In recent years, there has been increasing interest in understanding the drivers of variation in community composition across spatial scales. Metacommunity ecology, which explicitly accounts for scale, dispersal and environmental heterogeneity, provides a generalized framework for studying this variation (Leibold and Chase, 2018). The explicit consideration of scale in metacommunity theory allows for disentanglement of how local and regional processes contribute to community composition and dynamics (Leibold and Chase, 2018). This seminar will explore the history of modeling within and among the four archetypes of metacommunity ecology, how spatial and temporal scales are accounted for in these models, how empirical data have informed model development, and how these models can be applied in various ecological topics (e.g. community assembly and succession, response to global change and conservation).