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Oana Carja*, 5000 Forbes Avenue, GHC 7413, Pittsburgh, PA 15213. *Evolution on networks*
(*The role of spatial structure in shaping evolutionary dynamics*).

There is a large literature of population genetic studies on the role of spatially changing selection in shaping evolutionary dynamics, starting from the classic 1975 paper of Slatkin and Maruyama. Models usually only assume a few demes and symmetrical structures, simple topologies that can be embedded into two-dimensional continuous Euclidean spaces. In many cases, these symmetrical spatial structures do not change fixation probabilities of new mutations relative to well-mixed populations and fail to capture the complex interactions and the variance in local selection pressure present in natural populations. We use the mathematical formalism of the Moran process on graphs to explore how spatial structure shapes the composition of populations and the outcome of the evolutionary process. (Received January 27, 2020)