

WORKSHOP  
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# Tuned correlation transfer and consequences for coding

Eric Shea-Brown  
*Department of Mathematics*  
*Courant Institute, New York University*  
*251 Mercer Street*  
*New York, NY 10012*  
*USA*  
ebrown@math.nyu.edu

## Abstract

Correlations among neural spike times are ubiquitous, and questions of how these correlations develop, and of the impact they have on the neural code, are central in neuroscience. We ask: How do correlations among different neurons depend on the cells' operating range – their rate and regularity of spiking? We use linear response calculations, simulations, and in vitro experiments to show that correlations between pairs of neurons vary sharply with their firing rates, almost universally. We illustrate the consequences via Fisher information, which quantifies the accuracy of encoding.

*This is a joint work with Jaime de la Rocha, Brent Doiron, Kreso Josic, and Alex Reyes.*