



Seminar/Talk

The genetic basis of turnip-mosaic-virus resistance in *Arabidopsis thaliana*

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Host: Nick Barton

Plant viruses account for enormous agricultural losses worldwide, and the most robust way to combat this is to identify genetic material conferring resistance to those pathogens. Here, we screen a large panel of *Arabidopsis thaliana* natural inbred lines for four disease-related traits in response to infection by naive and evolved strains of the natural pathogen turnip mosaic virus (TuMV). Using GWAS, we detected a strong, replicable association between a 50kb region on chromosome 2 and a 10-fold increase in relative risk of necrosis in response to infection. The region contains several plausible causal genes, as well as abundant structural variation that could be either a driver or a consequence of the disease resistance locus. Susceptible alleles are found worldwide, and their distribution is consistent with a trade-off between resistance during viral outbreaks and a cost of resistance otherwise, leading to negative frequency-dependent selection.

Wednesday, March 9, 2022 12:15pm - 02:00pm

I22 Lakeside View (I22.O1.006)



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