



Department of Mathematical and Statistical Sciences

SPECIAL COLLOQUIUM ANNOUNCEMENT

On Dynamics for Maintaining Biological Diversity at Various Scales

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1:00 p.m., Monday, February 3, 2020

Abstract

One of the fundamental questions in ecology and evolutionary genetics is how is biological diversity maintained within and amongst populations. Classical nonlinear differential equations that capture population or genetic interactions have played an important role in developing biological theories on how diversity is maintained. As ongoing empirical investigations uncover the nuances of these interactions, they open the way for more sophisticated models and the need for expanding mathematical methods to analyze them. In this talk, I will develop two sets of multi-scale models, motivated by recent empirical evidence. The first couples differential equations that capture interactions amongst populations with variation within the population. At a finer scale, the second models specific protein-gene interactions that influence population-level traits. For both models, I will discuss new mathematical questions and analysis that provides insight into mechanisms that enable diversity at these various scales.

1313 W. Wisconsin Avenue, Cudahy Hall, Room 401, Milwaukee, WI 53201-1881
For further information <https://www.marquette.edu/mathematical-and-statistical-sciences/colloquium.php>
or contact Dr. Sarah Hamilton at #414-288-6343, sarah.hamilton@marquette.edu

Post-Colloquium refreshments served in Room 342 AT 2:00 p.m.