Colloquium

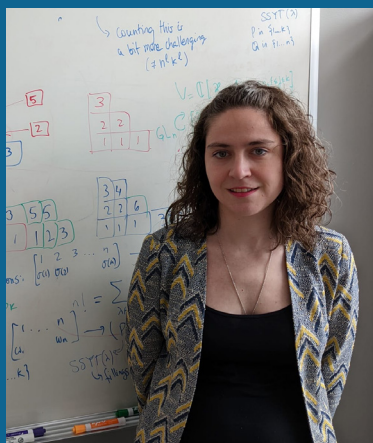## Dr. Laura Colmenarejo

Professor of Mathematics

North Carolina State University

Friday, November 11, 2022 @ 2:00pm

EMS Building, E495

Dr. Laura Colmenarejo

UW-Milwaukee Department of Mathematical Sciences

EMS Building, Room E403 3200 North Cramer Street Milwaukee, Wisconsin 53211 414-229-4836

An insertion algorithm on multiset partitions with applications to diagram algebras

In algebraic combinatorics, the Robinson-Schensted-Knuth algorithm is a fundamental correspondence between words and pairs of semistandard tableaux illustrating identities of dimensions of irreducible representations of several groups. In this talk, I will present a generalization of the Robinson-Schensted-Knuth algorithm to the insertion of two-row arrays of multisets. This generalization leads to new enumerative results that have representation-theoretic interpretation as decomposition of centralizer algebras and the spaces they act on. I will also present a variant of this algorithm for diagram algebras that has the remarkable property that it is well-behaved with respect to restricting a representation to a subalgebra.

Refreshments will be served in EMS E495 following this event.

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