

Kyle Martin Straub

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EMPLOYMENT:

- 7/22 – Chair, Department of Earth & Environmental Sciences, Tulane University, New Orleans, Louisiana.
- 7/21 – Professor, Department of Earth & Environmental Sciences, Tulane University, New Orleans, Louisiana.
Research is outlined below.
- 1/15 – 6/21 Associate Professor, Department of Earth & Environmental Sciences, Tulane University, New Orleans, Louisiana.
- 1/09 – 12/14 Assistant Professor, Ken and Ruth Arnold Professor of Earth and Ecological Science, Department of Earth & Environmental Sciences, Tulane University, New Orleans, Louisiana.
- 6/07 – 12/08 Post-doctorate Fellow, National Center for Earth-surface Dynamics, St. Anthony Falls Laboratory, Minneapolis, Minnesota.
- 6/03 – 9/03 Geology intern, Turbidite Research Group, Shell Petroleum Company, Houston, TX.
- 6/02 – 8/02 Geophysics intern, Phillips Petroleum Company, Houston, TX.

EDUCATION:

Massachusetts Institute of Technology, Cambridge, MA

Ph.D. in Geology and Geochemistry, Graduation: June 2007, Advisor: David Mohrig

Thesis: *Quantifying turbidity current interactions with topography*

The Pennsylvania State University, University Park, PA

Bachelor of Science in Geosciences, Graduation: May 2002, Advisor: Peter Flemings

Thesis: *Fluid Pressures in The Nankai Accretionary Prism: ODP Sites 808, 1173, and 1174*

The University of Leeds, West Yorkshire, United Kingdom

Junior Year Study Abroad

RESEARCH INTEREST:

My research focuses on the transport of sediment from land through the ocean and into the stratigraphic record. Scales of interest range from the interaction of turbidity currents with submarine topography over minutes to the construction and preservation of deltas over millions of years. The sedimentary bodies that arise from these processes are home to millions of people, archives of past Earth conditions, and reservoirs of natural resources. I examine the morphodynamics of these systems using a combination of carefully designed physical and numerical experiments, remote sensing of subsurface sedimentary deposits (visualization and interpretation of seismic data), field studies of modern and ancient sediment transport systems, and targeted quantitative analysis.

AWARDS AND FELLOWSHIPS:

Professional

- Distinguished Lecturer, NSF-GeoPRISMS program, 2013-2015
- James Lee Wilson Young Scientist Award, SEPM (Society for Sedimentology), 2013
- Outstanding paper of the year in *Journal of Sedimentary Research*, 2009, “Compensational stacking of channelized sedimentary deposits”

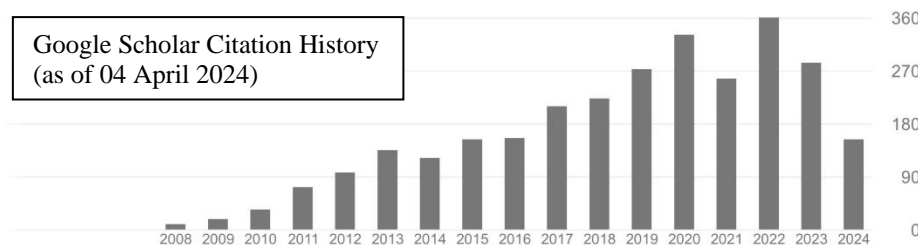
Graduate & Undergraduate

- American Geophysical Union Outstanding Student Paper Award, 2004
- MIT Departmental Award for ‘Excellence in Teaching’, Fall 2005
- MIT Presidential Graduate Fellowship, 2002-2003 Academic Year
- 1st Place in Penn State Geosciences Undergraduate Senior Thesis Colloquium, Spring 2002
- Chevron Undergraduate Fellowship in Geophysics, Spring 2001
- Texaco Geosciences Scholarship, Fall 2001
- A.P. Honess Scholarship for Undergraduate Excellence in Geosciences, 2000
- Benjamin Howell Scholarship for Undergraduate Excellence in Geophysics, 2001

PUBLICATIONS:

Names of student/postdoc primarily (co)advised by Straub are italicized

	All	Since 2019
Citations	2906	1661
h-index	29	25
i10-index	39	37



59. Wahab, A., Shringarpure, M., Hoyal, D.C., **Straub, K.M.**, in preparation, Inception, maintenance, and termination of submarine channels, *Journal of Geophysical Research – Earth Surface*.
58. Reece, J.K. and **Straub, K.M.**, in preparation, Quantifying the statistical organization of ponded accommodation resulting from salt dynamics along the northern Gulf of Mexico continental margin, *Marine Geology*.
57. Fernandes, A.M., Singh, A., **Straub, K.M.**, in preparation, Environmental Signal Propagation in Non-stationary Systems: Evaluating the Impact of Delta Progradation on the Dynamics on Terrestrial to Marine Information Transfer, *Frontiers in Earth Science*.
56. Wu, C., Kim, W., Yang, S., Tsai, F., Nittrover, J.A., **Straub, K.M.**, Dong, T.Y., Keum, D., in preparation, High water stage variability promotes river mobility, *Proceedings of the National Academy of Sciences*.
55. Wahab, A., Gaillot, G.T., Liu, E., Shringarpure, M., Hoyal, D.C., **Straub, K.M.**, in preparation, Leveraging a process based numerical model for turbidity currents and a forward seismic workflow for interpretation of submarine fan strata, *Journal of Sedimentary Research*.
54. Silvestre, J.R., Sanks, K.M., Zapp, S.M., Shaw, J.B., Hou, Y., Jerrett, R., Duller, R.A., **Straub, K.M.**, in preparation, Autogenic timescales set spatial scales for subsurface carbon reservoirs in coastal river deltas, *Nature Communications*.
53. Sifuentes, C., Martin, H.K., **Straub, K.M.**, Hajek, E.A., Edmonds, D.A., in submission, Floodplain topography and avulsion pathfinding control stratigraphic architecture in a numerical model of a fluvial fan, *Journal of Sedimentary Research*.
52. Mukherjee, U. and **Straub, K.M.**, in submission, Field testing autogenic storage thresholds for environmental signals in the strata of the Mississippi delta, *Journal of Sedimentary Research*.
51. Reece, J.K., Dorrell, R.M., **Straub, K.M.**, in submission, Quantifying the interaction of turbidity currents with enclosed minibasin topography in three dimensions: A laboratory study, *Geological Society of America Bulletin*.
50. Griffin, C., Duller, R.A., **Straub, K.M.**, 2024, The incomplete record of autogenic processes on the limits on signal detectability, *Journal of Geophysical Research – Earth Surface*, 129, e2023JF007538, DOI: [10.1029/2023JF007538](https://doi.org/10.1029/2023JF007538).
49. Reece, J.K., Dorrell, R.M., **Straub, K.M.**, 2024, Circulation of hydraulically ponded turbidity currents and the filling of continental slope minibasins, *Nature Communications*, v. 15, DOI: [10.1038/s41467-024-46120-2](https://doi.org/10.1038/s41467-024-46120-2).
48. Sylvester, Z., **Straub, K.M.**, Covault, J.A., 2024, Stratigraphy in space and time: A reproducible approach to analysis and visualization, *Earth-Science Reviews*, v. 250, 104706, DOI: [10.1016/j.earscirev.2024.104706](https://doi.org/10.1016/j.earscirev.2024.104706).
47. Zapp, S., Sanks, K.M., Silvestre, J.R., Shaw, J.B., Dutt, R., **Straub, K.M.**, 2023, Sediment compaction in experimental deltas: Towards a meso-scale understanding of coastal subsidence patterns, *Journal of Geophysical Research – Earth Surface*, 128, e2023JF007238, DOI: [10.1029/2023JF007238](https://doi.org/10.1029/2023JF007238).

