

# **Thrust-Front Evolution and Implications for Puchkirchen Turbidite-Complex Development, Late Tertiary Eastern Alpine Thrust Front and Molasse Foreland Basin, Austria**

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Concepts of thrust-front evolution developed as a result of early Alpine studies (cf., Suess, 1904); however, the Oligocene to Miocene tectonic and stratigraphic evolutions of the Molasse foreland-basin system (i.e., the eastern Alpine thrust front and deep-water Molasse basin) in Austria are poorly understood. This study focused on the Puchkirchen turbidite complex, which is composed of a deep-water, Molasse basin-axial channel belt and small, intraslope submarine fans north of the eastern Alpine thrust front. 3D seismic-reflection and wireline-log data courtesy of Austrian energy company Rohöl-Aufsuchungs A.G. elucidate the Oligocene to Miocene sequence of eastern Alpine nappe emplacement, and the paleogeomorphology of a tectonically-influenced eastern Alpine drainage network consisting of tear faults and wedge-top minibasins. Tear faults might have developed transverse to the eastern Alpine thrust front in order to accommodate nappe emplacement, and served as sediment-gravity-flow conduits from the eastern Alps to the foreland. Wedge-top minibasins might have provided accommodation that facilitated sediment-gravity-flow transport and deposition. Insights regarding the tectonic evolution of the Molasse foreland-basin system clarify tectonic controls on the temporal and spatial development of the Puchkirchen turbidite complex, and resolve some of the ambiguity associated with sedimentation along convergent continental margins.

## **References**

Suess, E., 1904, *The face of the earth*, v. 1: Trans. from 1884 ed. by H. B. C. Sollas: Oxford, Oxford University Press, 604 p.