

Jeffery Michael Valenza

CURRICULUM VITAE

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Appointments

NSF Postdoctoral Fellow - University of California, Santa Barbara **2021-2023**
Project Title: EAR-PF: Unraveling Fluvial Kinematics before the Rise of Land Plants:
Bridging Laboratory and Geologic Scales
Hosted by UCSB Department of Geography, advised by Dr. Vamsi Ganti
August 2021-Present
Visiting Scholar at Imperial College London, advised by Dr. Alex Whittaker
April 2022-July 2022

Education

Ph.D. **Indiana University**, Department of Earth and Atmospheric Sciences **2021**
Dissertation: Controls on Avulsion Style and Stratigraphy in Foreland Basins
Minor: Geography- remote sensing emphasis
Advisor: Dr. Douglas Edmonds Minor Advisor: Dr. Taehee Hwang GPA: 3.7

M.Sc. **Brigham Young University**, Department of Geological Sciences **2016**
Thesis: Redbeds of the Upper Entrada Sandstone, Central Utah: Facies
Analysis and Regional Implications for Interfingering Sabkha and Dryland
Fluvial Sediments GPA: 3.7
Advisor: Dr. Thomas Morris

B.Sc. **Brigham Young University**, Department of Geological Sciences **2014**
GPA: 3.8

Grants, Awards, and Fellowships

NSF EAR-Postdoctoral Fellowship (see research statement) **2021-2023**
Dissertation Year Fellowship, IU College of Arts and Sciences **2020-2021**
Post-graduate Research Grant, Int'l Assoc. of Sedimentologists **2020**
GSA Student Research Grant **2018**
Chevron Fellowship, Indiana University **2016-2017**
Dept. of Geological Sciences Graduate Tuition Scholarships **2014-2016**
BYU Office of Research & Creative Activities (ORCA) Grant **2014**
Best in Section, BYU CPMS Spring Research Conference **2013**
Dept. of Geological Sciences J Keith Rigby Scholarship **2010-2011**

Journal Articles

Valenza, J.M., Edmonds, D.A., Weissmann, G.S., 2022, Quantifying river avulsion activity from satellite remote sensing: Implications for how avulsions contribute to floodplain stratigraphy in foreland basins: *Journal of Sedimentary Research*

Edmonds, D.A., Martin, H.K., **Valenza, J.M.**, Henson, R., Weissmann, G.S., Miltenberger, K., Mans, W., Moor, J.R., Slingerland, R.L., and Gibling, M.R., Bryk, A.B., Hajek, E.A., (2022) Rivers in reverse: Upstream-migrating dechannelization and flooding cause avulsions on fluvial fans: *Geology*, doi: <https://doi.org/10.1130/G49318.1>

Valenza, J.M., Edmonds, D.A., Hwang, T.H., Roy, S., (2020) Downstream changes in river avulsion style are related to channel morphology, *Nature Communications*, v. 11, is. 1, p. 1-8.

Yanites, B.J., Mitchell, N.A., Bregy, J.C., Carlson, G.A., Cataldo, K., Holahan, M., Johnston, G.H., Nelson, A., **Valenza, J.M.**, Wanker, M., (2018), Landslides control the spatial and temporal variation of channel width in southern Taiwan: implications for landscape evolution and cascading hazards in steep, tectonically active landscapes, *Earth Surface Processes and Landforms*, v. 43, p. 1782-1797.

Mcleod, J.S., Wood, J., Lyster, S.J., Whittaker, A.C., and **Valenza, J.M.**, Quantitative constraints on flood variability in the rock record: (*in press*) *Nature Communications*

Valenza, J.M., Ganti, V., Whittaker, A.C., Lamb, M.P., Pre-vegetation, single-threaded rivers sustained by cohesive, fine-grained bank sediments: Mesoproterozoic Stoer Group, NW Scotland: *in review at Geophysical Research Letters*

Articles in preparation for journal submission:

Valenza, J.M., Edmonds, D.A., Toby, S., and Sifuentes, C., Avulsion Signatures within the Salt Wash Member of the Morrison Formation, *in prep to be submitted to Frontiers in Earth Science*.

Valenza, J.M., Whittaker, A.C., Ganti, V., Wild, A., Mcleod, J.S., Bar dynamics of pre-vegetative meandering rivers: Mesoproterozoic Clachtoll Formation of NW Scotland: *in prep to be submitted to Geology*

Teaching Experience

Co-Instructor , Indiana University EAS E-226 Earth Processes Gave lectures for sedimentology unit, created quizzes, graded assignments	2019
Assistant Instructor , Indiana University EAS E-105 Earth Our Habitable Planet Led lab sections, including lecture, lab exercises, office hours, and grading	2018
Teaching Assistant , Indiana University and BYU GEOL 370 Sedimentology and Stratigraphy Led lab sections, held office hours, gave occasional lectures	2015-2017
Teaching Assistant , BYU GEOL 230 Geological Communications Assisted students during class, graded assignments	2014, 2015
Teaching Assistant , BYU	2014

GEOL 410 Field Camp

Assisted students with section measurement during sed./strat. week

Teaching Assistant, BYU

2013, 2014

GEOL 210 Field Studies

Assisted in outcrop examination, worksheets and quizzes, and grading notebooks

Industry Experience

Geoscience Intern, ExxonMobil Petroleum Company, The Woodlands, TX **2019**
XTO Midland Basin Team, Grace Bastianon and Tina Drexler, Mentors
Characterizing target intervals using amplitude, impedance, well log, and petrographic data

Geoscience Intern, Chevron Corporation, Houston, TX **2017**
ETC, slope canyon fan prospects, Central Atlantic margin, Team Leader: Nicholas McLean
Review and consolidation of prospect reports into a new database

