MARTIN FRANKLAND, University of Regina

Towards the dual motivic Steenrod algebra in positive characteristic

Several tools from classical topology have useful analogues in motivic homotopy theory. Voevodsky computed the motivic Steenrod algebra and its dual over a base field of characteristic zero. Hoyois, Kelly, and Østvær generalized those results to a base field of characteristic p, as long as the coefficients are mod ℓ with $\ell \neq p$. The case $\ell = p$ remains conjectural.

In joint work with Markus Spitzweck, we show that over a base field of characteristic p, the conjectured form of the mod p dual motivic Steenrod algebra is a retract of the actual answer. I will sketch the proof and possible applications. I will also explain how this problem is closely related to the Hopkins–Morel–Hoyois isomorphism, a statement about the algebraic cobordism spectrum MGL.