



From genes to Plant architecture:
The shoot apical meristem in all its states



Bract inhibition at floral transition in *Arabidopsis thaliana*

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Arabidopsis thaliana

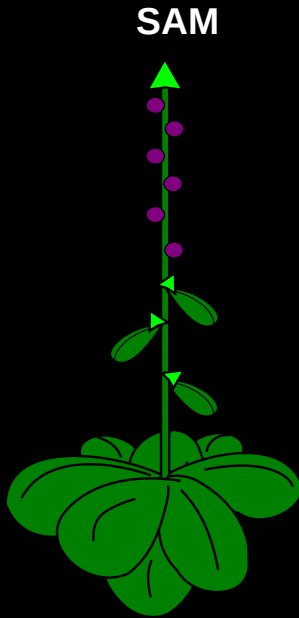
Floral transition



t



Floral transition



SAM

Reproductive phytomer

Vegetative phytomer

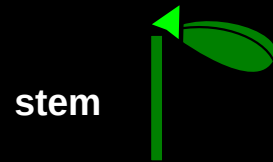
Floral meristem



stem

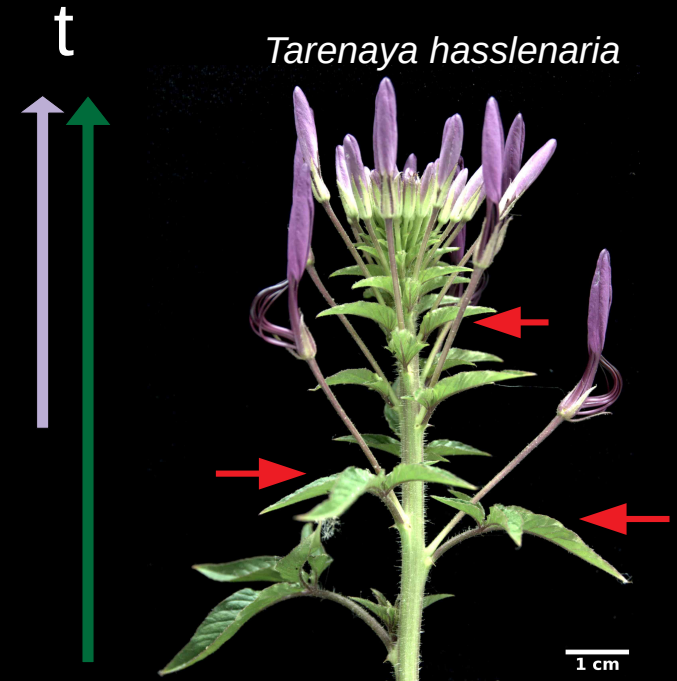
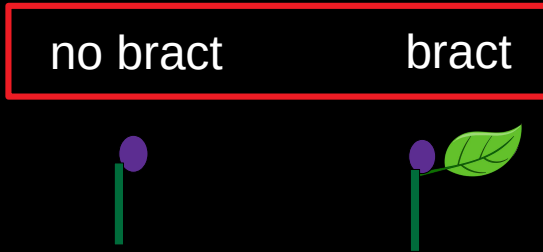
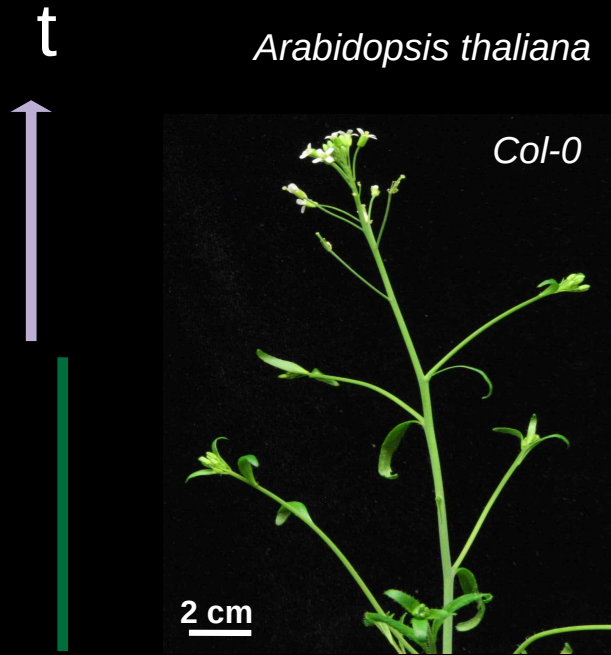
NO leaf
(but cryptic)

