



# BIOLOGY COLLOQUIUM

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Hosted by A/P Antonia Monteiro

## Molecular evolution and functional diversity of *doublesex*, a master regulator of polymorphisms in insects



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*Doublesex* is a well-known transcription factor that controls early sexual differentiation in insects. Increasingly, a wide array of secondary sexual traits and adult polymorphisms are shown to be governed by developmental regulation of *doublesex*, ever expanding our understanding of the developmental genetic power of this key gene. In this talk I will show how accelerated molecular evolution, some of it under positive selection, in parts of this gene has modulated a differential pace of evolution in critical sex-specific exons. This molecular evolution has influenced the structural and functional diversity of *doublesex*. This work highlights the role of *doublesex* as a magical gene that has potentially facilitated a singular diversification of sex-limited traits in the incredibly diverse set of insects.