



**Mardi 6 juin 2017, 11:00**

Salle de réunion

**PLEIOTROPY: ITS EXTENT, MODULAR ORGANISATION AND  
HOW SELECTION OPERATES ON IT. LESSONS FROM GENE  
EXPRESSION OF *DROSOPHILA SERRATA***

par

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📌 A general observation emerging from estimates of genetic variance in sets of traits is that much of the genetic variance is restricted to few trait combinations as a consequence of genetic covariance among traits. While this biased distribution of genetic variance among functionally related traits is now well documented, how it translates to the broader phenome and therefore any trait combination under selection in a given environment is unknown.

📌 Here, we investigate the variation in gene expression traits in two well-matched panels of inbred lines: 1) mutation accumulation lines derived from a single inbred ancestral line and 2) inbred lines derived from an outbred population. Using multivariate quantitative genetic analyses, we estimated the extent of mutational pleiotropy, whether pleiotropic modules are organised by function and how natural and sexual selection operate on pleiotropic mutations.

📌 Together, our results support the presence of a large extent of pleiotropic mutations that affect a substantial number of traits across multiple functions with very strong stabilizing selection acting on these mutations.

