



# ICECA

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## MACDONALD EIGENOPERATORS, WHY AND HOW

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Operators having the combinatorial Macdonald functions as joint eigenfunctions are playing an ever-growing role in many subjects going from algebraic combinatorics to statistical mechanics, going through representation theory, algebraic geometry, and link homology. We first outline and motivate some of this, mainly in relation with algebraic combinatorics and symmetric function theory. We then go on to describe nice properties of particular operators that unify many previously encountered ones. Our aim is to make this readily accessible to a broad audience, especially by exploiting the underlying combinatorics.