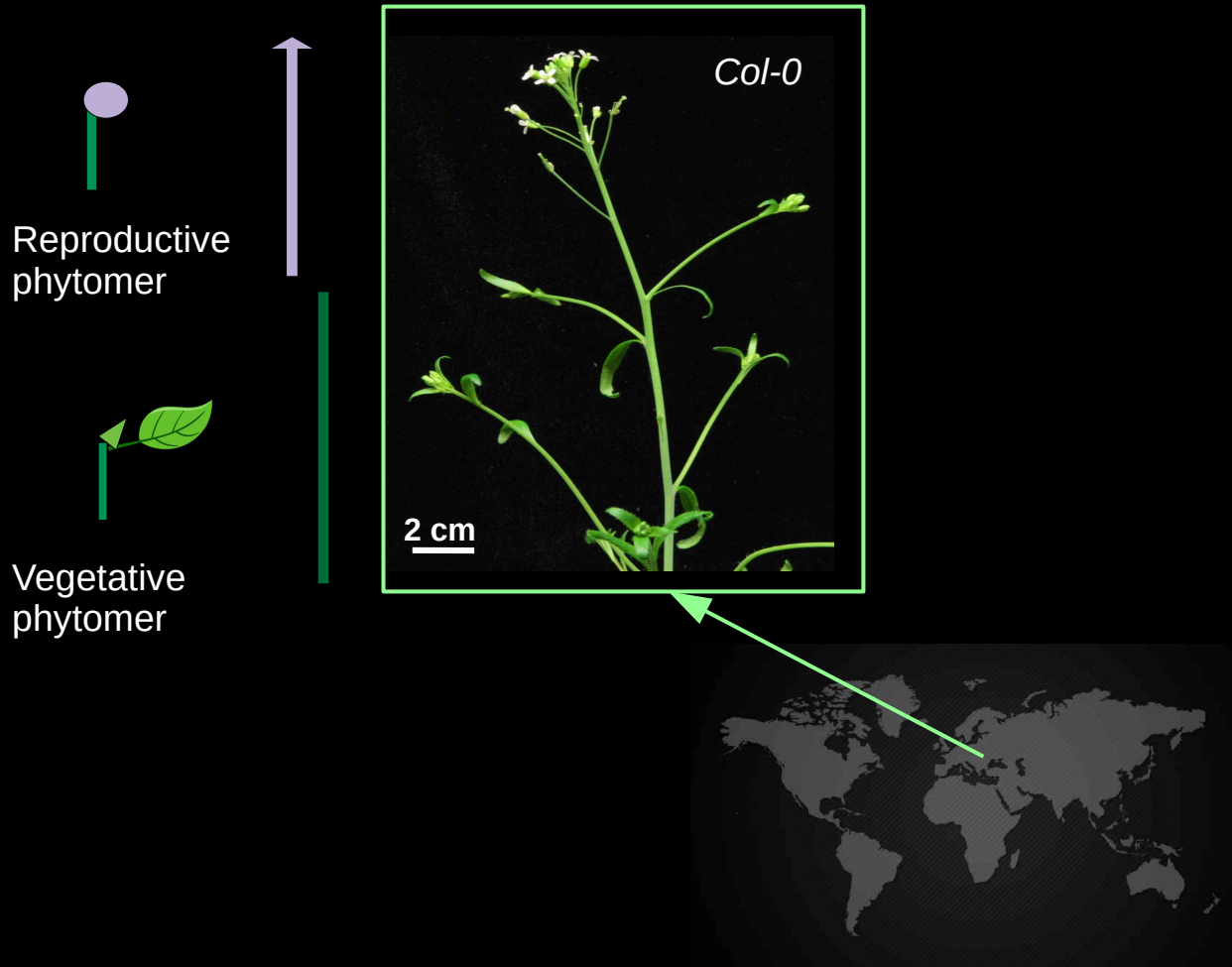
Vegetative meristem

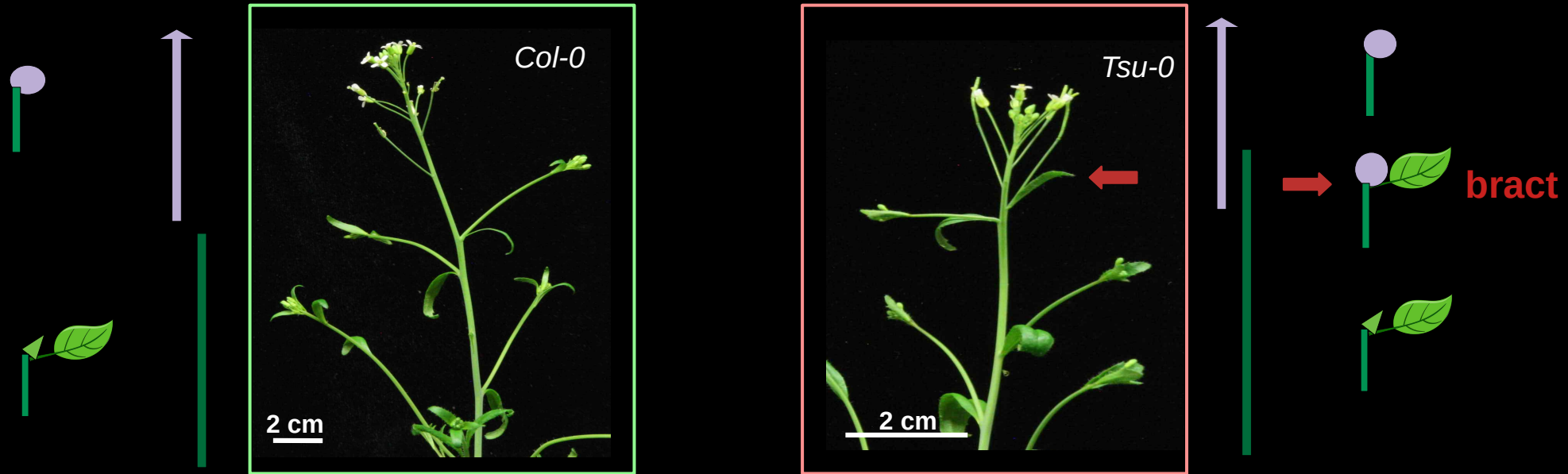


stem

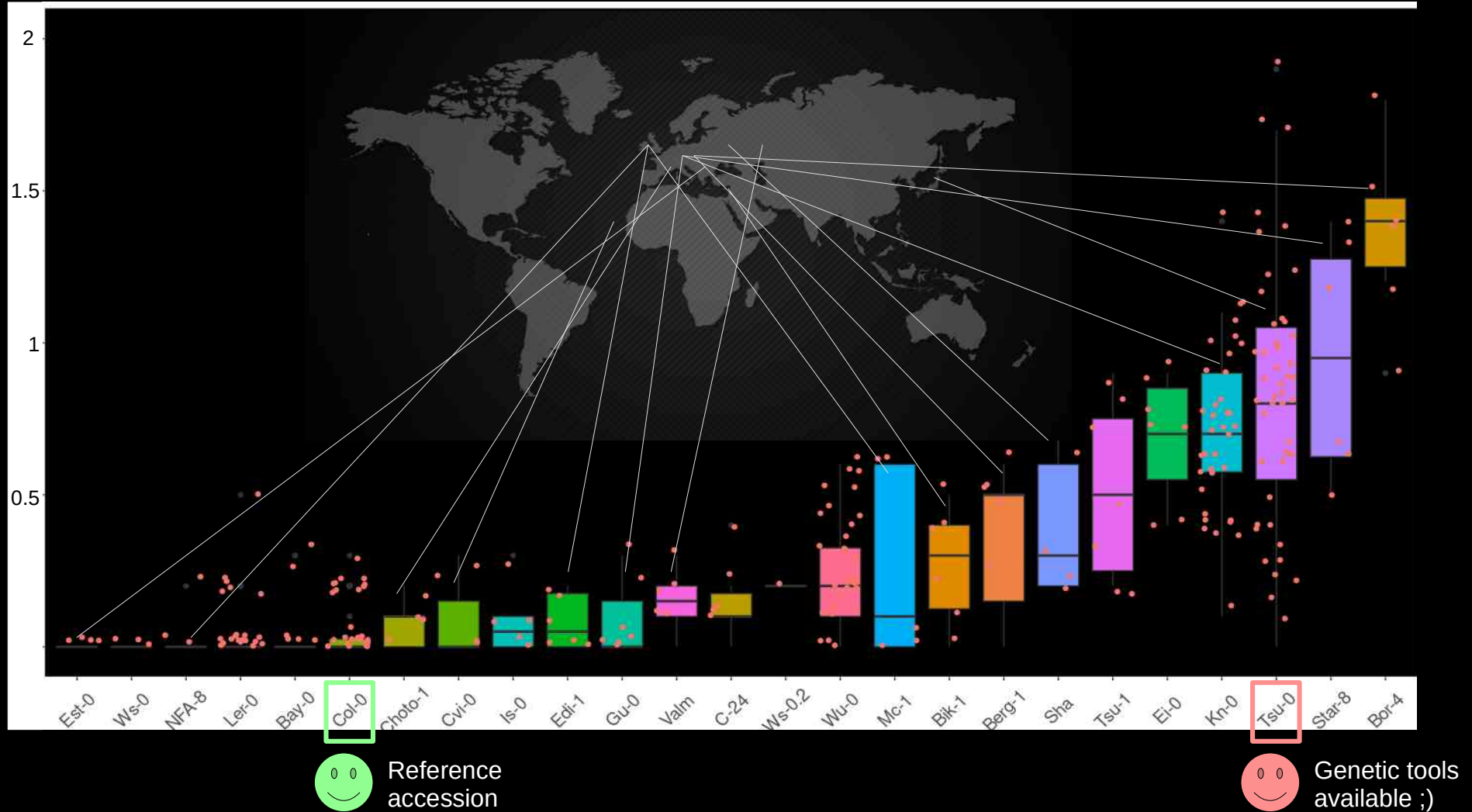
leaf







Mean number of bracts / branch



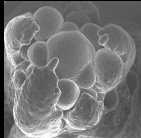


Day after induction

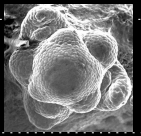
Morphological stages

Day after induction

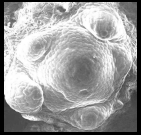
12



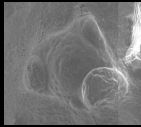
9



5



1



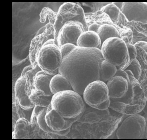
Floral meristem (F)

