

# LAC L. M. Venanzi

## Distinguished Lecture 2022

**Prof. Dr. Douglas W. Stephan**  
University of Toronto

1. Vortrag:

Dienstag, 10. Mai 2022, 17.15 Uhr, ETH, HCI J7

### «Frustrated Lewis Pairs: Hydrogen Activation, Catalysis and the Nature of FLPs»

For over a hundred years, chemical dogma dictated that transition metals were required to activate dihydrogen and mediate hydrogenation catalysis. This changed with the emergence of the concept of frustrated Lewis pairs (FLPs) where simple combinations of the main group species could be effect the activation of dihydrogen reversible. In this lecture, we will begin with the early work that led to this dramatic alteration of chemical thinking. The range of substrates and the variety of group III catalysts that have emerged are discussed as well as the evolution of the catalysts to address facility of use and issues of stereoselectivity. In addition, the use of a broad range of other Lewis acids including those derived from groups IV, and V, as well as transition and alkali metals is described. Finally, we briefly touch on chemical issues where the notion of FLP-dihydrogen activation has provided insights or offer new avenues for future development.

Guests are most welcome