

Workshop on Combinatorial Hopf Algebras  
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# Quasisymmetric functions for Bruhat intervals and Kazhdan-Lusztig polynomials

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## **Abstract**

We associate a quasisymmetric function to any Bruhat interval in a general Coxeter group. This association can be seen to give a morphism of Hopf algebras to the subalgebra of all peak functions, leading to an extension of the usual cd-index of the interval to the complete cd-index. We show how the Kazhdan-Lusztig polynomials of the Bruhat interval can be expressed in terms of this complete cd-index and otherwise explicit combinatorially defined polynomials.

*This is joint work with Francesco Brenti.*