Tata Institute of Fundamental Research
Survey No. 36/P, Gopanpally Village, Serilingampally, Ranga Reddy Dist., Hyderabad – 500 046

Seminar

From supergenes to supercolonies: understanding the genomic basis of social polymorphism

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A common feature across the tree of life is convergent evolution of traits. Ants have repeatedly evolved the trait of multiple-queen colonies, that result in supercolonies, from an ancestral phenotype of a single-queen colony. This phenotype is accompanied by a suite of life-history, behavioural and morphological modifications. We investigated the genomic basis of polymorphism in this trait in the desert ant, where both these social forms are present in the same population. This resulted in the discovery of a supergene, a large non-recombining region of the chromosome that codes for a complex trait, much like a sex chromosome. Supergenes enable inheritance of a suite of traits without breaking the linkage between them, thus allowing for striking polymorphisms to be maintained within a single interbreeding population. I will talk about how this polymorphism is maintained in the population, and examine similarities with other supergenes. I will also briefly discuss my future interest in understanding the processes underlying convergent trait evolution.

Thursday, Nov 2nd 2023

4:00 PM (Tea / Coffee 3.45 PM)

Auditorium, TIFR-H