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**Louis Hirsch Kauffman\*** ([kauffman@uic.edu](mailto:kauffman@uic.edu)), 5530 South Shore Drive, Apt 7C, Chicago, IL 60637-1946. *Categorifications of the Arrow Polynomial for Virtual Knots and Links.*

This talk will discuss ongoing work on categorifications of the arrow polynomial for virtual knots and links. The arrow polynomial is a construction of Dye and Kauffman that generalizes the Jones polynomial for virtual links to infinitely many variables, by using the oriented combinatorial structure of the link diagram. Dye, Kauffman and Manturov categorify the arrow polynomial by using new gradings associated with this extra structure. In this talk we discuss how these constructions are made, and we discuss joint work with Aaron Kaestner on examples of knots and links not detected by the arrow polynomial or by Khovanov homology that are detected by our categorification homology for the arrow polynomial. (Received July 07, 2010)