From Logistic Equation to a Diffusive Consumer-Resource System: Spatial Homogeneity vs. Heterogeneity

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Room 264, Geography Building, Zhongbei Campus
(华东师范大学中山北路校区，地理楼264室)

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We study the dynamics of a consumer-resource reaction-diffusion model, in both homogeneous and heterogeneous environments. We study the existence, uniqueness and stability of positive steady states and the persistence of time-dependent solutions. A comparison of homogeneous vs heterogeneous environments will be included.

Wei-Ming Ni received his B.S. from National Taiwan University, and Ph.D. in mathematics from Courant Institute, New York University. He is currently cross-listed on the faculty of University of Minnesota, and the Chinese University of Hong Kong (Shenzhen campus). His research interests are mainly in elliptic and/or parabolic equations/systems, including: Symmetry properties of solutions, solutions on entire space and their stability properties, peak solutions (spiky Turing patterns), cross-diffusion, and interactions between spatial and/or temporal heterogeneities and diffusion in ecology.