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Brief Summary

The aim of the project is to calibrate the sedimentary, burial, thermal and tectonic history of a rift basin, using actual realistic 3D models of the basin made in Petrel (Schlumberger) software, to constrain the theoretical deterministic models made in Badlands/Underworld. The experimental design will estimate and evaluate the most important controlling variables, produce the associated statistical equations, and test many of the accepted theoretical equations for basin development.

Education: M.Sc. in Geology, Curtin University, 2014-2015; B.Sc. (Hons) in Petroleum Geology Engineering, China University of Petroleum, Beijing, 2009-2013.

Research interests: 3D basin modelling; Burial thermal history; Petroleum Geology

Thesis title: Realistic and Theoretical 3D Modelling of the Sedimentation, Burial, Thermal and Tectonic History of the Gippsland Rift Basin.

Supervisors: Prof. Greg Smith, Prof. Chris Elders and Dr. Jane Cunneen

Publications:

- 1) **Yang, X.M.** & Elders, C. 2016. The Mesozoic structural evolution of the Gorgon Platform, North Carnarvon Basin, Australia. *Australian Journal of Earth Sciences* 63, 755-770.
- 2) Li, Z., Wang, X. C., Wilde, S. A., Liu, L., Li, W. X., & **Yang, X.** (2018). Role of deep-Earth water cycling in the growth and evolution of continental crust: Constraints from Cretaceous magmatism in southeast China. *Lithos*, 302, 126-141.
- 3) Li, Z., Wang, X.C., Liu, K., Tossalina, S., **Yang, X.M.**, Ma, X.Z. & Sun, H.T. 2017. Rhenium-osmium geochronology in dating petroleum systems: Progress and challenges. *Acta Petrolei Sinica* 38(3), 297-306.
- 4) Li, Z., Qiu, N.S., Chang, J. & **Yang, X.M.** 2015. Precambrian evolution of the Tarim Block and its tectonic affinity to other major continental blocks in China: New clues from U-Pb geochronology and Lu-Hf isotopes of detrital zircons. *Precambrian Research* 270, 1-21.
- 5) Li, Z., Qiu, J.S. & **Yang, X.M.** 2014. A review of the geochronology and geochemistry of Late Yanshanian (Cretaceous) plutons along the Fujian coastal area of southeastern China: Implications for magma evolution related to slab break-off and rollback in the Cretaceous. *Earth-Science Reviews* 128, 232-248.