46. Griffin, C., Duller, R.A., **Straub, K.M.**, 2023, The degradation and detection of environmental signals in sediment transport systems, *Science Advances*, v. 9, eadi8046, DOI: [10.1126/sciadv.adi8046](https://doi.org/10.1126/sciadv.adi8046).
45. Sanks, K.M., Shaw, J.B., Zapp, S.M., *Silvestre, J.R., Dutt, R., Straub, K.M.*, 2023, Marsh-induced backwater: the influence of non-fluvial sedimentation on a delta's channel morphology and kinematics, *Earth Surface Dynamics*, v. 11, p. 1035-1060, DOI: [10.5194/esurf-11-1035-2023](https://doi.org/10.5194/esurf-11-1035-2023).
44. **Straub, K.M., Dutt, R.**, Duller, R.A., 2023, Coupled channel-floodplain dynamics and resulting stratigraphic architecture viewed through a mass-balance lens, *Journal of Sedimentary Research*, v. 93, p. 595-616, DOI: [10.2110/jsr.2022.112](https://doi.org/10.2110/jsr.2022.112).
43. Barefoot, E.A., Nittrouer, J.A., **Straub, K.M.**, 2023, Sedimentary processes and the temporal resolution of sedimentary strata, *Geophysical Research Letters*, 50, e2023GL103925, DOI: [10.1029/2023GL103925](https://doi.org/10.1029/2023GL103925).
42. Wahab, A., Hoyal, D.C., Shringarpure, M., **Straub, K.M.**, 2022, A dimensionless framework for predicting submarine fan morphology, *Nature Communications*, v. 13, DOI: [10.1038/s41467-022-34455-7](https://doi.org/10.1038/s41467-022-34455-7).
41. Sanks, K.M., Zapp, S.M., *Silvestre, J.R., Dutt, R., Shaw, J.B., Straub, K.M.*, 2022, Marsh Sedimentation Controls Delta Top Morphology, Slope, and Mass Balance, *Geophysical Research Letters*, 49, e2022GL098513, DOI: [10.1029/2022GL098513](https://doi.org/10.1029/2022GL098513).
40. Toby, S.C., Duller, R.A., De Angelis, S., **Straub, K.M.**, 2022, Morphodynamic limits to environmental signal propagation across landscapes and into strata, *Nature Communications*, v. 13, DOI: [10.1038/s41467-021-27776-6](https://doi.org/10.1038/s41467-021-27776-6).
39. Barefoot, E.A., Nittrouer, J.A., **Straub, K.M.**, 2021, Non-monotonic floodplain responses to changes in flooding intensity, *Journal of Geophysical Research – Earth Surface*, 126, e2021JF006310, DOI: [10.1029/2021JF006310](https://doi.org/10.1029/2021JF006310).
38. Ganti, V., Hajek, E.A., Leary, K., **Straub, K.M.**, Paola, C., 2020, Morphodynamic hierarchy and the fabric of the sedimentary record, *Geophysical Research Letters*, 47, e2020GL087921, DOI: [10.1029/2020GL087921](https://doi.org/10.1029/2020GL087921).
37. Esposito, C.R., Georgiou, I., **Straub, K.M.**, 2020, Flow loss in deltaic distributaries: Impacts on channel hydraulics, morphology and stability, *Water Resources Research*, 56, e2019WR023463, DOI: [10.1029/2019WR026463](https://doi.org/10.1029/2019WR026463).
36. Jobe, Z.R., Howes, N.C., **Straub, K.M.**, Cai D., Deng, H., Laugier, F.J., Pettinga, L.A., Shumaker, L.E., 2020, Comparing Aggradation, Superelevation, and Avulsion Frequency of Submarine and Fluvial Channels, *Frontiers in Earth Science*, 8:53, DOI: [10.3389/feart.2020.00053](https://doi.org/10.3389/feart.2020.00053).
35. **Straub, K.M.**, Duller, R.A., Foreman, B.Z., Hajek, E.A., 2020, Buffered, incomplete, and shredded: The challenges of reading an imperfect stratigraphic record, American Geophysical Union Centennial Special Volume on Grand Challenges in the Earth and Space Sciences, *Journal of Geophysical Research – Earth Surface*, v. 125, e2019JF005079, DOI: [10.1029/2019JF005079](https://doi.org/10.1029/2019JF005079).
34. Toby, S.C., Duller, R.A., De Angelis, S., **Straub, K.M.**, 2019, A stratigraphic framework for the preservation and shredding of environmental signals, *Geophysical Research Letters*, v. 46, DOI: [10.1029/2019GL082555](https://doi.org/10.1029/2019GL082555).
33. **Straub, K.M.**, 2019, Morphodynamics and stratigraphic architecture of shelf-edge deltas subject to constant vs. dynamic environmental forcings: A laboratory study, *Frontiers in Earth Science*, 7:121, DOI: [10.3389/feart.2019.00121](https://doi.org/10.3389/feart.2019.00121).
32. Esposito, C.R., Di Leonardo, D.R., *Harlen, M., Straub, K.M.*, 2018, Sediment storage partitioning in alluvial stratigraphy: The influence of discharge variability, *Journal of Sedimentary Research*, v. 88, p. 717-726, DOI: [10.2110/jsr.2018.36](https://doi.org/10.2110/jsr.2018.36).
31. Li, Q., Gasparini, N.M., **Straub, K.M.**, 2018, Some signals are not as they appear: How do erosional landscapes transform tectonic history into sediment flux records?, *Geology*, v. 46, p. 407-410, DOI: [10.1130/G40026.1](https://doi.org/10.1130/G40026.1).
30. **Straub, K.M.** and Foreman, B.Z., 2018, Geomorphic stasis and spatiotemporal scales of stratigraphic completeness, *Geology*, v. 46, p. 311-314, DOI: [10.1130/G40045.1](https://doi.org/10.1130/G40045.1).
29. Paola, C., Ganti, V., Mohrig, D., Runkel, A., **Straub, K.M.**, 2018, Time not our time: physical controls on the preservation and measurement of geologic time, *Annual Review of Earth and Planetary Sciences*, v. 46, p. 409-438, DOI: [10.1146/annurev-earth-082517-010129](https://doi.org/10.1146/annurev-earth-082517-010129).

