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The Kauffman-Radford reformulation of the Hennings invariant (KRH or HKR invariant, for short) appeared in the mid-1990s. It is defined via surgery instructions for closed, oriented 3-manifolds in terms of Hopf-algebra objects in categories with additional structure. Some aspects of the KRH invariant have been studied, albeit relatively modestly. These include further reformulations that tend to generalize the invariant in terms of topological scope or categorical settings, as well as comparisons with other invariants for particular classes of 3-manifolds. Also, it is widely conjectured that, from a topological viewpoint, the KRH and the Kuperberg invariants are equivalent (upon the right choice of algebraic ingredients).

In this talk, we report on our current efforts to study the KRH invariant through the clarification of its underlying categorical features.

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