

# Zoltan Sylvester

## Professional Summary

May 9, 2021

Business address: The University of Texas at Austin  
Bureau of Economic Geology  
University Station, Box X  
Austin, TX 78713-8924  
Telephone: (512) 471-4874  
E-mail address: zoltan.sylvester@beg.utexas.edu

### Awards

#### Awards and Honorary Societies

AAPG Jules Braunstein Memorial Award, 2019

### Presentations

#### Invited Presentations

meanderpy: A Simple Model of Meandering Sheds Light on Channel Kinematics and Autogenic Counter Point Bars: presented at CSDMS 3.0--Bridging Boundaries, CSDMS 2019 Annual Meeting, Boulder, Colo., May 23, 2019.

Towards a Better Understanding of Architecture and Pore-Space Distribution in Clastic Sediments and Rocks: Studying Sedimentary Systems Using Simple Stratigraphic Forward Models: presented at SEPM Research Symposium, AAPG 2019 Annual Convention & Exhibition, San Antonio, Tex., May 21, 2019.

### Publications

#### Peer Reviewed Journal Articles

Covault, J. A., Sylvester, Z., Hudec, M. R., Ceyhan, C., and Dunlap, D., 2020, Submarine channels 'swept' downstream after bend cutoff in salt basins: The Depositional Record, v. 6, no. 1, p. 259-272, <http://doi.org/10.1002/dep2.75>.

Zhang, J., Sylvester, Z., and Covault, J., 2020, How do basin margins record long-term tectonic and climatic changes?: Geology, v. 48, no. 9, p. 893-897, <http://doi.org/10.1130/G47498.1>.

Hawie, N., Covault, J. A., and Sylvester, Z., 2019, Grain-size and discharge controls on submarine-fan depositional patterns from forward stratigraphic models: Frontiers in Earth Science, v. 7, no. 334, 15 p., <http://doi.org/10.3389/feart.2019.00334>.

Sharman, G. R., Sylvester, Z., and Covault, J. A., 2019, Conversion of tectonic and climatic forcings into records of sediment supply and provenance: Scientific Reports, v. 9, no. 4115, 7 p., <http://doi.org/10.1038/s41598-019-39754-6>.

Sylvester, Z., Durkin, P., and Covault, J., 2019, High curvatures drive river meandering: Geology, v. 47, no. 3, p. 263-266, <http://doi.org/10.1130/G45608.1>.

Sylvester, Z., Durkin, P., Covault, J. A., and Sharman, G. R., 2019, High curvatures drive river meandering: reply: Geology, v. 47, no. 10, p. e486, <http://doi.org/10.1130/G46838Y.1>.

Hawie, N., Covault, J., Dunlap, D. B., and Sylvester, Z., 2018, Slope-fan depositional architecture from high-resolution forward stratigraphic models: Marine and Petroleum Geology, v. 91, p. 576-585, <http://doi.org/10.1016/j.marpetgeo.2017.12.033>.

Sharman, G. R., Sharman, J. P., and Sylvester, Z., 2018, detritalPy: a Python-based toolset for

visualizing and analysing detrital geo-thermochronologic data: *The Depositional Record*, v. 4, no. 2, p. 202-215, <http://doi.org/10.1002/dep2.45>.

Covault, J., Kostic, S., Paull, C., Sylvester, Z., and Fildani, A., 2017, Cyclic steps and related supercritical bedforms: building blocks of submarine fans and canyon-channel systems, western North America: *Marine Geology*, v. 393, p. 4-20, <http://doi.org/10.1016/j.margeo.2016.12.009>.

Jobe, Z. R., Sylvester, Z., Bolla Pittaluga, M., Frascati, A., Pirmez, C., Minisini, D., Howes, N., and Cantelli, A., 2017, Facies architecture of submarine channel deposits on the western Niger Delta slope: implications for grain-size and density stratification in turbidity currents: *Journal of Geophysical Research: Earth Surface*, v. 122, p. 473-491, <http://doi.org/10.1002/2016JF003903>.