28. Li, Q., Benson, W.M., Harlen, M., Robichaux, P., Sha, X., Xu, K., **Straub, K.M.**, 2017, Influence of sediment cohesion on deltaic morphodynamics and stratigraphy over basin-filling time scale, *Journal of Geophysical Research – Earth Surface*, v. 122, DOI: [10.1002/2017JF004216](https://doi.org/10.1002/2017JF004216).
27. Foreman, B.Z. and **Straub, K.M.**, 2017, Autogenic geomorphic processes control the fidelity of terrestrial paleoclimate records, *Science Advances*, v. 3, e1700683, DOI: [10.1126/sciadv.1700683](https://doi.org/10.1126/sciadv.1700683).
26. Hajek, E.A. and **Straub, K.M.**, 2017, Autogenic sedimentation in clastic stratigraphy, *Annual Review of Earth and Planetary Sciences*, v. 45, p. 681-709, DOI: [10.1146/annurev-earth-063016-015935](https://doi.org/10.1146/annurev-earth-063016-015935).
25. Yu, L., Li, Q., **Straub, K.M.**, 2017, Scaling the response of deltas to relative sea level cycles by autogenic space and time scales: A laboratory study, *Journal of Sedimentary Research*, v. 87, p. 817-838, DOI: [10.2110/jsr.2017.46](https://doi.org/10.2110/jsr.2017.46).
24. Trampush, S.M., Hajek, E.A., **Straub, K.M.**, Chamberlin, E.P., 2017, Identifying autogenic sedimentation in fluvial-deltaic stratigraphy: evaluating the effect of outcrop-quality on the compensation statistic, *Journal of Geophysical Research – Earth Surface*, v. 122, DOI: [10.1002/2016JF004067](https://doi.org/10.1002/2016JF004067).
23. Fernandes, A.M., Törnqvist, T.E., **Straub, K.M.**, Mohrig, D., 2016, Connecting the backwater hydraulics of coastal rivers to fluviodeltaic sedimentology and stratigraphy, *Geology*, v. 44, p. 979-982, DOI: [10.1130/G37965.1](https://doi.org/10.1130/G37965.1).
22. Li, Q., Yu, L., **Straub, K.M.**, 2016, Storage thresholds for relative sea level signals in the stratigraphic record, *Geology*, v. 44, p. 179-182, DOI: [10.1130/G37484.1](https://doi.org/10.1130/G37484.1).
21. **Straub, K.M.**, Li, Q., Benson, W.M., 2015, Influence of sediment cohesion on deltaic shoreline dynamics and bulk sediment retention: A laboratory study, *Geophysical Research Letters*, v. 42, DOI: [10.1002/2015GL066131](https://doi.org/10.1002/2015GL066131).
20. Armstrong, C., Mohrig, D., Hess, T., George, T., **Straub, K.M.**, 2014, Influence of growth faults on coastal fluvial systems: Examples from the late Miocene to Recent Mississippi River Delta, *Sedimentary Geology*, v. 301, p. 120-132, DOI: [10.1016/j.sedgeo.2013.06.010](https://doi.org/10.1016/j.sedgeo.2013.06.010).
19. Kim, W., Petter, A., **Straub, K.M.**, Mohrig, D., 2014, Decoupling allogenic forcing from autogenic processes: Experimental geomorphology and stratigraphy. In: *From Depositional Systems to Sedimentary Successions on the Norwegian Continental Shelf* (Eds A.W. Martinus, R. Ravnås, J.A. Howell, R.J. Steel, and J.P. Wonham), IAS Spec. Publ., 46, 127-138, DOI: [10.1002/9781118920435.ch5](https://doi.org/10.1002/9781118920435.ch5).
18. **Straub, K.M.**, Paola, C., Kim, W., Sheets, B., 2013, Experimental investigation of sediment-dominated vs. tectonics-dominated sediment transport systems in subsiding basins, *Journal of Sedimentary Research*, v. 83, p. 1162-1180, DOI: [10.2110/jsr.2013.91](https://doi.org/10.2110/jsr.2013.91).
17. **Straub, K.M.** and Wang, Y., 2013, Influence of water and sediment supply on the long-term evolution of alluvial fans and deltas: Statistical characterization of basin-filling sedimentation patterns, *Journal of Geophysical Research – Earth Surface*, v. 118, DOI: [10.1002/JGRF.20095](https://doi.org/10.1002/JGRF.20095).
16. Pyles, D.R., **Straub, K.M.**, Stammer, J., 2013, Spatial variation in the composition of turbidites due to hydrodynamic fractionation, *Geophysical Research Letters*, v.40, DOI: [10.1002/GRL.50767](https://doi.org/10.1002/GRL.50767).
15. **Straub, K.M.** and Esposito, C.R., 2013, Influence of water and sediment supply on the stratigraphic record of alluvial fans and deltas: Process controls on stratigraphic completeness, *Journal of Geophysical Research – Earth Surface*, v. 118, DOI: [10.1002/JGRF.20061](https://doi.org/10.1002/JGRF.20061).
14. **Straub, K.M.** and Pyles, D.R., 2012, Quantifying the hierarchical organization of compensation in submarine fans using surface statistics, *Journal of Sedimentary Research*, v. 82, p. 889-898, DOI: [10.2110/jsr.2012.73](https://doi.org/10.2110/jsr.2012.73).
13. **Straub, K.M.**, Ganti, V., Paola, C., Foufoula-Georgio, E., 2012, Prevalence of exponential bed thickness distributions in the stratigraphic record: Experiments and theory, *Journal of Geophysical Research – Earth Surface*, v. 117, DOI: [10.1029/2011JF002034](https://doi.org/10.1029/2011JF002034).
12. **Straub, K.M.**, Mohrig, D., Pirmez, C., 2012, Architecture of an aggradational tributary submarine channel network on the continental slope offshore Brunei Darussalam, in Prather, B.E., Deptuck, M.E., Mohrig, D., Van Hoorn, B., and Wynn, R.B., eds., *Application of the Principles of Seismic Geomorphology to Continental-Slope and Base-of-Slope Systems: Case Studies from Seafloor and Near-Seafloor Analogues*, SEPM, Special Publication 99, p. 13-30, DOI: [10.2110/pec.12.99.0061](https://doi.org/10.2110/pec.12.99.0061).

11. Shen, Z., Törnqvist, T.E., Autin, W.J., Mateo, R.P., **Straub, K.M.**, Mauz, B., 2012, Rapid and widespread response of the Lower Mississippi River to eustatic forcing during the last glacial-interglacial cycle, *Geological Society of America Bulletin*, v. 124(5/6), p. 690-704, DOI: [10.1130/B30449.1](https://doi.org/10.1130/B30449.1).
10. Wang, Y., **Straub, K.M.**, Hajek, E.A., 2011, Scale dependant compensational stacking: an estimate of autogenic timescales in channelized sedimentary deposits, *Geology*, v. 39 (9), p. 811-814, DOI: [10.1130/G32068.1](https://doi.org/10.1130/G32068.1).
9. Ganti, V., **Straub, K.M.**, Fofoula-Georgio, E., Paola, C., 2011, Space-time dynamics of depositional systems: Experimental evidence and theoretical modeling of heavy-tailed statistics, *Journal of Geophysical Research – Earth Surface*, v. 116, DOI: [10.1029/2010JF001893](https://doi.org/10.1029/2010JF001893).
8. **Straub, K.M.**, Mohrig, D., Buttle, J., McElroy, B., Pirmez, C., 2011, Quantifying the influence of channel sinuosity on the depositional mechanics of channelized turbidity currents: A laboratory study, *Marine and Petroleum Geology*, v. 28, p. 744-760, DOI: [10.1016/j.marpetgeo.2010.05.014](https://doi.org/10.1016/j.marpetgeo.2010.05.014).
7. **Straub, K.M.**, Paola, C., Mohrig, D., George, T., Wolinsky, M.A., 2009, Compensational stacking of channelized sedimentary deposits, *Journal of Sedimentary Research*, v. 79, p. 673-688, DOI: [10.2110/jsr.2009.070](https://doi.org/10.2110/jsr.2009.070).
6. Paola, C., **Straub, K.M.**, Mohrig, D., Reinhardt, L., 2009, The “unreasonable effectiveness” of stratigraphic and geomorphic experiments, *Earth-Science Reviews*, v. 97, p. 1-43, DOI: [10.1016/j.earscirev.2009.05.003](https://doi.org/10.1016/j.earscirev.2009.05.003).
5. **Straub, K.M.** and Mohrig, D., 2009, Constructional canyons built by sheet-like turbidity currents: Observations from offshore Brunei Darussalam, *Journal of Sedimentary Research*, v. 79, p. 24-39, DOI: [10.2110/jsr.2009.006](https://doi.org/10.2110/jsr.2009.006).
4. Abrams, D.M., Lobkovsky, A.E., Petroff, A.P., **Straub, K.M.**, McElroy, B., Mohrig, D.C., Kudrolli, A., Rothman, D.H., 2009, Growth laws for channel networks incised by groundwater flow, *Nature Geoscience*, v. 2(3), p. 193-196, DOI: [10.1038/NGEO432](https://doi.org/10.1038/NGEO432).
3. **Straub, K.M.** and Mohrig, D., 2008, Quantifying the morphology and growth of levees in aggrading submarine channels, *Journal of Geophysical Research – Earth Surface*, v. 113, DOI: [10.1029/2007JF000896](https://doi.org/10.1029/2007JF000896).
2. **Straub, K.M.**, Mohrig, D., Buttle, J., McElroy, B., Pirmez, C., 2008, Interactions between turbidity currents and topography in aggrading sinuous submarine channels: A laboratory study, *Geological Society of America Bulletin*, v. 120(3/4), p. 368-385, DOI: [10.1130/B25983.1](https://doi.org/10.1130/B25983.1).
1. **Straub, K.M.**, Jerolmack, D.J., Mohrig, D., Rothman, D.H., 2007, Channel network scaling laws in submarine basins, *Geophysical Research Letters*, v.34, DOI: [10.1029/2007GL030089](https://doi.org/10.1029/2007GL030089).

