CONFÉRENCE

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Investigating the impacts of rapid satellite DNA evolution on reproductive development

Jeudi 7 mars 2024 à 12 h 30

Pavillon Charles-Eugène Marchand, salle Hydro-Québec (1210)

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Abstract:

Satellite DNA is long noncoding tandem arrays of repeated sequences composing 1-50% of eukaryotic genomes. Despite being discovered over 50 years ago, the functional significance of this rapidly evolving DNA is not understood. Satellite DNA may cause challenges to regulating gene transcription and chromosome segregation but may also provide a large target to evolve novel functions. I will present an overview of my research program, which uses evolutionary, computational, and developmental approaches to ask how changes in satellite DNA impact developmental processes critical to reproduction. My work leverages natural variation in satellite abundance and structural variants, in addition to genetic manipulations using the powerful model organism Drosophila. Overall, my research program will uncover how organisms manage large amounts of unstable repetitive DNA and will reveal fundamental mechanisms of satellite DNA's involvement in disease.

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