

ICTS Seminar

- Title : When less is more: Gene loss in mammalian evolution
- Speaker : Virag Sharma, Max Planck Institute of Molecular Cell Biology & Genetics, Germany
- Date : Friday, 22 February, 2019
- Time : 11:00 AM
- Venue : Emmy Noether Seminar Room, ICTS Campus, Bangalore
- Abstract : Identification of the genomic changes that underlie phenotypic differences among diverse species is a key challenge in evolutionary biology and genomics. Inactivation of protein-coding genes is one kind of genomic change that can drive the evolution of phenotypes. We have developed a genomics approach that allows us to accurately detect gene losses. In my talk, I will present some of the interesting stories where losses of protein-coding gene have potentially contributed to morphological, physiological and metabolic adaptations in aquatic and flying mammals. I will also talk about a case where the use of sequence data allowed us to resolve the evolution of soft-tissue characters which cannot be studied directly via fossils. Finally, I will also show how the gene-loss detection approach has permitted us to discover the availability of "naturally occurring knock-outs" of disease genes and the potential of this resource in biomedical research and disease genomics