CONFERENCE PROCEEDINGS/EXTENDED ABSTRACTS:

Straub, K.M., Mohrig, D., Buttle, J., 2008, Turbidity current flow out of channels and its contribution to constructing the continental slope, Society of Exploration Geophysics Annual Meeting Extended Abstracts, p. 2767-2771.

Mohrig, D., **Straub, K.M.**, Buttle, J., and Pirmez, C., 2005, Controls on geometry and composition of a levee built by turbidity currents in a straight laboratory channel, in Parker, G., and Garcia, M.H. (eds.), *River, Coastal and Estuarine Morphodynamics: RCEM 2005*, Taylor & Francis/Balkema, London, ISBN 0415392705, p. 579-584.

DEPARTMENTAL COLLOQUIMS/INVITED LONG FORMAT SEMINARS (2018-present)

- 2024:** Texas Tech University, Department of Geosciences
- 2023:** Lehigh University, Department of Earth and Environmental Sciences
- 2020:** SEPM Luncheon Keynote Talk, Annual meeting of AAPG/SEPM in Houston, TX
University of Southern Mississippi, School of Ocean Science and Engineering
University of Arizona, Department of Geosciences
- 2019:** University of New Orleans, Department of Earth and Environmental Sciences
- 2018:** Tulane University, Department of Earth and Environmental Sciences

INVITED TALKS (2018-present): Student/postdoc names italicized for products primarily advised by Straub
Wu, C., Kim, W., Yang, S., Tsai, F., Nittrouer, J.A., **Straub, K.M.**, Dong, T., Keum, D., 2023, “River discharge variability controls deposition and preservation of organic matter in experimental deltas”, Fall Meeting of the American Geophysical Union, San Francisco, California.

Straub, K.M., Wahab, A., Reece, J.K., Hoyal, D.C., Shringarpure, M., Dorrell, R., 2023, “Exploration of the controls that set the shape of submarine fans and their stratigraphic architecture using numerical and physical experiments”, Perkins-Rosen GCSSEPM Research Conference, Houston, Texas.

Straub, K.M., Reece, J.K., Dorrell, R., 2023, “Turbidity current circulation patterns in three-dimensional minibasins of various widths and lengths: why being short and wide is so stressful”, Annual Meeting of the Japanese Geophysical Union, Tokyo, Japan.

Sanks, K.M., Shaw, J., Zapp, S., *Silvestre, J.*, **Straub, K.M.**, 2022, “Non-riverine sediment deposition influences the evolution of a river delta”, Fall Meeting of the American Geophysical Union, Chicago, Illinois.

Barefoot, E.A., Nitttrouer, J., **Straub, K.M.**, 2022, “Time dilation in the stratigraphic record driven by changes in fluvial morphodynamics”, Annual Meeting of the Society for Sedimentary Geology SEPM, Houston, Texas.

Wahab, A., Hoyal, D.C., Shringarpure, M., **Straub, K.M.**, 2021: “A universal regime for submarine fans defined by Froude number, Rouse number, and cohesion”, Monthly Meeting of the New Orleans Geological Society, New Orleans, Louisiana.

Wahab, A., Hoyal, D.C., Shringarpure, M., **Straub, K.M.**, 2021: “A universal regime for submarine fans defined by Froude number, Rouse number, and cohesion”, Annual Meeting of the Society for Sedimentary Geology SEPM, Denver, Colorado.

Straub, K.M., Toby, S.C., Duller, R.A., 2020: “Constraints on our ability to detect sediment supply signals in the stratigraphic record”, Annual meeting of the Geological Society of America, Online Everywhere.

Hoyal, D., Fedele, J., Demko, T.M., *Wahab, A., Gaillot, G., Shringarpure, M., Lentsch, N., Denommee, K., Zhang, A., Johnson, S., Razdan, S., Singh, R., Shashank, S.*, **Straub, K.M.**, Bayliss, N., Gutierrez, M., 2020: “Universal regimes of submarine fans controlled by gradient, grain size, and mud content: Comparison with high resolution field data”, Annual meeting of the Geological Society of America, Online Everywhere.

Ganti, V., Potter Leary, K., Hajek, E.A., **Straub, K.M.**, Paola, C., 2019: “Fluvial morphodynamic hierarchy and fabric of the sedimentary record”, Fall Meeting of the American Geophysical Union, San Francisco, CA.

Straub, K.M., Foreman, B.Z., Li, Q., 2018: “Implications of stochastic sediment transport for storage of signals in stratigraphy.” Fall Meeting of the American Geophysical Union, Washington, D.C.

ADDITIONAL TALKS (2018-present): Student/postdoc names italicized for products primarily advised by Straub
Duller, R.A., *Griffin, C.*, **Straub, K.M.**, 2024, “A Framework for Signal Shredding and Signal Detection Using a Physical Avalanching Rice Pile”, Annual Meeting of the European Geophysical Union, Vienna, Austria.

Duller, R.A., Dutt, R., **Straub, K.M.**, 2023, “Coupled channel-floodplain dynamics and resulting stratigraphic architecture viewed through a mass-balance lens”, Annual Meeting of the British Sedimentological Research Group, Loughborough, United Kingdom.

Silvestre, J.R., Hom, Z., Sanks, K., Zapp, S., Shaw, J., **Straub, K.M.**, 2023, “Stratigraphic characterization of experimental wetland and delta systems under variable river discharge”, International Conference on Fluvial Sedimentology, Riva del Garda, Italy.

Griffin, C., Duller, R.A., **Straub, K.M.**, 2023, “Detecting Shredded Signals in a Physical Avalanching Rice Pile”, International Conference on Fluvial Sedimentology, Riva del Garda, Italy.

Sanks, K.M., Pilourias, A., Shaw, J.B., Zapp, S., *Silvestre, J.*, **Straub, K.M.**, 2023, “The influence of wetland sedimentation on delta hypsometry”, International Conference on Fluvial Sedimentology, Riva del Garda, Italy.

Duller, R.A., Dutt, R., **Straub, K.M.**, 2023, “Coupled channel-floodplain dynamics and resulting stratigraphic architecture viewed through a mass-balance lens”, International Conference on Fluvial Sedimentology, Riva del Garda, Italy.

Straub, K.M., Toby, S.C., Duller, R.A., 2023, “Morphodynamic limits to environmental signal propagation across landscapes and into strata”, International Conference on Fluvial Sedimentology, Riva del Garda, Italy.

Griffin, C., Duller, R.A., Higham, J.E., **Straub, K.M.**, 2023, “Establishing a robust framework of signal shredding and signal detection using a physical avalanching rice pile”, Annual Meeting of the European Geophysical Union, Vienna, Austria.

Griffin, C., Duller, R.A., Higham, J.E., **Straub, K.M.**, 2022, “Establishing a robust framework of signal shredding and signal detection using a physical avalanching rice pile”, Fall Meeting of the American Geophysical Union, Chicago, Illinois.

Torres, M., Hou, Y., Johnson, D., Li, Z., **Straub, K.M.**, Zhang, Y., 2022, “How do the internal dynamics of sedimentary systems affect organic carbon burial and environmental signal preservation?”, Fall Meeting of the American Geophysical Union, Chicago, Illinois.

Roberge, L.O., Gasparini, N.M., **Straub, K.M.**, Campforts, B., Pazzaglia, F.J., 2022, “Exploring signal shredding by landslides and fluvial processes in a dynamic steady state landscape”, Fall Meeting of the American Geophysical Union, Chicago, Illinois.

Silvestre, J., Sanks, K.M., Zapp, S.M., Shaw, J., Dutt, R., **Straub, K.M.**, 2022, “Experimental investigation of channel sand body arrangement in a coupled delta and wetland system”, Fall Meeting of the American Geophysical Union, Chicago, Illinois.

Shaw, J., Sanks, K.M., Zapp, S.M., *Silvestre, Dutt, R.*, **Straub, K.M.**, 2022, “Marsh-Delta Interactions: The strong influence of marsh deposition on delta slopes and mass partitioning”, Annual Meeting of the European Geophysical Union, Vienna, Austria.