Jobe, Z. R., Sylvester, Z., Howes, N., Pirmez, C., Parker, A., Cantelli, A., Smith, R., Wolinsky, M. A., O'Byrne, C., Slowey, N., and Prather, B., 2017, High-resolution, millennial-scale patterns of bed compensation on a sand-rich intraslope submarine fan, western Niger Delta slope: *GSA Bulletin*, v. 129, no. 1-2, p. 23-37, <http://doi.org/10.1130/B31440.1>.

Prather, B. E., O'Byrne, C., Pirmez, C., and Sylvester, Z., 2017, Sediment partitioning, continental slopes and base-of-slope systems: *Basin Research*, v. 29, no. 3, p. 394-416, <http://doi.org/10.1111/bre.12190>.

Sylvester, Z., and Covault, J., 2016, Development of cutoff-related knickpoints during early evolution of submarine channels: *Geology*, v. 44, no. 10, p. 835-838, <http://doi.org/10.1130/G38397.1>.

Wingate, D., Kane, J., Wolinsky, M., and Sylvester, Z., 2016, A new approach for conditioning process-based geologic models to well data: *Mathematical Geosciences*, v. 48, no. 4, p. 371-397, <http://doi.org/10.1007/s11004-015-9596-8>.

Jobe, Z. R., Sylvester, Z., Parker, A. O., Howes, N., Slowey, N., and Pirmez, C., 2015, Rapid adjustment of submarine channel architecture to changes in sediment supply: *Journal of Sedimentary Research*, v. 85, no. 6, p. 729-753, <http://doi.org/10.2110/jsr.2015.30>.

Sylvester, Z., Cantelli, A., and Pirmez, C., 2015, Stratigraphic evolution of intraslope minibasins: Insights from surface-based model: *AAPG Bulletin*, v. 99, no. 6, p. 1099-1129, <http://doi.org/10.1306/01081514082>.

Abd El-Gawad, S., Cantelli, A., Pirmez, C., Minisini, D., Sylvester, Z., and Imran, J., 2012, Three-dimensional numerical simulation of turbidity currents in a submarine channel on the seafloor of the Niger Delta slope: *Journal of Geophysical Research*, v. 117, no. C5, 16 p., <http://doi.org/10.1029/2011JC007538>.

Abd El-Gawad, S., Pirmez, C., Cantelli, A., Minisini, D., Sylvester, Z., and Imran, J., 2012, 3-D numerical simulation of turbidity currents in submarine canyons off the Niger Delta: *Marine Geology*, v. 326-328, p. 55-66, <http://doi.org/10.1016/j.margeo.2012.06.003>.

Sylvester, Z., Pirmez, C., and Cantelli, A., 2011, A model of submarine channel-levee evolution based on channel trajectories: Implications for stratigraphic architecture: *Marine and Petroleum Geology*, v. 28, no. 3, p. 716-727, <http://doi.org/10.1016/j.marpetgeo.2010.05.012>.

Sylvester, Z., 2007, Turbidite bed thickness distributions: methods and pitfalls of analysis and modelling: *Sedimentology*, v. 54, no. 4, p. 847-870, <http://doi.org/10.1111/j.1365-3091.2007.00863.x>.

Sylvester, Z., and Lowe, D. R., 2004, Textural trends in turbidites and slurry beds from the Oligocene flysch of the East Carpathians, Romania: *Sedimentology*, v. 51, no. 5, p. 945-972, <http://doi.org/10.1111/j.1365-3091.2004.00653.x>.

Buatois, L. A., Mangano, M. G., and Sylvester, Z., 2001, A diverse deep-marine Ichnofauna from the Eocene Tarcau sandstone of the Eastern Carpathians, Romania: *Ichnos*, v. 8, no. 1, p. 23-62, <http://doi.org/10.1080/10420940109380172>.

## Peer Reviewed Book Chapters

Deptuck, M. E., and Sylvester, Z., 2018, Submarine fans and their channels, levees, and lobes, in Micallef, A., Krastel, S., Savini, A., eds., *Submarine geomorphology*: Cham, Switzerland, Springer, p. 273-299, [http://doi.org/10.1007/978-3-319-57852-1\\_15](http://doi.org/10.1007/978-3-319-57852-1_15).

