HIMA HASSENRUCK-GUDIPATI

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Department of Earth and Environmental Sciences ◇ University of Minnesota, Twin Cities
150 Tate Hall, Campus Code: 0332A

EDUCATION

The University of Texas at Austin 2015 - 2021
Ph.D., Geoscience
Thesis: Understanding Fluvial Topography:
Morphodynamic Processes That Build River Levees and Cut Terraces
Advisor: David Mohrig

California Institute of Technology 2010 - 2014
Bachelor of Science, Mechanical Engineering
Geology and Planetary Science Minor
Advisors: Michael Lamb and Vamsi Ganti

PROFESSIONAL POSITIONS

Postdoctoral Researcher, University of Minnesota — September 2023 - present
President's Postdoctoral Fellow, University of Minnesota — September 2021 - 2023
includes $10,000/year research funds

HONORS AND AWARDS

Jackson School of Geoscience Graduate Student Service Award	April 2017, 2021
University of Texas at Austin Graduate School Summer Fellowship	May - August, 2019, 2020
P.E.O. Scholar Award ($15,000)	August 2019 - May 2020
AGU Outstanding Student Presentation Award	Fall 2018
NSF Graduate Research Fellowship ($96,000 over three years)	August 2015 - May 2019
Thomas J. Watson Fellowship ($30,000)	July 2014 - June 2015
AGU David E. Lumley Young Scientist Scholar	October 2013
Jackson School of Geoscience Recruiting Fellowship	August 2015 - August 2016
M. P. and D. C. Daily / Dr. G. R. Rossman SURF Fellow, Caltech	June - September 2012, 2013

PUBLICATIONS

ORCID ID: 0000-0003-3885-7387
Google Scholar Profile
○ indicates UT undergrad advisee

12. Nix, M.°, **Hassenruck-Gudipati, H.J.**, Swartz, J., Sylvester, Z., Mohrig, D., (in prep). Controls on the sedimentation and morphology of an oxbow lake.

11. Ng, G.-H. C., Nyblade, M., Matson, L., Davenport, M., Bellcourt, M., Dockry, M., Larkin, D.J., Santelli, C.M., Panek, B., Green, E., **Hassenruck-Gudipati, H.J.**, King H.J., Stokes, S., Tran, J., Voss, P.R., White, S., Bloomquist, J., Bunting, P., Chapman, E., Croll, R., Diver, K., Graveen, J., Hedin, K., Howes, T., Johnson, J., Kesner, S., Montano, N.M.m Northbird, M., Schuldt, N., Shimek, R., Smith, K., Vogt, D., Dalbotten, D., Myrbo, Schmitter, R., Torres, S., Torgeson, J.M., Volkers, J., Waheed, A., Bartlett, A., Berthelote, A., Colvin, J., Cooks, K., Howard, S., McLemore, C., Mull, B., Tallas, N., White, L., (submitted). The Journey to First Consider Manoomin/Psiη: Forming a Tribal-University Collaboration to Study and Learn from Wild Rice.