Griffin, C., Higham, J., Duller, R., **Straub, K.M.**, 2021, “Propagation of environmental signals through granular landscapes”, Annual Meeting of the British Sedimentological Research Group, Hull, United Kingdom.

Barefoot, E.A., Nittrouer, J., **Straub, K.M.**, 2021, “Time dilation in the stratigraphic record driven by changes in fluvial morphodynamics”, Fall Meeting of the American Geophysical Union, New Orleans, Louisiana.

Sanks, K.M., Zapp, S.M., *Silvestre, J.*, Shaw, J., *Dutt, R.*, **Straub, K.M.**, 2021, “Marsh deposition has a first-order control on channel kinematics in an experimental river delta”, Fall Meeting of the American Geophysical Union, New Orleans, Louisiana.

Wahab, A., Galliot, G., Hoyal, D.C., Shringarpure, M., Zhang, A., Liu, E., **Straub, K.M.**, 2021, “Leveraging a depth-averaged model for submarine fans for interpretation of stratigraphic architecture imaged by high-resolution seismic data”, Fall Meeting of the American Geophysical Union, New Orleans, Louisiana.

Mukherjee, U. and **Straub, K.M.**, 2021, “Field testing autogenic storage thresholds for environmental signals in the strata of the Mississippi Delta”, Fall Meeting of the American Geophysical Union, New Orleans, Louisiana.

Reece, J.K., Dorrell, R.M., **Straub, K.M.**, 2021, “Quantifying the influence of mini-basin geometry on the depositional mechanics of turbidity currents”, Annual Meeting of the American Association of Petroleum Geologist, Denver, Colorado.

Wahab, A., Hoyal, D.C., Shringarpure, M., Sun, H., **Straub, K.M.**, 2021, “A framework to link submarine fan morphology to turbidity current flow properties using depth-averaged simulations”, International Association of Sedimentologists Annual Meeting, Online Everywhere.

Barefoot, E., Nittrouer, J., **Straub, K.M.**, 2020, “Non-monotonic surface process response to increased flooding intensity”, Fall Meeting of the American Geophysical Union, Online Everywhere.

Toby, S.C., Duller, R., De Angelis, S., **Straub, K.M.**, 2019, “Quantifying the effect of varying sediment flux on landscape dynamics and stratigraphy”, Spring Meeting of the European Geophysical Union, Vienna, Austria.

Straub, K.M. and Foreman, B.Z., 2018: “The Nyquist Frequency for Paleoclimate Records hosted within Alluvial Stratigraphy”, Fall Meeting of the American Geophysical Union, Washington, D.C.

Straub, K.M., 2018: “Morphodynamics and stratigraphic architecture of shelf-edge deltas subject to constant vs. dynamic forcings”, Annual Meeting of the American Association of Petroleum Geologist, Salt Lake City, Utah.

CONFERENCE PROCEEDINGS (POSTERS) (2018-present):

Student/postdoc names italicized for products primarily advised by Straub

Azarmidohht, H., Nittrouer, J.A., **Straub, K.M.**, 2023, “Evaluating river avulsion dynamics through physical experimentation and numerical modeling”, Fall Meeting of the American Geophysical Union, San Francisco, California.

Wu, C., **Straub, K.M.**, Kim, W., 2023, “Meander chute cutoffs: where and when do they develop?”, Fall Meeting of the American Geophysical Union, San Francisco, California.

*Silvestre, J.R., Hom, Z., Sanks, K., Zapp, S., Shaw, J., **Straub, K.M.**, 2023, “River discharge variability controls deposition and preservation of organic matter in experimental deltas”, Fall Meeting of the American Geophysical Union, San Francisco, California.*

*Reece, J.K., Dorrell, R., **Straub, K.M.**, 2023, “Influence of minibasin topographic variations on turbidity current fluid dynamics and linked turbidite shape: A 3-D laboratory study”, Perkins-Rosen GCSSEPM Research Conference, Houston, Texas.*

*Reece, J.K., Dorrell, R., **Straub, K.M.**, 2023, “Quantifying topographic induced flow behavior of turbidity currents and resulting turbidite character: A 3-D laboratory study”, The international meeting for applied geoscience and energy, Houston, Texas.*

*Griffin, C., Duller, R.A., **Straub, K.M.**, 2023, “How does incompleteness affect the apparent temporal structure of autogenic processes?”, International Conference on Fluvial Sedimentology, Riva del Garda, Italy.*

*Reece, J.K., Dorrell, R., **Straub, K.M.**, 2022, “Quantifying turbidity current recirculation cells in ponded minibasins: Influence of turbidity current influx and topographic aspect ratios”, Fall Meeting of the American Geophysical Union, Chicago, Illinois.*

*Lopez, J. and **Straub, K.M.**, 2022, “Experimental Shelf-Edge Delta and Slope Fan Development”, Fall Meeting of the American Geophysical Union, Chicago, Illinois.*

*Moodie, A., Wahab, A., Shringarpure, M., Hoyal, D., **Straub, K.M.**, 2022, “Inferring optimal input parameters for a process-based deep-water siliciclastic sedimentary system model of East Breaks, GOM”, Fall Meeting of the American Geophysical Union, Chicago, Illinois.*

*Wahab, A., Shringarpure, M., Hoyal, D.C., **Straub, K.M.**, 2022, “Inception, Maintenance, and Termination of Submarine Channels”, Fall Meeting of the American Geophysical Union, Chicago, Illinois.*

*Shaw, J., Sanks, K.M., *Silvestre, J.*, Zapp, S.M., *Dutt, R.*, **Straub, K.M.**, 2022, “Marsh-Delta Interactions: The strong influence of marsh deposition on delta slopes and mass partitioning”, Spring Meeting of the European Geophysical Union, Vienna, Austria.*

*Silvestre, J., Sanks, K.M., Zapp, S.M., Shaw, J., *Dutt, R.*, **Straub, K.M.**, 2021, “Linking shoreline transgression to spatial scales of subsurface organic carbon reservoirs in deltas”, Fall Meeting of the American Geophysical Union, New Orleans, Louisiana.*

*Reece, J.K., Dorrell, R.M., **Straub, K.M.**, 2021, “Quantifying the three-dimensional depositional mechanics of turbidity currents in minibasins across the fill to spill transition”, Fall Meeting of the American Geophysical Union, New Orleans, Louisiana.*

*Gasparini, N.M., Roth, D.L., Madoff, R., Mukherjee, U., Callahan, R.P., Mahon, R., Sklar, L.S., Gagliardi, J., Lehnigk, K., Luna, L., Merritts, D., Kwang, J.S., Del Vecchio, J., Sun, X., Koppes, M.N., McDowell, C., **Straub, K.M.**, Hassenruck-Gudipati, H., 2021, “Lessons learned from the AGU EPSP URGE pod on how to structure an equitable, inclusive, and safe committee space”, Fall Meeting of the American Geophysical Union, New Orleans, Louisiana.*

*Del Vecchio, J.D., Hassenruck-Gudipati, H.J., Roth, D.L., Merritts, D., Hill, K.M., Sun, X., Kwang, J., Koppes, M.N., Mahon, R., Madoff, R., Gasparini, N.M., Lehnigk, K., McDowell, C., Callahan, R.P., Mukherjee, M., Sklar, L.S., Gagliardi, J., Luna, L., **Straub, K.M.**, 2021, “URGE pod outcomes for the AGU EPSP section”, Fall Meeting of the American Geophysical Union, New Orleans, Louisiana.*

*Sanks, K.M., Zapp, S.M., *Silvestre, J.R.*, *Dutt, R.*, Shaw, J.B., **Straub, K.M.**, 2021, “Experimental investigation of the influence of marshes on river delta morphology and mass balance”, Coastal & Estuarine Research Federation Biennial Conference. Online Everywhere.*

*Silvestre, J., Sanks, K.M., Zapp, S., Shaw, J., *Dutt, R.*, **Straub, K.M.**, 2021, “Exploring the relationship between organic deposition resulting from marshes and autogenic scales in deltaic stratigraphy”, Spring Meeting of the European Geophysical Union, Online Everywhere.*

