

## **ABSTRACT**

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In the last few years, C. Blanchet, F. Costantino, M. De Renzi, B. Patureau, N. Reshetikhin, V. Turaev and myself (in various collaborations) have developed a theory of renormalized quantum invariants coming from non-semi-simple categories. This talk will start out by giving an overview of this work. In the second part of the talk I will discuss the renormalized quantum invariants of links coming from quantized  $\mathfrak{sl}(2)$  at a root of unity. These link invariants contain Kashaev's quantum dilogarithm invariants of knots and the multi-variable Alexander Polynomial. This theory is also related to logarithmic conformal field theory. It is my intention that graduate students will be able to follow this non-technical talk.