Transitioning meristem (T)

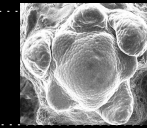
Late Vegetative meristem (L)

Vegetative meristem (V)

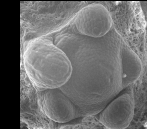
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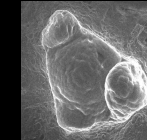
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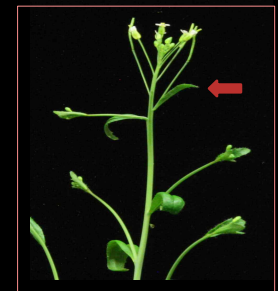
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1



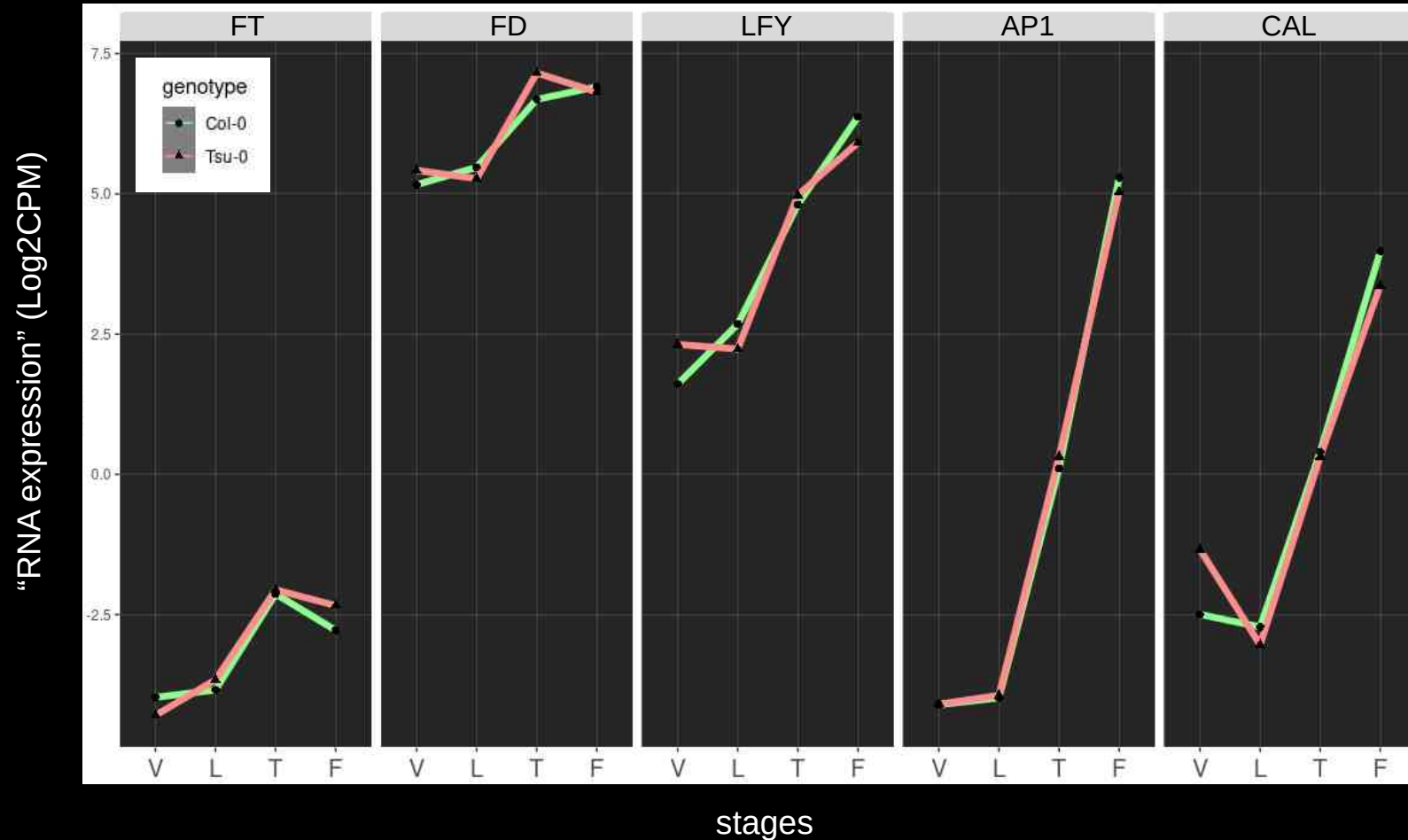
Col-0



Tsu-0

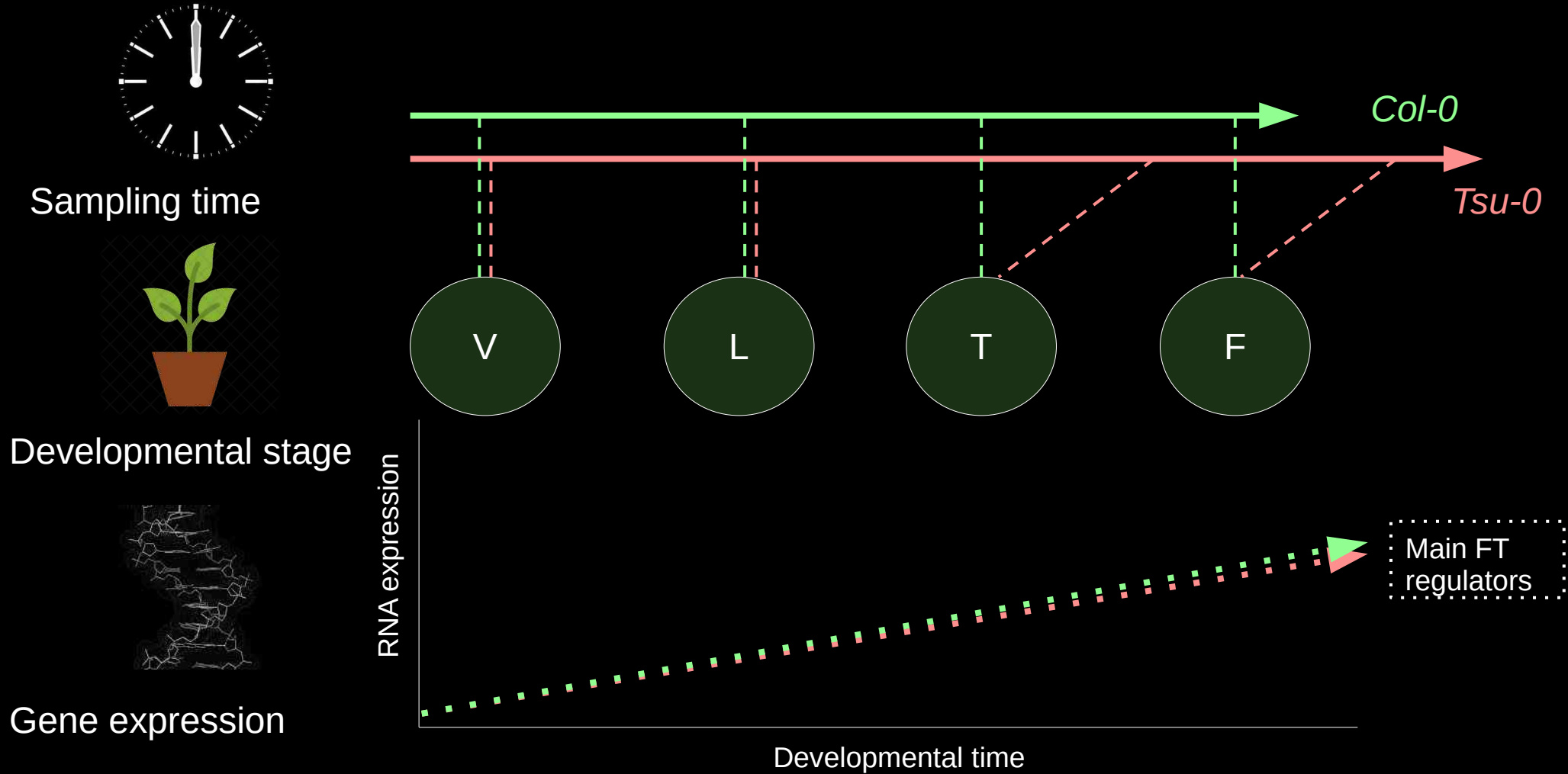
(x3 replicates, 10-15 samples/condition)

