1116-00-2101 **Carina Curto***, Pennsylvania State University, University Park, State College, PA 16801. *What can topology tell us about the neural code?*

Cracking the neural code is one of the central challenges of neuroscience. Neural codes allow the brain to represent, process, and store information about the outside world. Unlike other types of codes, they must also reflect relationships between stimuli, such as proximity between locatoins in an environment. In this talk, I will explain why algebraic topology and commutative alegebra provide natural tools for understanding the structure and function of neural codes. (Received September 21, 2015)