



THE UNIVERSITY OF CHICAGO

COMPUTATIONAL AND APPLIED MATHEMATICS STUDENT SEMINAR

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Topology, Complexity, and Neural Codes

THURSDAY, March 7, 2019, at 1:00 PM
Jones 226, 5747 South Ellis Avenue

ABSTRACT

We will discuss some recent results in the theory of neural codes, resolved using topological and combinatorial methods. Namely we show that a neural code being locally good and a good cover code are in fact equivalent, and that the corresponding decision problem is undecidable. We also present an improved necessary criterion for a neural code to be convex (and show that the corresponding decision problem is NP-hard) by borrowing some ideas from discrete Morse theory (joint work with Florian Frick and Anne Shiu).