Expression profile of some main regulators of floral transition



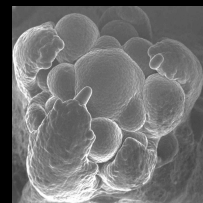
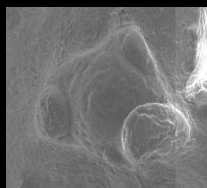
Fabrice Besnard, Ph.D



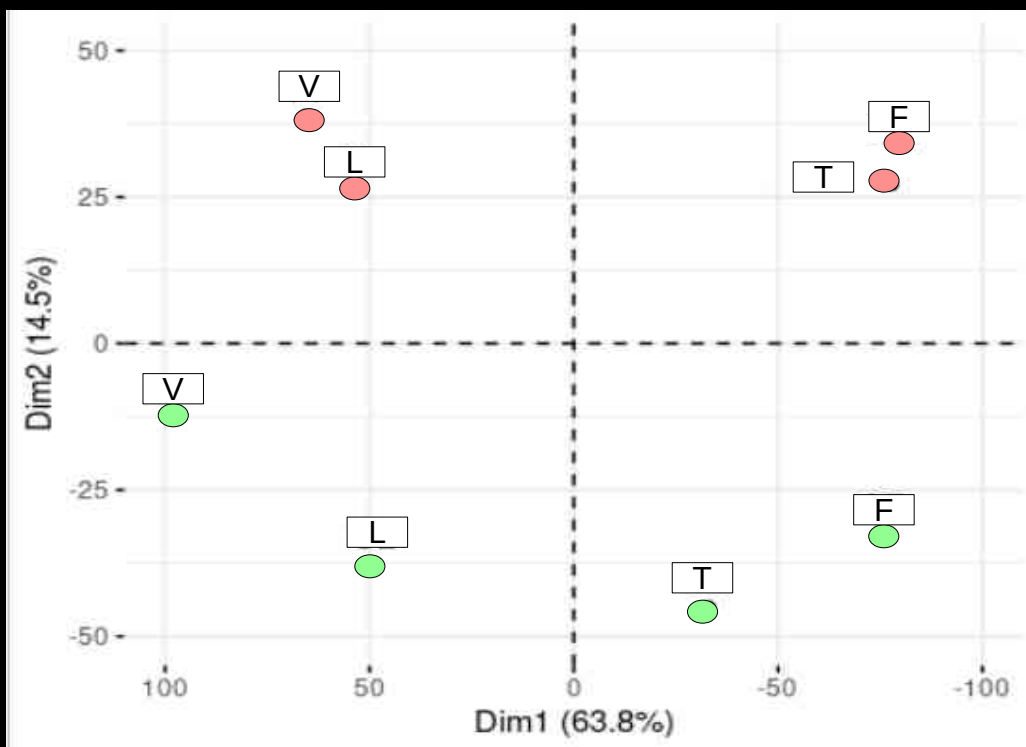


*Tsu-0**Col-0*

Genotype axis

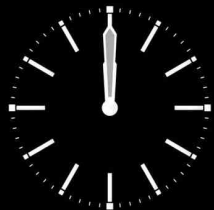


Developmental stage axis



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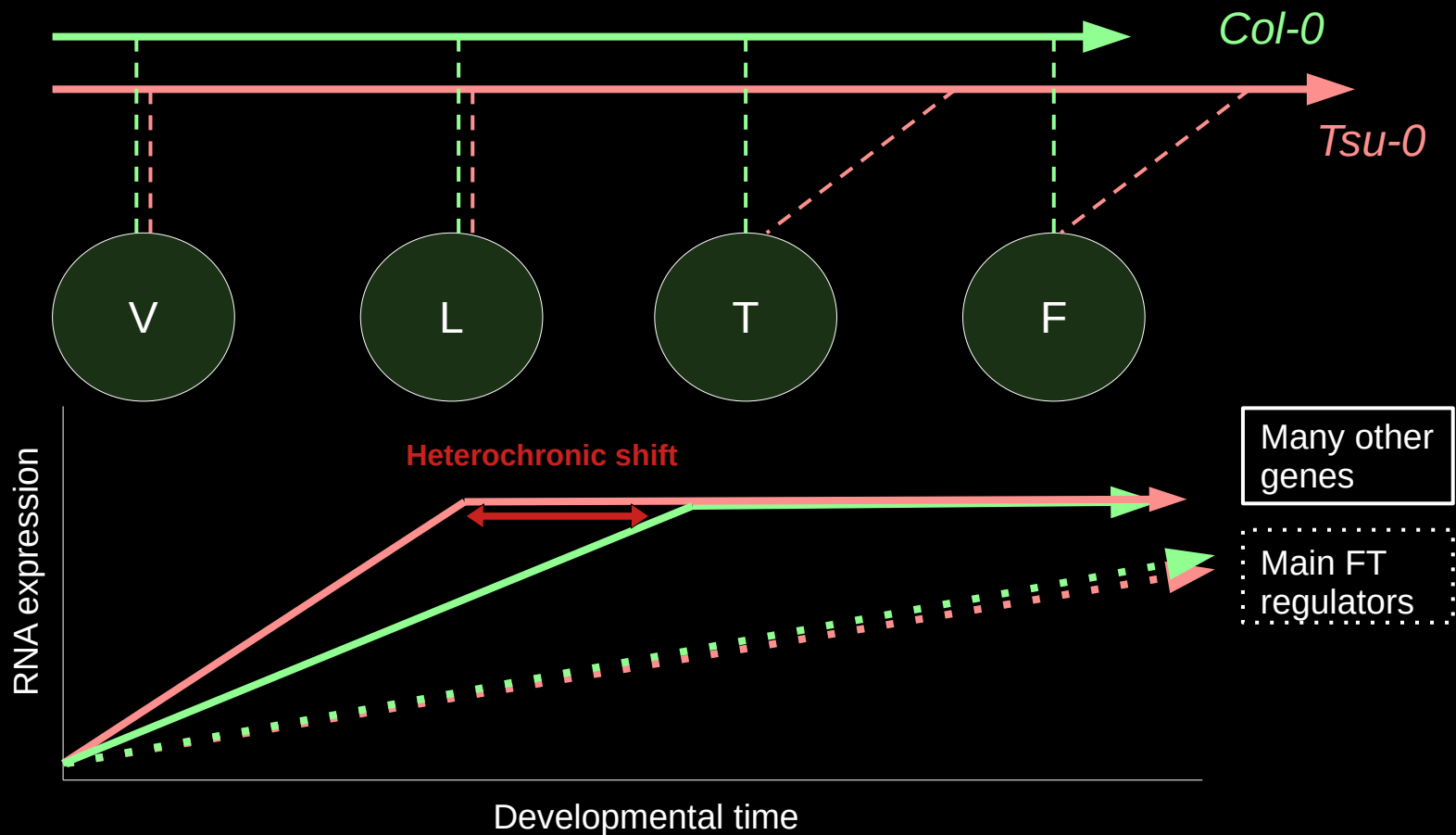
Sampling time



