

# Laboratory of Morphodynamics and Stratigraphy

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The Laboratory of Morphodynamics and Stratigraphy seeks to develop a comprehensive understanding of the geomorphic and stratigraphic responses intrinsic to sediment transport processes and the boundary conditions in sedimentary basins, predominantly through experimentation using physical and numerical models. Our current interests include the response of river delta dynamics to external forcing over various time scales. A recent, critical advance in our understanding of the long-term behavior of river deltas has been made possible by the discovery of large-scale deterministic autogenesis, a process on which *autostratigraphy*, a framework norm for genetic stratigraphy that takes full account of deterministic autogenesis, is based. The autostratigraphic model of river deltas suggests that abrupt stratigraphic breaks are not necessarily associated with sudden changes in rates of base-level movement, and can be the result of purely autogenic responses in the system.

