1176-92-339   **Zhisheng Shuai*** (`zhisheng.shuai@ucf.edu`), University of Central Florida, Orlando, FL 32816.
Network average and network heterogeneity in spatial population dynamics. Preliminary report.

A new index for network heterogeneity is introduced to characterize the coupled population dynamics in a heterogeneous environment, while the network average represents their spatial aggregation under biased or unbiased movement. Applications to ecological and epidemiological models reveal that network heterogeneity tends to favor the persistence threshold values such as population growth rates and basic reproduction numbers, thus promoting population persistence. (Received January 25, 2022)