Developmental stage

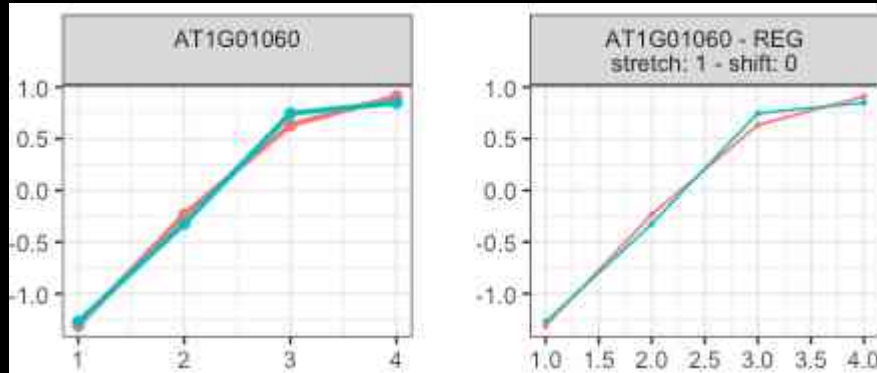


Gene expression

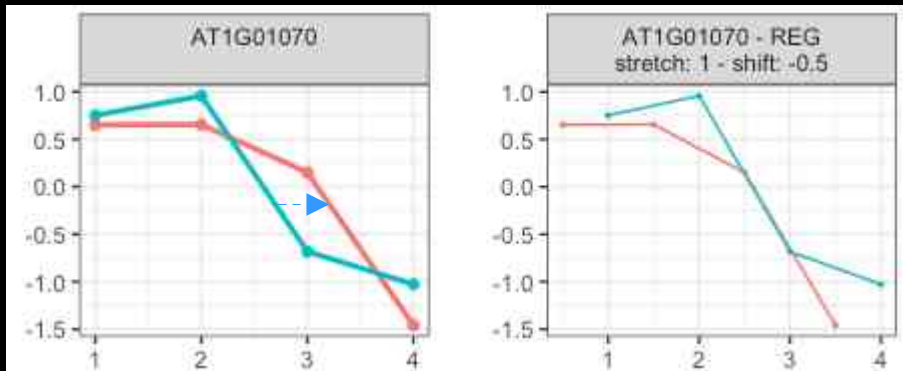
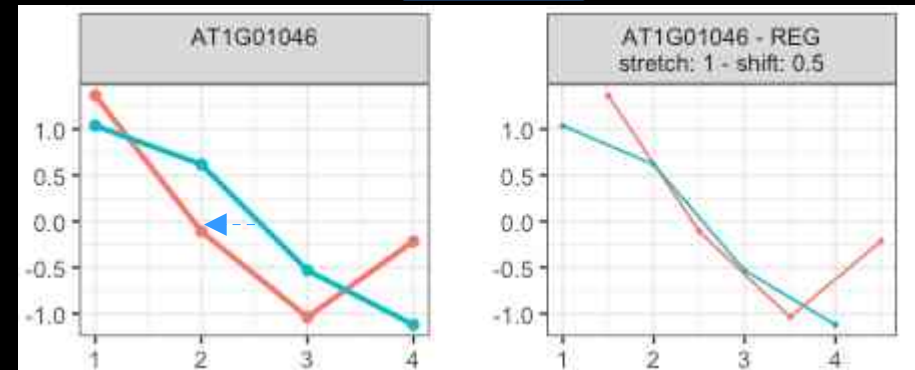


accession

Col0
Tsu0

0-shift

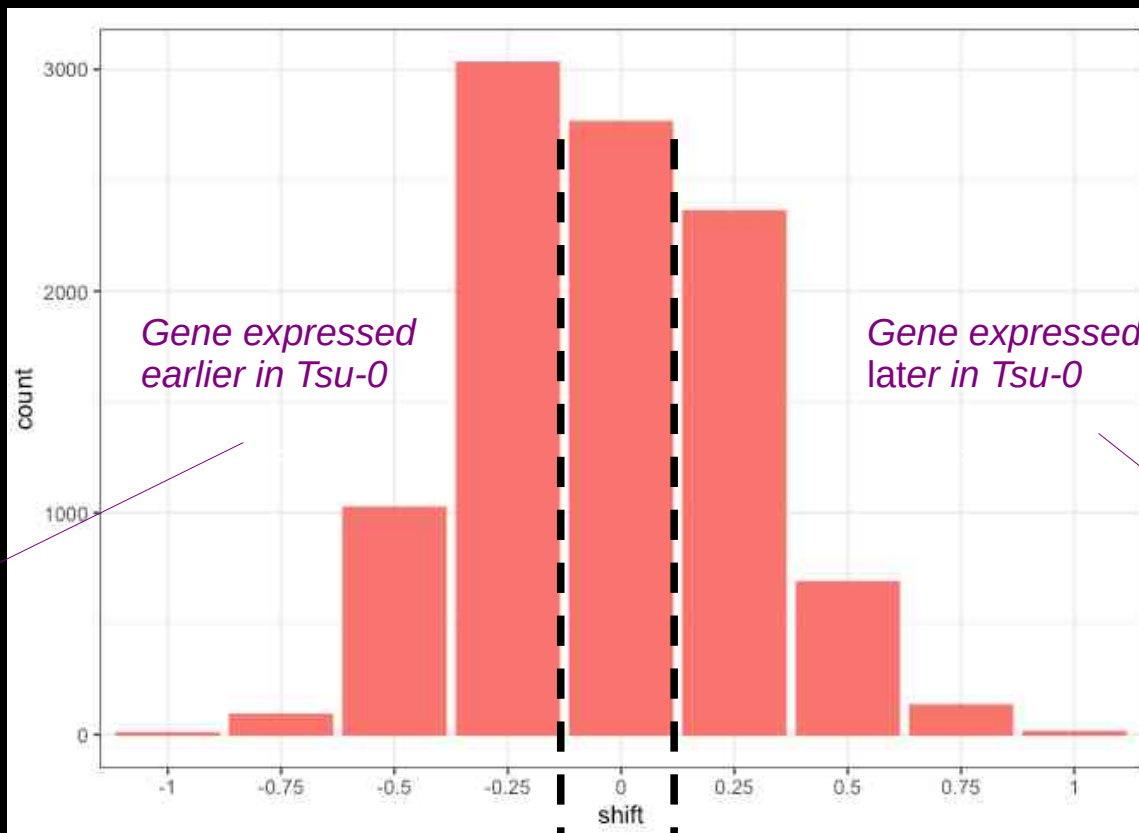
Ruth Kristianingsih,
John Innes Centre, UK