*Toby, S.C., Duller, R.A., De Angelis, S., **Straub, K.M.**, 2021, “Quantifying environmental signal propagation and preservation in ancient sediment routing systems using field data”, Spring Meeting of the European Geophysical Union, Online Everywhere.*

- Griffin, C., Highman, J., Duller, R., **Straub, K.M.**, 2021, “Tracking signal propagation through landscapes using a granular avalanching system”, Spring Meeting of the European Geophysical Union, Online Everywhere.
- Wooldridge, P.W., Duller, R.A., Jerrett, R.M., **Straub, K.M.**, 2021, “Quantification of fluvial-peat interactions in the Pikeville formation Central Appalachian Basin, USA.”, Spring Meeting of the European Geophysical Union, Online Everywhere.
- Wooldridge, P., Duller, R., Jerrett, R., Wells, B., **Straub, K.M.**, *Dutt, R.*, Griffin, C., 2021, “Using petrographic techniques to characterize the effect of transport distance on grain size distribution and grain shape of key lithofacies within an ancient deltaic succession”, Annual Meeting of the American Association of Petroleum Geologist, Houston, Texas.
- Wooldridge, P., Duller, R., Jerrett, R., **Straub, K.M.**, *Dutt, R.*, Wells, B., Griffin, C., 2021, “Embedding mesoscale delta dynamics within a macroscale mass balance framework”, Annual Meeting of the American Association of Petroleum Geologist, Houston, Texas.
- Wahab, A.*, Hoyal, D.C., Shringarpure, M., Sun, H., **Straub, K.M.**, 2021, “Statistical characterization of submarine fans over a wide range of hydrodynamics and sediment-transport parameters: A numerical campaign”, International Sedimentary Geoscience Congress, Flagstaff, Arizona.
- Silvestre, J.*, Sanks, K.M., Zapp, S., Shaw, J., *Dutt, R.*, **Straub, K.M.**, 2021, “Exploring the stratigraphic implications of organic deposition resulting from marshes on deltaic stratigraphy: A laboratory study”, International Sedimentary Geoscience Congress, Flagstaff, Arizona.
- Dutt, R.*, Wooldridge, P.W., Duller, R.A., **Straub, K.M.**, 2021, “Linking channel lateral mobility and resulting stratigraphic architecture within a mass-extraction framework for mixed bed and suspended load systems”, International Sedimentary Geoscience Congress, Flagstaff, Arizona.
- Mukherjee, U.* and **Straub, K.M.**, 2021, “Field testing autogenic storage thresholds for environmental signals in the strata of the Mississippi Delta”, International Sedimentary Geoscience Congress, Flagstaff, Arizona.
- Reece, J.K.* and **Straub, K.M.**, 2021, “Quantifying the influence of mini-basin geometry on depositional mechanics of turbidity currents”, International Sedimentary Geoscience Congress, Flagstaff, Arizona.
- Wooldridge, P., Jerrett, R.M., Duller, R., *Dutt, R.*, **Straub, K.M.**, 2021, “Quantifying the imprint of system-scale mass balance on fluvial-deltaic sedimentary architecture using the Pikeville formation, Central Appalachian basin, U.S.A.”, International Sedimentary Geoscience Congress, Flagstaff, Arizona.
- Phillips, K.D., Foreman, B.Z., **Straub, K.M.**, Clyde, W.C., 2021, “Bed thickness cyclicity in alluvial stratigraphy”, International Sedimentary Geoscience Congress, Flagstaff, Arizona.
- Jobe, Z.R., Howes, N.C., **Straub, K.M.**, Cai D., Deng, H., Laugier, F.J., Pettinga, L.A., Shumaker, L.E., 2020, “Comparing Aggradation, Superelevation, and Avulsion Frequency of Submarine and Fluvial Channels”, Fall Meeting of the American Geophysical Union, Online Everywhere.
- Mukherjee, U.* and **Straub, K.M.**, 2020, “Field testing autogenic storage thresholds for environmental signals in the strata of the Mississippi Delta”, Fall Meeting of the American Geophysical Union, Online Everywhere.
- Kakonkwe, C.*, Gasparini, N.M., and **Straub, K.M.**, 2020, “Nature and causes of autogenic responses in landscapes and terrestrial sedimentary basins: A Landlab modeling study”, Fall Meeting of the American Geophysical Union, Online Everywhere.
- Wahab, A.*, Hoyal, D.C.J.D., Sun, H., Shringarpure, M., **Straub, K.M.**, 2019, “Statistical characterization of submarine fans over a wide range of hydrodynamic and sediment-transport parameters: A numerical Campaign”, Fall Meeting of the American Geophysical Union, San Francisco, California.
- Sanks, K.M., Shaw, J., **Straub, K.M.**, Zapp, S., *Dutt, R.*, 2019, “The influence of marsh sediment accumulation on deltaic surface processes in a physical experiment”, Fall Meeting of the American Geophysical Union, San Francisco, California.
- Zapp, S., Shaw, J., **Straub, K.M.**, *Dutt, R.*, Sanks, K., 2019, “Consolidation of deltaic marsh sediments and their contribution to coastal subsidence in physical experiments”, Fall Meeting of the American Geophysical Union, San Francisco, California.
- Dutt, R.*, *Akintomide, A.O.*, **Straub, K.M.**, 2018, “Development of a mass-balance framework for mixed bed and suspended load systems”, Fall Meeting of the American Geophysical Union, Washington, D.C.

Wahab, A., Hoyal, D.C., Vishnampet, R., BVRSN, P., Shringarpure, M., Huafei, S., **Straub, K.M.**, 2018, “Development of statistical metrics to understand stratigraphic architecture in deep-water fan deposits”, Fall Meeting of the American Geophysical Union, Washington, D.C.

Toby, S.C., Duller, R., De Angelis, S., **Straub, K.M.**, 2018, “Transferring periodic sediment supply signals to the stratigraphic record”, Fall Meeting of the American Geophysical Union, Washington, D.C.

LABORATORY FACILITIES

Designed and built two stratigraphic basins and refurbished one flume for scientific and educational purposes: 1) Tulane Deepwater Basin, 2) Tulane Delta Basin, 3) Teaching Flume, all located in 100 Blessey Hall on Tulane University’s Uptown campus.

- Tulane Deepwater Basin:
 - Period of design and construction: September 2009 – August 2011
 - Total costs: ~\$200,000
 - Dimensions: 6-m long, 4-m wide, 2.2-m deep
 - Physically model morphodynamic and stratigraphic evolution of fluvial deltaic and/or deepwater systems in response to sea level, water, and sediment variations.
- Tulane Delta Basin:
 - Period of design and construction: June 2009 – March 2010
 - Total costs: ~\$100,000
 - Dimensions: 4.2-m long, 2.8-m wide, 0.65-m deep
 - Physically model morphodynamic and stratigraphic evolution of fluvial-deltaic systems in response to sea level, water, and sediment variations.
- Teaching flume:
 - Period of design and construction: June 2009 – January 2010
 - Total costs: ~\$20,000
 - Dimensions: 2.75-m long, 0.1-m wide, 0.3-m deep
 - Examine open channel sediment transport, construction of deltaic stratigraphy, and two-dimensional evolution of turbidity currents. Used for practicals in undergraduate and graduate level courses as well as in pilot and full-scale research projects.

