

Dragon's Den Pitch:

# Insights despite the noise

Or, the future of mobile element pangenome analysis

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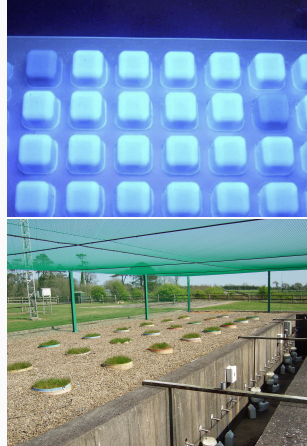
The James Hutton Institute, Dundee, Scotland  
National University of Ireland, Galway, Ireland

# Case Study: Environmental *E. coli*



- ⌘ Problematic indicator
- ⌘ 149 soil, 1192 non-soil
- ⌘ Highly diverse pangenome

How quickly do adaptations happen?



# Mobile Elements



- Plasmids, prophages, and genomic islands
- *stx* toxins, T3SS's, *Sym* plasmid

# Mobile Elements



## HAPPIE

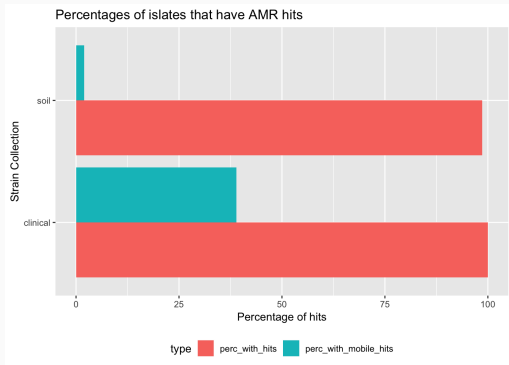
Horizontally Aquired Partial Pangenome of Inserted Elements

<https://github.com/nickp60/happie/>



# HAPPIE in practice

Now:



# HAPPIE in practice



Now:

Next:

- Assess within-strain performance in biorefinery systems
- Diagnose variability in microbiome therapeutics
- And so much more. . .

