



cordially invites you to an

Interdisciplinary Seminar

with

Dr. Oyita Udiani

on

“Mathematical models of social dynamics and task organization in animal societies”

Tuesday, Jan. 31, 2016

3:30-5 p.m.

Reception & refreshments at 3 p.m.

Hallam Auditorium, Room 206
1122 Volunteer Boulevard



A postdoctoral fellow at NIMBioS, Oyita Udiani is using colony founding behavior in paper wasps (*Polistes* spp.) to develop a framework for the study of learning in games with stochastic payoffs.

Abstract: A key factor in the success of social animals is their organization of work. Mathematical models have been instrumental in showing how complex organizational strategies like division of labor can emerge from the interactions of individuals following simple rules. However, not much is known about how these strategies are regulated in response to environmental changes. In this talk, I will present some ongoing projects to explore this question using experimental colonies of the harvester ant (*Pogonomyrmex* spp). I discuss how a behavioral modeling approach (i.e., one that examines the mechanisms of decision-making at individual level) can provide insights into the organizational patterns and productivity differences observed in experiments. Examples to be discussed include collective foraging in mature colonies and offspring care in newly formed ones.