PUBLISHED DATASETS: Straub students/postdocs in italics

1. **Straub, K.M.**, *Dutt, R., Akintomide, A.*, 2022, TDB_17_1, SEAD, DOI: [10.26009/s0UYIH3E](https://doi.org/10.26009/s0UYIH3E).
2. Sanks, K.M., Zapp, S.M., *Silvestre, J.R.*, Shaw, J.B., **Straub, K.M.**, 2022, TDWB-19-2-Surface-Processes, SEAD, DOI: [10.26009/s0UQYZ0M](https://doi.org/10.26009/s0UQYZ0M).
3. **Straub, K.M.** and *Dutt, R.*, 2022, TDB_18_1, SEAD, DOI: [10.26009/s0G2SM3L](https://doi.org/10.26009/s0G2SM3L).
4. *Barefoot, E.A.* and **Straub, K.M.**, 2022, TDB_19_1, SEAD, DOI: [10.26009/s0GJXJXC](https://doi.org/10.26009/s0GJXJXC).
5. **Straub, K.M.**, 2019, TDWB_17_1, SEAD, DOI: [10.26009/S0FCQNQR](https://doi.org/10.26009/S0FCQNQR).
6. *Toby, S., Dutt, R., Akintomide, A.*, and **Straub, K.M.**, 2019, TDB_16_3, SEAD, DOI: [10.26009/S0c20606](https://doi.org/10.26009/S0c20606).
7. *Toby, S.* and **Straub, K.M.**, 2019, TDB_16_2, SEAD, DOI: [10.26009/S0XTYI86](https://doi.org/10.26009/S0XTYI86).
8. *Toby, S.* and **Straub, K.M.**, 2019, TDB_16_1, SEAD, DOI: [10.26009/S0IORJDX](https://doi.org/10.26009/S0IORJDX).
9. *Yu, L.* and **Straub, K.M.**, 2017, TDB_15_1, SEAD, DOI: [10.5967/M00V89W1](https://doi.org/10.5967/M00V89W1).
10. *Li, Q.* and **Straub, K.M.**, 2017, TDB_14_2, SEAD, DOI: [10.5967/M0RF5S4H](https://doi.org/10.5967/M0RF5S4H).
11. *Li, Q.* and **Straub, K.M.**, 2017, TDB_14_1, SEAD, DOI: [10.5967/M0MP51D5](https://doi.org/10.5967/M0MP51D5).
12. *Li, Q.* and **Straub, K.M.**, 2017, TDB_13_1, SEAD, DOI: [10.5967/M07D2S7Q](https://doi.org/10.5967/M07D2S7Q).
13. *Li, Q.* and **Straub, K.M.**, 2017, TDB_12_1, SEAD, DOI: [10.5967/M03N21GX](https://doi.org/10.5967/M03N21GX).
14. *Wang, Y.* and **Straub, K.M.**, 2017, TDB_11_1, SEAD, DOI: [10.5967/M0D50K3T](https://doi.org/10.5967/M0D50K3T).
15. *Wang, Y.* and **Straub, K.M.**, 2017, TDB_10_2, SEAD, DOI: [10.5967/M0W37TFH](https://doi.org/10.5967/M0W37TFH).
16. *Wang, Y.* and **Straub, K.M.**, 2017, TDB_10_1, SEAD, DOI: [10.5967/M0HX19TT](https://doi.org/10.5967/M0HX19TT).

ADVISEES:

Postdoctoral

Anjali Fernandes
Chenliang Wu

Start Date

October 2012
April 2023

End Date

August 2015

Graduate Students

James Lopez
José Silvestre
J. Kevin Reece
Abdul Wahab
Udita Mukherjee

Degree Program

PhD, EENS
PhD, EENS
PhD, EENS
PhD, EENS
PhD, EENS

Status

3rd year
5th year
7th year
Graduated (2023)
Graduated (2022)

Christopher Esposito	PhD, EENS	Graduated (2017)
W. Matthew Benson	MS, EENS	Graduated (2017)
Qi Li	PhD, EENS	Graduated (2016)
Tushar Bishnoi	MS, EENS	Graduated (2016)
Lizhu Yu	MS, EENS	Graduated (2016)
Yinan Wang	MS, EENS	Graduated (2011)

**Graduate Students External to
Tulane (I advised on project
conducted in TSDS lab)**

Hamidreza Azarmidokht	PhD – Texas Tech University	2 nd year
Chloe Griffin	PhD – University of Liverpool	4 th year
Sam Zapp	MS – University of Arkansas	Graduated (2021)
Kelly Sanks	PhD – University of Arkansas	Graduated (2022)
Eric Barefoot	PhD – Rice University	Graduated (2021)
Stephan Toby	PhD – University of Liverpool	Graduated (2019)
Jane Stammer	PhD – Colorado School of Mines	Graduated (2014)

Undergraduate Students

Graduation Date

Margret Harlan (Honors thesis with Straub)	2016
Liam Doolin	2016
Katie Ahlstrom	2013
Erin Cunningham	2013
Alexander Breaux	2012
Krystal Pennuto	2011
Jaimeson Fredricks	2011

Awards to Advisees

- Chloe Griffin: Honorable mention for Outstanding student presentation award – American Geophysical Union (2022), Best Oral Presentation - International Conference on Fluvial Sedimentology (2022), Honorable mention for Poster Presentation - - International Conference on Fluvial Sedimentology (2022).
- José Silvestre: SEPM (2020) Research Grant-in-Aid; Geological Society of America (2019) Research Grant-in-Aid
- Kevin Reece: SEPM (2019) Research Grant-in-Aid; Geological Society of America (2019) Research Grant-in-Aid; AAPG (2021) Research Grant-in-Aid
- Abdul Wahab: Outstanding student presentation award – American Geophysical Union (2021), Vokes Fellowship for outstanding PhD candidate in Earth & Environmental Sciences (2021), Geological Society of America (2018) Research Grant-in-Aid; AAPG (2019) Research Grant-in-Aid
- Ripul Dutt: AAPG (2021) Research Grant-in-Aid, Outstanding teaching assistant award (2018)
- Tushar Bishnoi: Schlumberger Research Grant (2016); Outstanding teaching assistant award (2015)
- Qi Li: SEPM (Society for Sedimentary Geology) (2013) Research Grant-in-Aid; Department of Earth & Environmental Sciences, Tulane University (2016) Outstanding research award
- Chris Esposito: Vokes Fellowship for outstanding PhD candidate in Earth & Environmental Sciences (2015), Geological Society of America (2014) Research Grant-in-Aid; Department of Earth & Environmental Sciences, Tulane University (2014) Outstanding research award; Department of Earth & Environmental Sciences, Tulane University (2013) Outstanding teaching assistant in an upper-level undergraduate course
- Lizhu Yu: Geological Society of America – Research Grant-in-Aid (2015), Schlumberger Research Grant (2016)
- W. Matthew Benson: Geological Society of America (2013) Research Grant-in-Aid

THESIS COMMITTEE PARTICIPATION:

Ahmed Khalifa, Tulane RCSE, 2023
 Laurent Roberge, EENS, Active
 Sam Anderson, EENS, Active
 Nadim Hashmeh, EENS, 2022
 Eric White, Tulane RCSE, Active
 Eric Barefoot, Rice University, Department of Earth, Environmental and Planetary Sciences, 2021
 Mukherjee, Udit, Tulane, EENS, 2022
 Thi Quan H. Pham, EENS, 2020
 Akinbobola Akintomide, Tulane, EENS, 2021
 Kelly Sanks, University of Arkansas, Department of Geosciences, 2021
 Sam Zapp, University of Arkansas, Department of Geosciences, 2021

Tobi Hasse, University of Delaware, Department of Earth Sciences, 2021
 Peter Wooldridge, University of Liverpool, Department of Geological Sciences, 2021
 Michael Rodriguez, Tulane, EENS, Active
 Stephan Toby, University of Liverpool, Department of Geological Sciences, 2019
 Dan Culling, MS, Tulane, EENS, 2017
 Jordan Adams, PhD, Tulane, EENS, 2017
 Jane Stammer, PhD, Colorado School of Mines, Department of Geological Sciences, 2014
 Jianwei Han, PhD, Tulane, EENS, 2014
 Glenn Fischer, MS, Tulane, EENS, 2012
 Kelly Williams, MS, Tulane, EENS, 2012

TEACHING EXPERIENCE:

