SEMINAR

Department of Biological Sciences

NUS National University of Singapore

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Hosted by Professor Rudolf Meier

The Genomic and Geographic Landscape of Introgression: an Essential Factor in Speciation and in the Emergence of Genetic Novelty

Genetic introgression (i.e. gene flow between different species) has long been considered a marginal or rare phenomenon in evolution. However, biological insights from the last two decades have shown that introgression is pervasive in nature and may be an important player in speciation, adaptation and the introduction of genetic novelty. In fact, our own species has been the recipient of introgressing genetic material from extinct hominid lineages. Yet there remain fundamental open questions about the exact mechanisms of introgression, such as whether introgression is mainly driven by selection or neutral processes, and whether phenotypic and ecological parameters are good predictors for geographic patterns of introgression. I here highlight some of my previous and current research into the speciation and introgression dynamics of tropical birds, and I point out avenues for upcoming studies. Genetic introgression promises to be one of the major game changers in the way we think about speciation and the rise of genetic novelty.

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Artwork by Ann Nee, DBS, NUS