10. **Hassenruck-Gudipati, H.J.**, Andermann, C., Dee, S., Brunello, C. F., Baidya, K. P., Sachse, D., Meyer, H., Hovius, N. (2023). Moisture Sources and Pathways Determine Stable Isotope Signature of Himalayan Waters in Nepal. *AGU Advances*, 4(1), e2022AV000735. https://doi.org/10.1029/2022AV000735.
9. **Hassenruck-Gudipati, H.J.**, Ellis, T.°, Goudge, T.A., Mohrig, D., (2022). A multi-proxy assessment of terrace formation in the lower Trinity River Valley, Texas. *Earth Surface Dynamics*, 10, 635-651. https://doi.org/10.5194/esurf-10-635-2022
8. **Hassenruck-Gudipati, H.J.**, Passalacqua,P., Mohrig, D., (2022). Natural Levees Increase in Prevalence in the Backwater Zone: Coastal Trinity River, Texas, USA *Geology*. https://doi.org/10.1130/G50011.1
7. Tull, N., Passalacqua, P., **Hassenruck-Gudipati, H.J.**, Rahman, S., Wright, K., Hariharan, J., Mohrig, D. (2022). Bidirectional river-floodplain connectivity during combined pluvial-fluvial events. *Water Resources Research*, 58, e2021WR030492. https://doi.org/10.1029/2021WR030492
6. Bufe, A., Hovius, N., Emberson R., Rugenstein J.K.C., Galy, A., **Hassenruck-Gudipati, H.J.**, Chang, J-M. (2021). Co-variation of silicate, carbonate, and sulfide weathering drives CO_2 release with erosion. *Nature Geoscience*, 14, 211–216. https://doi.org/10.1038/s41561-021-00714-3
5. van der Veen, I., Peterse, F., Davenport, J., Meese, B., Bookhagen, B., France-Lanord, C., Kahmen, A., **Hassenruck-Gudipati, H.J.**,Gajurel, A., Strecker, M.R., Sachse, D., (2020). Validation and calibration of soil δ^2H and brGDGTs along (E-W) and strike (N-S) of the Himalayan climatic gradient. *Geochimica et Cosmochimica Acta*. https://doi.org/10.1016/j.gca.2020.09.014
4. Kocurek, G., Martindale, R.C., Day, M., Goudge, T.A., Kerans, C., **Hassenruck-Gudipati, H.J.**, Mason, J., Cardenas, B.T., Petersen, E.I., Mohrig, D. and Aylward, D.S., 2018. Antecedent aeolian dune topographic control on carbonate and evaporite facies: Middle Jurassic Todilto Member, Wanakah Formation, Ghost Ranch, New Mexico, USA. *Sedimentology*, https://doi.org/10.1111/sed.12518
3. Chen, C., Guerit, L., Foreman, B.Z., **Hassenruck-Gudipati, H.J.**, Adatte, T., Honegger, L., Perret, M., Sluijs, A. and Castelltort, S., 2018. Estimating regional flood discharge during Palaeocene-Eocene global warming. *Scientific reports*, 8(1), p.13391 https://doi.org/10.1038/s41598-018-31076-3.
2. Ganti, V., Chadwick, A.J., **Hassenruck-Gudipati, H.J.**, Lamb, M.P., 2016. Avulsion cycles and their stratigraphic signature on an experimental backwater-controlled delta. *Journal of Geophysical Research: Earth Surface*,121,1651?1675, https://doi.org/10.1002/2016JF003915
1. Ganti, V., Chadwick, A.J., **Hassenruck-Gudipati, H.J**., Fuller, B.M., Lamb, M.P., 2016. Experimental river delta size set by multiple floods and backwater hydrodynamics, *Science Advances*, 2, no. 5, e1501768, https://doi.org/10.1126/sciadv.1501768.

RESEARCH GRANTS

Off Campus Research Funding, Jackson School of Geoscience ($2,070)	February 2019
Robert K. Fahnestock Award, Council of the Geological Society of America	April 2017
Best proposal in sediment transport or fluvial geomorphology ($1,930)	
Off Campus Research Funding, Jackson School of Geoscience ($1,150)	February 2017

TEACHING EXPERIENCE

Guest Lecture GEO 491: Intro Remote Sensing: Lidar and change detection	April 2020
Teaching Assistant GEO 416M: Sedimentary Rocks	Fall Semester 2019
UT Austin Faculty Innovation Center Basic Teaching Preparation Certificate	Spring Semester 2019
Guest Lecture GEO 391: Morphodynamics: The effect of sea level on low-sloping rivers	March 2017
Teaching Assistant Ge11b: Earth and the Biosphere, Caltech	Winter Term 2014
Teaching Assistant Biology 1: Principles of Biology, Caltech	Spring Term 2014, 2012

MENTORING EXPERIENCE

Saheli Patel, Carlton College, Sedimentation in human-influenced landscape evolution	Summer 2023

Brady Bettin, Environmental factors affecting lake sedimentation — Winter 2022 - Summer 2023
Matthew Nix, UT Austin, Oxbow lake formation, Trinity River, TX — Spring 2018 - 2019
Arisa Ruangsirikulchai, UT Austin, Return-flow channels, San Jose Island, TX — Spring 2018 - 2019
Thaddeus Ellis, UT Austin, Terrace formation, Trinity River, TX — Spring 2016 - 2017

INVITED TALKS

2022: AGU Fall Meeting. Hassenruck-Gudipati H.J., Tull, N., Passalacqua, P., Mohrig, D., Sandy levees are shaped by bedload transport and sediment availability, Abstract EP52A-04

2021: AGU Fall Meeting. Hassenruck-Gudipati H.J., Mohrig, D., Tull, N., Passalacqua, P., Sediment supply and drainage pathways for floodplain deposits, Abstract EP53A-01