**(-)shift****(+)shift**

Gene expressed earlier in tsu-0

Gene expressed later in Tsu-0

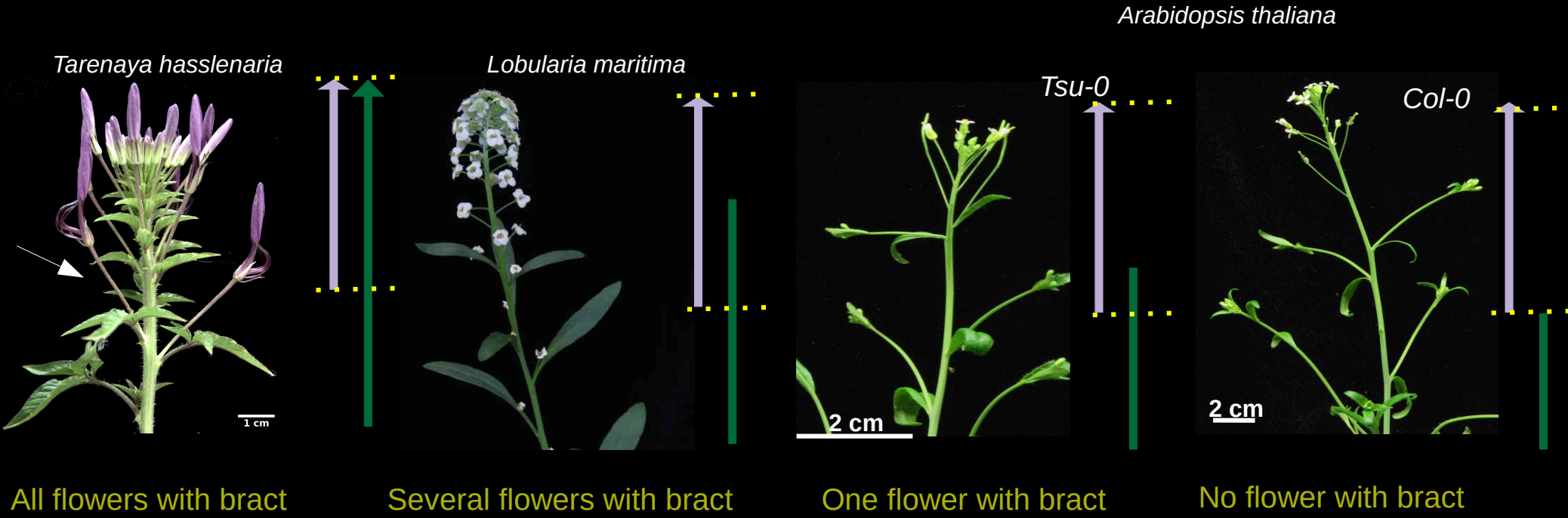
n=2763

0-shift*GO term analysis*

- Flower dev
- Reproduction

GO term analysis

- Leaf dev ?



Phenotypic heterochronies hides complex transcriptomic heterochronies

Thank you !



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Stéphanie Hallet
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Ruth Kristianingsih,
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Richard Morris,
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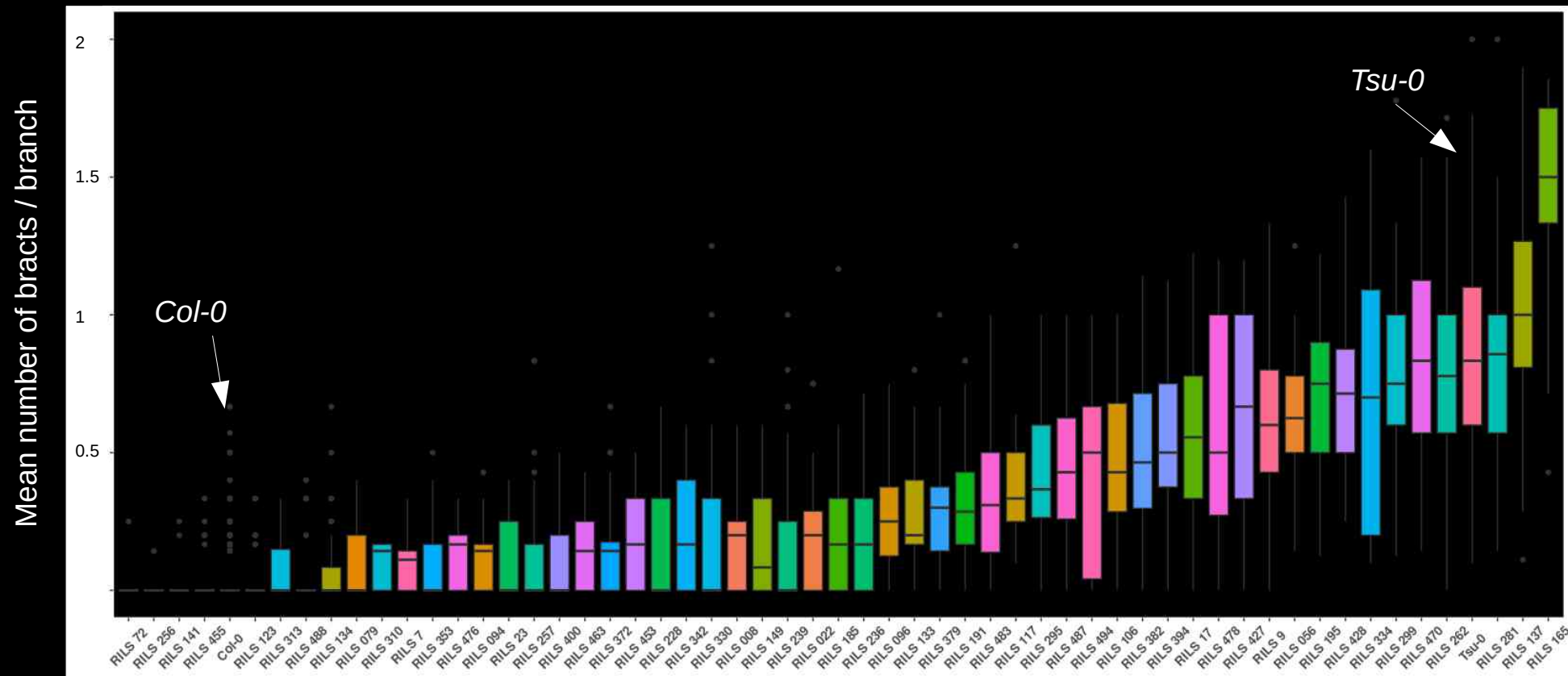
Rachel Wells
John Innes Centre