- | | |
|---------------------------------------|---|
| Spring 2013 | Instructor, Tulane University
<i>EENS 1110 Physical Geology</i> |
| | <ul style="list-style-type: none"> • Taught and graded undergraduate level course that introduces geological concepts to undergraduate students including majors and non-majors. |
| Spring 2021 | Instructor, Tulane University
<i>EENS 2090 Surface Water Hydrology</i> |
| | <ul style="list-style-type: none"> • Designed, taught, and graded required undergraduate course for Environmental Science majors on the movement of water through the Earth system. |
| Fall '21, '16-19,
'13-'14, '09-'11 | Instructor, Tulane University
<i>EENS 3270 Sedimentology and Stratigraphy</i> |
| | <ul style="list-style-type: none"> • Designed, taught, and graded course required for undergraduates majoring in geology. Course included lecture, laboratory, and field components. |
| Fall 2020, '21 | Instructor, Tulane University
<i>EENS 6080 Sediment Routing Systems</i> |
| | <ul style="list-style-type: none"> • Designed, taught, and graded graduate level course that examined the routing of sediment from erosional catchments to depositional basins. |
| Spring 2010,
Fall 2012 | Instructor, Tulane University
<i>EENS 6083 Seminar in Sediment Transport</i> |
| | <ul style="list-style-type: none"> • Designed, taught, and graded graduate level course centered on discussion of current research or advanced topics in sedimentary geology. |
| Spring 2011,
14, 16, 18, 22 | Instructor, Tulane University
<i>EENS 6160 Construction and Interpretations of 3D Stratigraphy</i> |
| | <ul style="list-style-type: none"> • Designed, taught, and graded graduate level course that related surface processes to subsurface stratigraphic record • Course utilized experimental and industry-grade 3D seismic volumes of stratigraphy in class projects. |
| Spring 10, 12,
15, 17, 20, 22 | Instructor, Tulane University
<i>EENS 6310 Depositional Mechanics</i> |
| | <ul style="list-style-type: none"> • Designed, taught, and graded graduate level course in sediment transport and deposition. Course included lecture and field components. |
| Fall 2018 | Instructor, Tulane University
<i>EENS 7010 Techniques in Geoscience Writing</i> |
| Fall 2021,
Spring 2022 | Instructor, Tulane University
<i>EENS 7100 Seminar in Earth & Environmental Sciences</i> |
| Summer 2013
Summer 2018 | Instructor, National Center for Earth-surface Dynamics
<i>Subsurface to surface: recovering surface dynamics from stratigraphic records</i> |
| | <ul style="list-style-type: none"> • Designed and taught lecture and practical for summer institute attended by upper level graduate students through early career faculty members. |
| Spring 2008 | Instructor, University of Minnesota
<i>Shallow and Deep water depositional processes</i> |
| | <ul style="list-style-type: none"> • Designed and co-taught 3-5 day courses for petroleum industry employees. Courses included classroom lectures in addition to demonstration experiments on sedimentary processes |
| Fall 2005,
Fall 2004 | Teaching Assistant, Massachusetts Institute of Technology
<i>Sedimentary Geology</i> |

- Worked with undergraduates on identifying and interpreting sediments and sedimentary rocks, quantifying modes of sediment transport, and understanding stratigraphic relationships in sedimentary basins.
- Designed, taught, and graded laboratory portion of class.

PROFESSIONAL SOCIETIES:

The American Geophysical Union, SEPM (The Society of Sedimentary Geology), The Geological Society of America

UNIVERSITY SERVICE:

- Member of University Senate (2020-present)
- Chair of Department of Earth and Environmental Sciences Equity, Diversity, and Inclusion Committee (2021-present)
- Member of Tulane University, School of Science and Engineering committee to develop Strategy for Tomorrow (Equity, Diversity, and Inclusion plan) (2021-present)
- Member of Tulane University working group on Integrating Equity, Diversity, and Inclusion practices in Curriculum (2022-present)
- Chair of School of Science and Engineering Directors of Graduate Studies Committee (2020-2020)
- Chair of Department of Earth and Environmental Sciences Graduate Committee (2016-2020)
- Member of Department of Earth and Environmental Sciences Graduate Committee (2010-2020)
- University Senate Budget Review Committee (2015-2018)
- Member of Task Force on Development of an Engineering Geology Program at Tulane University (2015)
- Member of search committee for new Tulane University Dean of Libraries (2015)
- Member of ad hoc committee for development of university wood and metal shop (2014)
- Member of University Honor Board (2010-2012)

NON-UNIVERSITY SERVICE:

- Invited member of GeoPRISMS steering committee (2016-present)
- Member of Executive Committee Earth and Planetary Surface Process Section of American Geophysical Union (2019 – present)
- Associate Editor for: *Journal of Sedimentary Research* (2009-present), *Sedimentology* (2018-present)
- Co organizer: Summer Institute on Earth-surface Dynamics 2015: Summer in the Swamp: Self-organization in landscapes and its residue in the stratigraphic record. A 1.5 week course held at Tulane University and hosted by the National Center for Earth-surface Dynamics
- Member of Executive Committee & Board of Directors Sedimentary geology, Time, Environment, Paleontology, Paleoclimate, and Energy (STEPPE) program, an NSF-funded research and education coordination and communications effort representing deep-sedimentary crust research (2014-2016)
- Early Career Councilor *SEPM Society for Sedimentary Geology* (2014-2016)
- Co Chair: 2012 Meeting of Young Researchers in Earth Science (MYRES) titled *The Sedimentary Record of Landscape Dynamics*
- Member of Proposal Review Panel *National Science Foundation Programs in Marine Geology and Geophysics, Geomorphology and Land-use Dynamics, Sedimentary Geology and Paleobiology*
- Reviewer of Manuscripts for: *Nature, Science, Geology, Journal of Sedimentary Research, The Geological Society of America Bulletin, Journal of Geophysical Research – Earth Surface, Geophysical Research Letters, Sedimentology, Lithosphere, Terra Nova, Marine Geophysical Researches, Basin Research, Sedimentary Geology*
- Reviewer of Grant Proposal: *National Science Foundation (SGP, MGG, GLD), American Chemical Society - Petroleum Research Fund*
- Invited member of the NSF-funded National Center for Earth-surface Dynamics (NCED) “Emerging leaders network”, a group of young researchers recognized as doing interdisciplinary work in morphodynamics.
- Invited member of Subsidence Advisory Panel for the Louisiana Office of Coastal Protection and Restoration: Panel tasked with compiling a coast wide map of potential future subsidence ranges as part of the updated 2012 Louisiana Comprehensive Master Plan for a Sustainable Coast.
- Organized Technical Sessions:

- Technical session co-chair, 2020 AGU Fall Meeting, *Autogenic Dynamics of Bedrock and Sedimentary Systems*.
- Technical session co-chair, 2019 AGU Fall Meeting, *Signatures of Environmental Signals in Earth's Surface and Subsurface*.
- Technical session co-chair, 2018 AAPG/SEPM Annual Meeting, *Quantitative Measurement and Modeling of Clastic Sedimentary Processes*.
- Technical session co-chair, 2017 AGU Fall Meeting, *Reconstructing landscape dynamics and environmental signals from stratigraphy and relict landscapes*.
- Technical session co-chair, 2015 AGU Fall Meeting, *Experimental studies in surface processes*.
- Technical session co-chair, 2014 AGU Fall Meeting, *Signal propagation and preservation: routing information from the geomorphic engine to the stratigraphic record*.
- Technical session co-chair, 2014 AAPG/SEPM Annual Meeting, *Quantitative Measurement and Modeling of Clastic Sedimentary Processes*.
- Technical committee member, 2014 Society for Sedimentology (SEPM) Research Conference, *Autogenic Dynamics of Sedimentary Systems*
- Technical session co-chair, 2010 International Sedimentological Congress, *Patterns of deep-marine channel and associated overbank sedimentation outcrop, modern, experimental and seismic*
- Technical session co-chair, 2010 AAPG/SEPM Annual Meeting, *Numerical and Physical Modeling of Sedimentary Processes*.
- Technical session co-chair, 2009 AGU Fall Meeting, *Interpreting allogenic and autogenic processes in the stratigraphic record*.
- Technical session co-chair, 2007 AGU Fall Meeting, *Depositional landforms: Process and Product*