2021: University of Minnesota, Department of Earth and Environmental Sciences Department Seminar

2020: AGU Fall Meeting. Hassenruck-Gudipati H.J., Mohrig, D., Reach-scale controls on local deposition: modeling river natural levees as internal deltas, Abstract EP015-09

LEADERSHIP

Workshop leader, Earth Science Policy for Respecting Tribal Sovereignty, 5th Geoscience Alliance — July 2022
Discussion development and facilitator, Pardee Symposium, Next Generation of Geoscience Leaders: Strategies for Excellence in Diversity and Inclusion (GSA) — October 2020
Student Leadership Committee, Geoscience Empowerment Network — 2018, 2020 - 2021
Student committee member, Earth and Planetary Surface Processes Section, American Geophysical Union (AGU) — January 2019 - 2021
Student-Faculty Liaison, Jackson School of Geosciences — September 2016 - May 2017

PROFESSIONAL SERVICE AND OUTREACH

Asian American Pacific Islander in Geosciences mentor — March 2022 - present
Confronting Colonization Working Group, UMN Earth & Environmental Sciences — Jan 2022 - present
Environmental Justice Summit, UMN Earth & Environmental Sciences — November 2021, April 2023
Session convener, AGU Fall Meeting — 2017, 2018, 2020
Workshop Becoming an Inclusive Geoscience Leader (National Association of Geoscience Teachers) — Fall 2020
UT Austin JSG Science Y'all! blog editor — Summer 2018 - Spring 2021
ESI Scientist in Residence at Laurel Mountain Elementary School — January 2017 - May 2017

PROFESSIONAL EXPERIENCES

CSDMS Earth Surface Processes Institute (Python, Github) — August 12-19, 2020
Big Data and Machine Learning Series (Texas Advanced Computing Center; Python) — Spring 2019
Advancing the Analysis of High Resolution Topography (EarthCube RCN Workshop) — Summer 2018
Mathematical Modeling of Earth's Dynamic Systems (Penn State; Matlab) — Summer 2016
Lab Researcher: Dynamics in Low-Sloping River Deltas, Caltech — June 2013 - June 2014
Research: Percussive Scoop Sampling in Extreme Terrain, Caltech — June 2012 - September 2012

SELECTED PRESENTATIONS

◦ indicates UT undergrad advisee

Hassenruck-Gudipati, H.J., Graveen, J., Brady, K., Shapley, M., Wickert, A.D., Ng, G.H., (2022), Environmental and anthropogenic impacts on lacustrine sedimentation and Manoomin/Psiη (wild rice) ecosystems, Abstract EP25B-1405 presented at 2022 Fall Meeting, AGU, Chicago 12-16 Dec.

Ng, G. H., Nyblade, M., McDonald, J., Runkel, A., Francis, S., **Hassenruck-Gudipati, H.**, (2022), Geologic Mapping and Indigenous Land Dispossession in present-day Minnesota, Abstract SY46A-02 presented at 2022 Fall Meeting, AGU, Chicago 12-16 Dec.

Jones, J., Nyblade, M., Cantner, K., Boerigter, C.E., **Hassenruck-Gudipati, H.** and Patsis, A., (2022), "It was a rare opportunity to pick the professor brain:" Relationship building as the foundation for community-university partnerships at the University of Minnesota. Abstract SY12C-0396 at 2022 Fall Meeting, AGU, Chicago 12-16 Dec.

Hassenruck-Gudipati H.J., Passalacqua, P.,Mason, J., Mohrig, D.,(2019), Discrepancy between estimated sediment delivery to floodplains and measured deposition on natural levees of the Trinity River, Texas, USA, Abstract U12C-19 presented at 2019 Fall Meeting, AGU, San Francisco, 9-13 Dec.

Hassenruck-Gudipati H.J., Mason, J., Passalacqua, P., Mohrig, D.,(2019), Connecting levee deposition to suspended-sediment concentration along a 90km river reach, presented at River, Coastal, Estuarine Morphodynamics Sumposium 2019, Auckland, 16-21 Nov.

Mohrig, D., Ruangsirikulchai, A.°,Wilson, K.,**Hassenruck-Gudipati H.J.**,(2019), Processes and Properties of Return-Flow Channels Cut Into San Jose Island During Hurricane Harvey, Texas, USA, August 2017, presented at River, Coastal, Estuarine Morphodynamics Sumposium 2019, Auckland, 16-21 Nov.

