
Student Geometry Seminar

國立清華大學數學系 學生幾何研討會

講題 On a Nonlinear Model for Long Range Segregation

講者 Howen Chuah (Purdue University)

時間 2026.05.29 (Fri) 11:00 – 12:30

地點 綜三 734

Abstract

We consider a system of fully nonlinear elliptic equations, depending on a small parameter, that models long-range segregation in population dynamics. The diffusion is governed by the negative nonlinear Pucci operator. We establish the existence of solutions and prove convergence, as the parameter goes to zero, to a free boundary problem. In the limit, high competition forces the species to segregate at a positive distance. Geometric properties of the free boundaries will be discussed, including directions for future research. This talk is based on joint work with Professors Monica Torres and Stefania Patrizi.

