 Hydrology Teaching Assistant 2018, 2020
Johns Hopkins University
- Weekly office hours
- Three lectures and associated course materials

Awards and Fellowships

Horton Research Grant 2019-2020
American Geophysical Union, $10,000

M. Gordon Wolman Fellowship 2018-2019
Johns Hopkins University

Lee and Albert H. Halff Doctoral Student Award 2018-2019

Johns Hopkins University, $3000

Annual Meeting Attendance Scholarship 2019
Community Surface Dynamics Modeling System

Melih T. Dural Undergraduate Research Prize 2018
University of Illinois, $625

Engineering Achievement Scholarship 2017
University of Illinois, $1000

Vernon Lucy III/SUEZ Scholarship 2017
American Water Works Association, $5000

Clean Drinking Water Scholarship 2017
Illinois Water Environment Association, $1000

Safe Water Scholarship 2017
Illinois Section American Water Works Association, $1500

Edward Krolick Music Performance Scholarship 2013-2017
University of Illinois

Publications

Litwin, D. G., Tucker, G. E., Barnhart, K. R., & Harman, C. J. (2021). Groundwater affects the geomorphic and hydrologic properties of coevolved landscapes. *Journal of Geophysical Research: Earth Surface*, *in press*. https://doi.org/10.1029/2021JF006239

Litwin, D., Tucker, G., Barnhart, K., & Harman, C. (2020). GroundwaterDupuitPercolator: A Landlab component for groundwater flow. *Journal of Open Source Software*, *5*(46), 1935. https://doi.org/10.21105/joss.01935

Conference Presentations and posters

*Presenting author

Litwin, D. G.*, Tucker, G. E., Barnhart, K. R., & Harman, C. J. (2021), EP45G-1574: The Hydrogeomorphic Evolution of Variable Source Areas. Poster. *American Geophysical Union Fall Meeting.*

Sklar, L. S.*, Callahan, R. P., Carr, B., Chiaviello, A., Cist, N., Davis, E., Flinchum, B., Harman, C. J., Hayes, J. L., Holbrook, H., **Litwin, D.,** Moon, S., Neely, A., Plante, Z., Richter Jr, D. B., Riebe, C. S., Singha, K., Weinheimer, N. (2021) EP45G-1573: Variation in Hillslope Sediment Size Controlled by Differences in Subsurface Weathering in a Transient Piedmont Landscape, South Carolina, USA. Poster. *American Geophysical Union Fall Meeting.*

Harman, C. J.*, Bemis, S. P., Callahan, R. P., Carr, B., Eppinger, B., Flinchum, B., Hayes, J. L., Holbrook, H., **Litwin, D.,** Moon, S., Riebe, C. S., Singha, Sklar, L. S., (2021), H41B-06: Panola Mountain revisited: intensive geophysical and geochemical studies reveal the structure of the deep critical zone at a classic hydrologic study site. Oral. *American Geophysical Union Fall Meeting.*

Litwin, D.,* C. J. Harman, Tucker, G.E., Barnhart, K. R., (2021), EGU21-5863: A hydrogeomorphic perspective on emergent topographic properties at landscape equilibrium. vPICO. *European Geosciences Union General Assembly.*

Litwin, D.,* C. J. Harman, Tucker, G.E., Barnhart, K. R., (2020), EP040-03: Groundwater affects geomorphic and hydrologic properties of coevolved landscapes. Oral. *American Geophysical Union Fall Meeting.*

Litwin, D.,* C. J. Harman, Tucker, G.E., Barnhart, K. R., (2019), H31O-1954: A Numerical Exploration of Coevolution Between Runoff Pathways, Climate, and Landscape Morphology. Poster. *American Geophysical Union Fall Meeting.*

Litwin, D.,* C. J. Harman, T. Zaki, (2019): Implicit-spectral solution for a simple landscape evolution modelitwinl. Poster. *Community Surface Dynamics Modeling System Annual Meeting.*

Litwin, D.,* A. Meira Neto, P. A. Troch, (2018), H23N-2153: Scaling of flow quantiles and mean catchment fluxes and storage provides empirical formulation of the flow duration curve. Poster. *American Geophysical Union Fall Meeting.*

Litwin, D.,* A. Meira Neto, P. A. Troch, (2017), 304919: Evaluating the effectiveness of ERT for assessing subsurface structure at the landscape evolution observatory. Poster. *Geological Society of America Annual Meeting.*

Litwin, D., A. Meira Neto,* P. A. Troch, (2017), B43A-1548: An electrical resistivity-based method for investigation of subsurface structure. Poster. *American Geophysical Union Fall Meeting.*

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Department Presentations

Litwin, D.,* (2019), A comparison of landscape form and hydrological response in headwater catchments. Oral. Environmental Engineering and Sciences Seminar Series. Johns Hopkins University.

Litwin, D.,* (2020), Exploring coevolution of catchment hydrology and geomorphology using Landlab. Oral. Environmental Engineering and Sciences Online Seminar Series. Johns Hopkins University.

Litwin, D.,* (2021), Groundwater affects geomorphic and hydrologic properties of coevolved landscapes. Oral. Environmental Health and Engineering Student Seminar. Johns Hopkins University.

Invited Presentations

Litwin, D.,* (2021), The coevolution of landscape morphology and shallow groundwater. Oral. Center for Environmental and Applied Fluid Mechanics Seminar Series. Johns Hopkins University

Service

Committee member. Hydrological sciences student subcommittee (H3S). American Geophysical Union.	2020-present
Department Representative. Graduate Representative Organization. Johns Hopkins University.	2019-present
Whiting School Representative. Environmental Health and Engineering Student Organization. Johns Hopkins University.	2019-2020
Invited panelist. Virtual Forum: Transitioning to Online Education, Graduate Student Panel. Consortium of Universities for the Advancement of Hydrologic Science.	May 15, 2020

Professional societies

American Geophysical Union	2017-present
Geological Society of America	2017-present