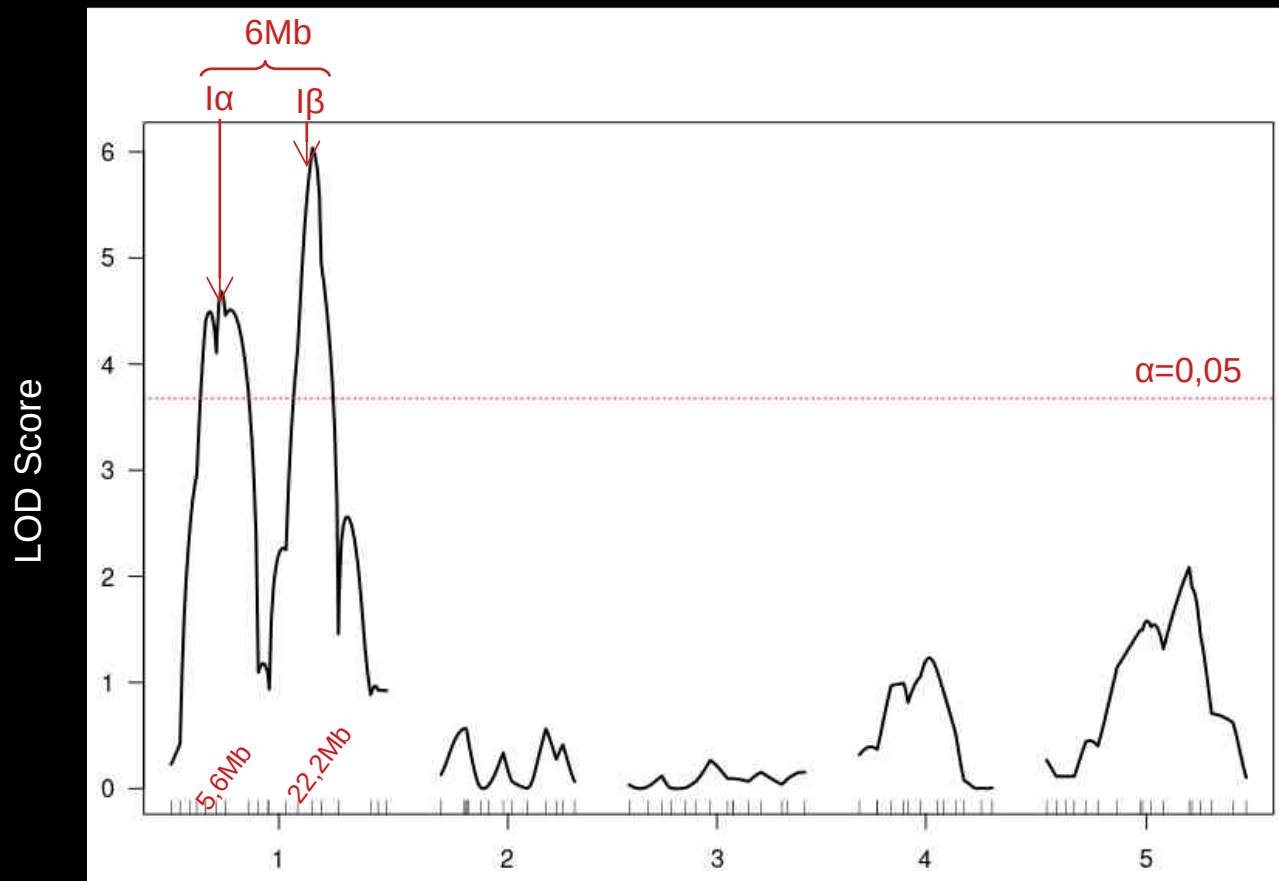


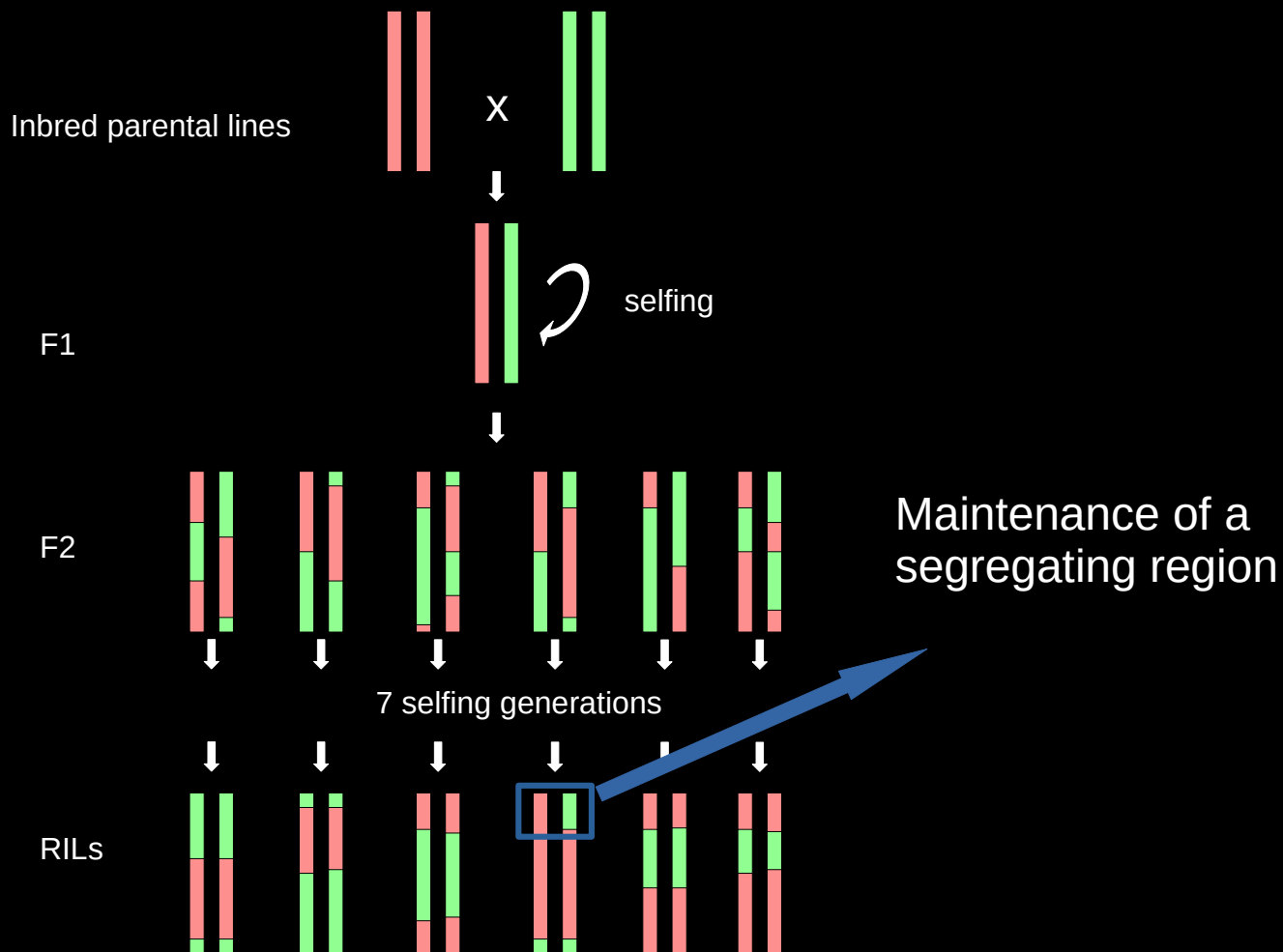
John Innes Centre

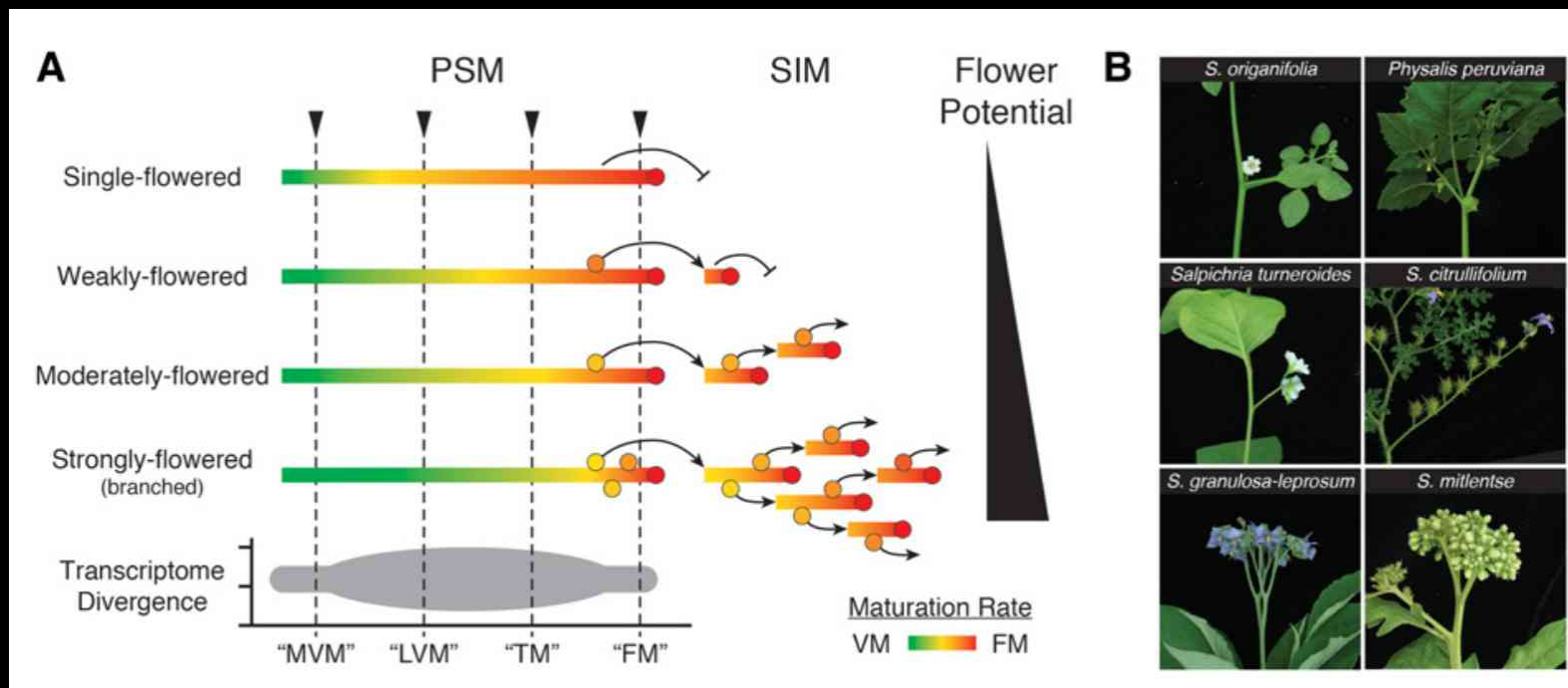


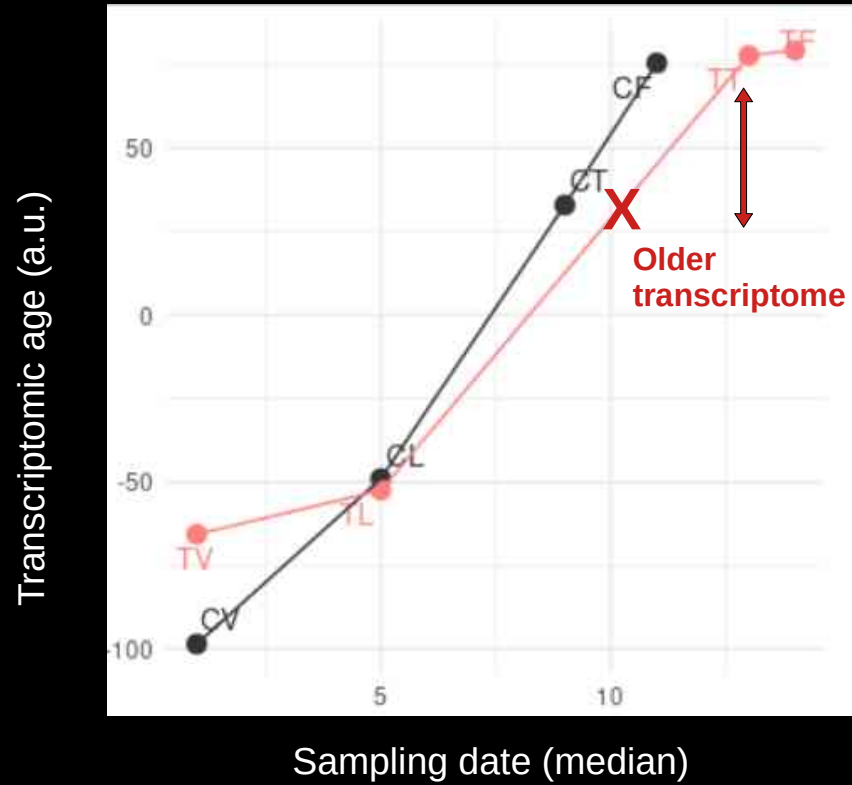
Le jardin d'Edwige

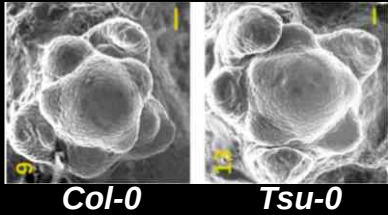












Matching phenotype

Matching key FT gene expression



Heterochronic shift

With an older transcriptome in *Tsu-0*

Corresponds to the apparition of bract-flower



