

Tues, 8 Nov 2011 | 3pm – 5pm | DBS Conference Room 1

The developmental origin, evolution, and function of butterfly eyespots

Antónia Monteiro

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Hosted by Professor Rudolf Meier

Time: 3pm

How does a complex visual signal, such as an eyespot, originate? And what selective factors lead to its maintenance and evolution? Complex gene networks underlie the development of complex morphologies and, thus, it is important to investigate the origin of these networks. I will present our lab's empirical framework for addressing the origin of complex novelties and illustrate them with examples surrounding the evolution of butterfly eyespots. In addition, I will show how butterfly eyespots are functioning in both sexual and natural selection and address how sexual monomorphism in eyespot number can result from developmental plasticity in the sexual roles of males and females.

Phyloinformatics and Data Mining the Tree of Life

William Piel

Yale Peabody Museum of Natural History

Hosted by A/P Loh Chiang Shiong

Time: 4pm

The near exponential growth in the accumulation of phylogenetic knowledge demands new approaches to navigating, assembling, and mining these data. I will present new ideas and solutions for how to store and search phylogenetic data. These include an indexing method that allows general patterns of relationship to be discovered irrespective of the operational taxonomic units used; and the assembly of a "virtual tree of life," in which expert knowledge from taxonomists is blended with phylogenetic trees to maximize our understanding of biodiversity.