Hassenruck-Gudipati H.J., Mason, J., Passalacqua, P., Mohrig, D.,(2018) Comparing stratigraphic observations from natural levees to levee growth defined by time-lapse lidar on the Trinity River, Texas, USA, Abstract EP33C-2434 presented at 2018 Fall Meeting, AGU, Washington D.C., 10-14 Dec.

Nix, M.B.°, **Hassenruck-Gudipati H.J.**, Swartz, J.M., Mason, J., Sylvester, Z., Mohrig, D.C.,(2018), Controls on the sedimentation and morphology of an oxbow lake along the Trinity River, Texas, USA, Abstract EP21D-2290 presented at 2018 Fall Meeting, AGU, Washington D.C., 10-14 Dec.

Hassenruck-Gudipati H.J., Andermann C., Hovius N., Sachse D., Meyer H., Dee S., (2018), Deciphering River Water Source Contributions from Seasonal Moisture Pathways and Latitudinal Stable Isotope Signatures Across the Central Himalayas, Abstracts 963, Goldschmidt, Boston, 12-17 Aug.

Hassenruck-Gudipati H.J., Mohrig, D., Passalacqua, P., Wright, K., (2017), Delta-like deposition at the distal part of a natural levee: How is sand transported on natural levees?, Abstract EP33B-1925 presented at 2017 Fall Meeting, AGU, New Orleans., 11-15 Dec.

Hassenruck-Gudipati H.J., Goudge, T.A., Mohrig, D., (2017), Inundation and draining of the Trinity River floodplain associated with extreme precipitation from Hurricane Harvey, east Texas, USA, Abstract NH23E-2810 presented at 2017 Fall Meeting, AGU, New Orleans, 11-15 Dec.

Ellis, T.°, **Hassenruck-Gudipati H.J.**, Mohrig, D., Goudge, T.A., (2017), Investigating the Relationship of Late Pleistocene Terrace Formation and Channel Dynamics within the Texas Gulf Coastal Plain, Abstract EP13B-1037 presented at 2017 Fall Meeting, AGU, New Orleans, 11-15 Dec.

Hassenruck-Gudipati H.J., Mohrig, D., Passalacqua, P., (2017), Characterizing natural levee morphology for a sand-bed coastal river, Abstract 202-4, 2017 Annual Meeting, GSA, Seattle, 22-25 Oct.

Hassenruck-Gudipati H.J., Mohrig, D., Passalacqua, P., Mason, J., (2016), Time-Lapse Lidar Characterization of Fluvial Levees with Implications to Levee Growth Controls, Abstract EP13B-1034 2016 Fall Meeting, AGU, San Francisco, Calif., 12-16 Dec.

Chadwick, A.J., Lamb, M.P., Ganti, V., **Hassenruck-Gudipati H.J.**, (2015), The Role of Backwater Hydraulics in Mediating Avulsion Location, Channel Migration Rate, and Delta Shoreline Rugosity, Abstract EP14A-03 presented at 2015 Fall Meeting, AGU, San Francisco, Calif., 14-18 Dec.

Chen, C., Castelltort, S., Foreman, B., **Hassenruck-Gudipati H.J.** (2015, April). Fluvial system response to abrupt climate change: sedimentary record example of the Paleocene-Eocene Thermal Maximum (PETM) in the South-Pyrenean foreland basin, Spain. In EGU General Assembly Conference Abstracts (Vol. 17, p. 1143).

Ganti, V.,**Hassenruck-Gudipati H.J.**, Chadwick, A.J., Lamb, M.P., (2014), Mechanics of Backwater-Mediated Avulsions on River Deltas, Abstract EP43D-05 presented at 2014 Fall Meeting, AGU, San Francisco, Calif., 15-19 Dec.

Hassenruck-Gudipati H.J., Ganti, V., Fuller, B., Lamb, M.P., (2013), Experimental Investigation of the Interplay between Backwater Hydrodynamics and Delta Evolution, Abstract EP31A-0827 presented at 2013 Fall Meeting, AGU, San Francisco, Calif., 9-13 Dec.

Ganti, V., Chu, Z., **Hassenruck-Gudipati H.J.**, Lamb, M. P. (2013). Slope-mediated and Deltaic Avulsions on the Huanghe River, China, presented at 2013 Fall Meeting, AGU, San Francisco, Calif., 9-13 Dec.

PROFESSIONAL ORGANIZATIONS

The Geological Society of America, member	January 2016 - present
American Geological Union, member	July 2013 - present