David Ayala (Montana State University)

„Geometry of the cyclotomic trace.“

Abstract:
I'll outline a construction of the cyclotomic trace map, K(C) --> TC(C) , for C any (not necessarily connective) stable \infty-category. This construction will be premised on an identification of cyclotomic spectra in terms of quasi-coherent sheaves on a stratified non-commutative stack. I'll explain this identification through precursors thereof concerning stable equivariant homotopy theory. In the case that C = Perf_X for X a scheme, I'll make this cyclotomic trace map explicit in terms of "trace of monodromy", thereby contextualizing the essential role of Tate constructions in this framework. I'll also consider the case C = Perf_A for A a tensor algebra on any spectrum.

This is a report on joint work with Aaron Mazel-Gee and Nick Rozenblyum, which builds on work, in particular, by Blumberg-Mandell, Barwick-Glasman, and Nikolaus-Scholze.