

# Homological invariants of neural codes

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## Abstract

The neural ideal was introduced by Curto, Itskov, et al in 2013 to study the spatial firing patterns of a set of neurons, turning problems in neuroscience and coding theory into algebraic questions. In this talk I will show how homological tools from commutative algebra can be applied to study and classify neural ideals. This work is joint with Hugh Geller and Nora Youngs.

**Keywords:** neural ideal, homology, classification.