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Publications (peer-reviewed)

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"*" Denotes student advisee

Shin H, W Kim, H Lee, **JPL Johnson**, C Paola, in press, Fossilized autogenic responses of grain-size transition to sediment supply and water discharge: Alluvial fan experiments, Accepted 12/3/2023, *Sedimentology*.

Anderson S, N Gasparini, **JPL Johnson** (2023), Building a bimodal landscape: bedrock lithology and bed thickness controls on the morphology of Last Chance Canyon, New Mexico, USA, *Earth Surf. Dynam.*, 11, 995–1011, <https://doi.org/10.5194/esurf-11-995-2023>

Li W; M Saletti; MA Hassan, **JPL Johnson**; J Carr; C Chui; K Yang, (2023), The influence of coarse particle abundance and spatial distribution on sediment transport and cluster evolution in steep channels under sediment-starved conditions, *Catena*, 229, 107199, <https://doi.org/10.1016/j.catena.2023.107199>

Halfi, E., Thappeta, S. K., **Johnson, J. P. L.**, Reid, I., & Laronne, J. B. (2023). Transient bedload transport during flashflood bores in a desert gravel-bed channel. *Water Resources Research*, 59, e2022WR033754. <https://doi.org/10.1029/2022WR033754>

Thappeta SK, **JPL Johnson**, E Halfi, Y Storz-Peretz, JB Laronne (2023), Bed Shear Stress in Experimental Flash Flood Bores over Dry Beds and Over Flowing Water: A Comparison of Methods. *Journal of Hydraulic Engineering*, <https://doi.org/10.1061/JHEND8.HYENG-13029>

*Southard, PJ, **JPL Johnson**, DM Rempe, AM Matheny (2022), Impacts of vegetation on dryland river morphology: Insights from spring-fed channel reaches, Henry Mountains, Utah. *Water Resources Research*, 58, e2021WR031701. <https://doi.org/10.1029/2021WR031701>

Whipple, K. X., DiBiase, R. A., Crosby, B., & **Johnson, J. P. L.** (2021). Bedrock Rivers. *Reference Module in Earth Systems and Environmental Sciences*, Elsevier, <https://doi.org/10.1016/B978-0-12-818234-5.00101-2>

*Pretzlav, K. L. G., Johnson, J. P. L., & Bradley, D. N. (2021). Smartrock transport from seconds to seasons: Shear stress controls on gravel diffusion inferred from hop and rest scaling. *Geophysical Research Letters*, 48, e2020GL091991. <https://doi.org/10.1029/2020GL091991>

*Pretzlav, K. L. G., **Johnson, J. P. L.**, & Bradley, D. N. (2020). Smartrock transport in a mountain stream: Bedload hysteresis and changing thresholds of motion. *Water Resources Research*, 56, e2020WR028150. <https://doi.org/10.1029/2020WR028150>

Hassan, M. A., Saletti, M., **Johnson, J. P. L.**, Ferrer-Boix, C., Venditti, J. G., & Church, M. (2020). Experimental insights into the threshold of motion in alluvial channels: Sediment supply and streambed state. *Journal of Geophysical Research: Earth Surface*, 125, e2020JF005736. <https://doi.org/10.1029/2020JF005736>

Hassan MA, M Saletti, C Zhang, C Ferrer-Boix, **JPL Johnson**, T Muller, C vanFlotow (2019), Co-evolution of coarse grain structuring and bed roughness in response to episodic sediment supply in an experimental aggrading channel, *Earth Surface Processes and Landforms*, doi:10.1002/esp.4788

Gimbert F, BM Fuller, MP Lamb, VC Tsai, **JPL Johnson** (2018), Particle transport mechanisms and induced seismic noise in steep flume experiments with accelerometer-embedded tracers, *Earth Surface Processes and Landforms*, doi:10.1002/esp.4495

*Murphy BP, **JPL Johnson**, NM Gasparini, GS Hancock, EE Small (2018), Weathering and abrasion of

bedrock streambed topography, *Geology*, 46 (5): 459-462, <https://doi.org/10.1130/G40186.1>

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Han J, NM Gasparini, **JPL Johnson** (2015), Measuring the imprint of orographic rainfall gradients on the morphology of steady-state numerical fluvial landscapes, *Earth Surf. Process. Landforms*, 40, 1334-1350. doi: 10.1002/esp.3723.

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Johnson, JPL, KX Whipple (2010), Evaluating the controls of shear stress, sediment supply, alluvial cover and channel morphology on experimental bedrock incision rate, *J. Geophys. Res.*, 115, F02018, doi:10.1029/2009JF001335.

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Johnson JP, JP Grotzinger (2006). Affect of Sedimentation on Stromatolite Reef Growth and Morphology, Ediacaran Omkyk Member (Nama Group), Namibia. *South African Journal of Geology*, 109: 87-96. doi:10.2113/gssajg.109.1-2.87

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Manuscripts in review

Hodge RA, HE Voepel, EM Yager, J Leyland, **JPL Johnson**, DA Sear, S. Ahmed, in review, Improving predictions of critical shear stress in gravel bed rivers: identifying the onset of sediment transport and quantifying sediment structure, submitted to ESPL 5/30/2023, manuscript ID ESP-23-0233.

Yager EM, J Shim, R Hodge, A Monsalve, D Tonina, **JPL Johnson**, in review, Pro+: Automated protrusion and critical shear stress estimates from 3D point clouds of gravel beds, submitted to ESPL 5/30/2023, manuscript ID ESP-23-0235.

Guryan, G., **JPL Johnson**, N Gasparini, in review. Sediment cover modulates landscape erosion patterns and channel steepness in layered rocks: insights from the SPACE Model. Manuscript submitted 10/28/2023 to Journal of Geophysical Research Earth Surface

Book Chapter (peer-reviewed)

Loope DB, RJ Goble, **JPL Johnson** (2014), Prelude to seven slots—filling and subsequent modification of seven broad canyons in the Navajo Sandstone, south-central Utah, in MacLean, J.S., Biek, R.F., and Huntoon, J.E., editors, *Geology of Utah's Far South*: Utah Geological Association Publication 43, p. 11–24.

Published Data Set (not peer reviewed)

Hsu L, WE Dietrich, LS Sklar, **JPL Johnson** (2014), Debris-flow flume video clips. Figshare. <http://dx.doi.org/10.6084/m9.figshare.978686>