Sylvester, Z., and Pirmez, C., 2017, Latitudinal changes in the morphology of submarine channels: reevaluating the evidence for the influence of the Coriolis force, in Fraticelli, C., Markwick, P., Martinius, A. W., Suter, J., eds., *Latitudinal controls on stratigraphic models and sedimentary concepts*: SEPM Special Publication, v. 108, 11 p., <http://doi.org/10.2110/sepm.sp.108.02>.

Sylvester, Z., Deptuck, M. E., Prather, B. E., Pirmez, C., and O'Byrne, C., 2012, Seismic stratigraphy of a shelf-edge delta and linked submarine channels in the northeastern Gulf of Mexico, in Prather, B. E., Deptuck, M. E., Mohrig, D., Van Hoorn, B., 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 Publications, v. 99, p. 31-59, <http://doi.org/10.2110/pec.12.99.0031>.

## Conference Proceedings

Harris, A. D., Covault, J., Baumgardner, S., Madof, A. S., Sun, T., Sylvester, Z., and Granjeon, D., 2017, Authogenic and allogenic controls on deep-water sand delivery: insights from numerical stratigraphic forward modeling, GCSSEPM Conference, Houston, Tex., 19 p.

## Published Reports

Ambrose, W. A., Rogers, H., Smith, D. C., Scanlon, B. R., Paine, J. G., Nicot, J.-P., Young, M. H., Loucks, R. G., Hentz, T. F., Reed, R. M., Ogiesoba, O. C., Olariu, M. I., Fu, Q., Flaig, P. P., Zhang, J., Hattori, K., Roberts, A., Zeng, H., DeJarnett, B. B., Radjef, E., Periwal, P., Peng, S., Duncan, I. J., Ren, B., Jensen, J., Male, F., Dommissie, R., Eastwood, R., Carr, D. L., Zhang, T., Ko, L., Larson, T., Lawton, T., Covault, J., Sylvester, Z., Goodman, E., Calle, A., Smye, K. G., Pelletier, I., Dunlap, D. B., Lambert, J., and Sivil, J. E., 2021, *State of Texas Advanced Resource Recovery (STARR) 2018-2020 biennium report*: The University of Texas at Austin, Bureau of Economic Geology 44 p.

## Published Abstracts

Covault, J., Sylvester, Z., Hudec, M., Ceyhan, C., and Dunlap, D., 2019, Deep-water channels "swept" downstream after bend cutoff in salt basins (abs.): 2019 AAPG Annual Convention and Exhibition, San Antonio, Tex., May 19-22, 1 p.

Harris, A., Covault, J., Baumgardner, S., Madof, A., Sun, T., Sylvester, Z., and Granjeon, D., 2017, Autogenic and allogenic controls on deep-water sand delivery: insights from numerical stratigraphic forward modeling (abs.): 2017 GCSSEPM Conference, 4-5 December, Houston, Tex.

Harris, A., Covault, J., Madof, A., Baumgardner, S., Sun, T., Sylvester, Z., and Granjeon, D., 2017, Equifinality in deep-water sand delivery: insights from 3-D stratigraphic forward models (abs.): *Geological Society of America Abstracts with Programs*, v. 49, no. 6, <http://doi.org/10.1130/abs/2017AM-303903>.

Harris, A., Covault, J., Madof, A., Sun, T., Sylvester, Z., Granjeon, D., and Baumgardner, S., 2017, Three-dimensional numerical modeling of eustatic control on continental-margin sand distribution (abs.): *AAPG Datapages/Search and Discovery Article #90291*.

Sylvester, Z., and Covault, J., 2017, Deciphering depositional signals in the bed-scale stratigraphic record of submarine channels (abs.): *AGU Fall Meeting*, 11-15 December, New Orleans, La.

Sylvester, Z., and Covault, J., 2017, Development of cutoff-related knickpoints in submarine channels: insights from kinematic modeling and implications for reservoir architecture (abs.):

AAPG Datapages/Search and Discovery Article #90291.

Sylvester, Z., and Covault, J., 2017, Influence of tectonic deformation on meander belt architecture: insights from kinematic modeling (abs.): 11th International Conference on Fluvial Sedimentology, 17-21 July, Calgary, Canada.

Sylvester, Z., and Covault, J., 2017, The stratigraphic interpretation of subaerial and submarine valleys (abs.): 2017 GCSSEPM Conference, December 4-5, Houston, Tex.