THE UNIVERSITY OF CHICAGO | THE COMMITTEE ON COMPUTATIONAL AND APPLIED MATHEMATICS

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Arithmetic Formula Complexity

THURSDAY, MAY 26, at 4:00PM

Jones 303, 5747 S. Ellis Ave. Chicago, IL 60637

ABSTRACT

An arithmetic formula is an expression involving only constants -1 and 1, as well as binary operations of addition, multiplication and exponentiation. In my talk, I will motivate the problem of determining the complexity of formula encodings of numbers. I will show upper and lower bounds on the monotone complexity of integer encodings. If time permits I will also describe a combinatorial sieve for finding minimal non-monotone circuit encodings.

The talk is based on joint works with Maksym Radziwill, C. Sanna, Patrick Devlin, and Doron Zeilberger.

Organizer:

Daniel Sanz-Alonso, Department of Statistics, sanzalonso@uchicago.edu

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