Geoscience Intern, Anadarko Petroleum Corporation, The Woodlands, TX **2015**
Deepwater Gulf of Mexico Exploration, Supervisor: Jake Ramsey
Reservoir quality and top seal capacity estimation using formation pressure data

Geoscience Intern, Whiting Petroleum Corporation, Midland, TX **2014**
Permian Basin Development, Mentor: John Leone
Sedimentology of the Val Verde Basin, mapping potential reservoir thicknesses using well logs

Presentations

Valenza, J.M., Whittaker, A.C., Ganti, V., Wild, A., McLeod, J.S., 2022, Proterozoic Point Bars: Geological Evidence for 1.2 Ga Deep, Meandering Rivers, Clachtoll Formation, Stoer Group, NW Scotland: AGU Fall Meeting

Valenza, J.M., Ganti, V., Whittaker, A.C., Lamb., M.P., Woodward, W, 2022, Pre-vegetation, single-threaded rivers sustained by cohesive, fine-grained bank sediments: Mesoproterozoic Stoer Group, NW Scotland: European Geophysical Union Annual Meeting

Valenza, J.M., Edmonds, D.A., Martin, H.K., Weissmann, G., 2020, How Avulsions Build Floodplains: AGU Fall Meeting

Valenza, J.M., Edmonds, D.A., 2020, Hybrid progradational-annexational avulsion signatures in modern and ancient foreland basins: GSA Fall Meeting

Valenza, J.M., Edmonds, D.A., 2019, Beyond the endmember paradigm: quantifying changes in river avulsion style through time with remote sensing data: AGU Fall Meeting

Valenza, J.M., and Edmonds, D., 2017, New Insights on Fluvial Avulsions from Remotely Sensed Data: International Conference of Fluvial Sedimentology (ICFS 11), Calgary, AB, Canada.

Valenza, J.M., Morris, T., 2016, Redbeds of the Upper Entrada Sandstone, Central Utah: Facies Analysis and Regional Implications for Interfingering Sabkha and Fluvial Terminal Splay Deposits: GSA Annual Meeting, Denver, CO.

Valenza, J.M., Morris, T., 2015, Redbeds of the Upper Entrada Sandstone, Central Utah: Facies Analysis and Implications for Apparent Hummocky Cross-stratification: BYU CPMS Spring Research Conference.

Valenza, J.M., Morris, T., 2014, Apparent Hummocky Cross-stratification of the Upper Entrada Sandstone: Evidence for HCS-dominated Tempestites Interbedded with very Shallow to Emergent Siliciclastic Environments: GSA Annual Meeting, Vancouver, BC.

Valenza, J.M., Harris, R., 2013, Suture Dynamics of the Banda Arc Collision Zone: Geochemical and Age Analysis of Ultramafic and Mafic Bodies in Timor, Indonesia: AGU Fall Meeting.

Fieldwork

Primary investigator, characterizing bar and dune dynamics, Scotland, UK	2022, 2023
Field assistant, characterizing dist. of fluvial woody debris, Wales, UK	2022
Primary investigator, mapping stratigraphic avulsion indicators, UT, CO	2020, 2021
Field assistant, installing stream gauges, drone survey on the White River, IN	2017, 2018, 2020
Field assistant, sediment transport measurement on the Jefferson River, MT	2017, 2018
Primary investigator, stratigraphic section measurement, central UT	2014-2016
Field Assistant, seismic surveying of faults in the Black Rock Desert, UT	2012, 2014
Geological Consultant, field XRF of source rock and artifacts, Eastern Nevada	2013
Field Assistant, GPR surveying for archaeological studies in Nauvoo, IL	2012

Fieldtrips/Shortcourses

Bighorn Basin, WY, Structure and Stratigraphy, ExxonMobil	July 2014
Guadalupe Mountains, TX Young Professionals Fieldtrip, UT Permian Basin	June 2014
Paradox Basin, UT, Salt Tectonics, ExxonMobil	March 2014
Hamblin Global Geology Fieldtrips, BYU Department of Geological Sciences	
Carbonate Platform Facies Architecture, Andros, Bahamas	April 2014
History of the Geological Sciences, Southern England	April 2013
Hawaiian Hotspot Volcanology and Petrology, Hawaii	April 2012

Department Service, Volunteer Work, and Mentoring Experience

Dept. of Geography JEDI Working Group- member Committee fostering belonging through outreach and community building	2022-present
Mentoring365- mentor Remote mentoring of geoscience students from Mongolia and India	2021-2022
URGe Pod- Indiana Group (IU, Perdue, ISU) Multi-university group focused on actions to increase inclusion in ES Depts.	2020-2021

Science-Fest- volunteer IU-hosted community outreach, offered stream table demonstrations	2017-2019
Co-convener, GSA Annual Meeting topical session: T54. High-Resolution Datasets for Fluvial and Hillslope Processes and Landforms: Frontiers of Remotely Sensed Data	Nov 2018
Co-chair, Crossroads Student Research Conference Organized and hosted presentations, career fair, and panel discussion	March 2018
Summer camp managing counselor, Especially for Youth Mentored, managed, and trained counselors, managed session activities	2016
BYU Geology Club Vice President Assisted president in planning and conducting club events	2014-2015
Summer camp counselor, Especially for Youth Mentored youth, assisted in managing session activities	2010-2013
Missionary for the Church of Jesus Christ of Latter-day Saints France and Belgium; fluency in French, service, proselyting, leadership and training positions among fellow missionaries	2007-2009

References

Dr. Vamsi Ganti (Postdoc Advisor)
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Dr. Doug Edmonds (PhD Advisor)
(812) 855-4512
edmondsd@indiana.edu

Dr. Thomas Morris (Master's Advisor, retired)
(801) 319-8961
tomhmorris@gmail.com