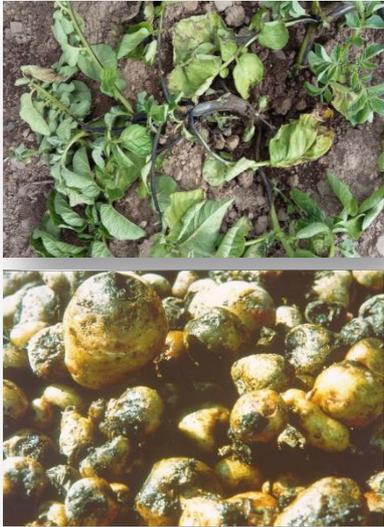
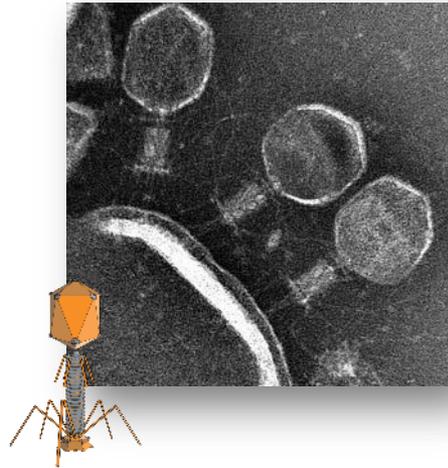


# Sonia Humphris – James Hutton Institute



Blackleg and Soft Rot



Biocontrol



Knowledge exchange



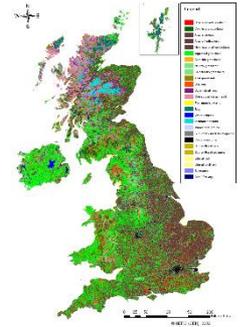
Working together with Scotland's other Centres of Expertise:





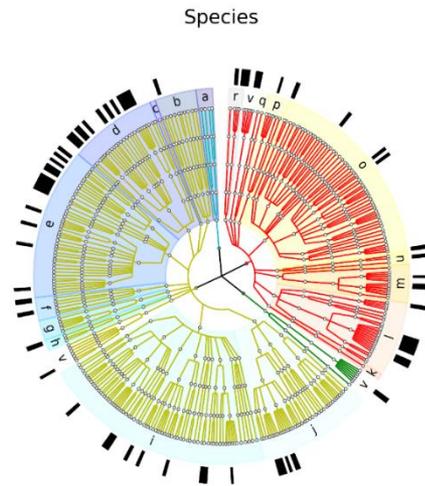
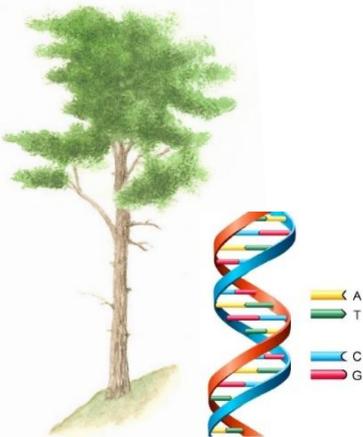
# Stephen Cavers – Centre for Ecology & Hydrology

National environmental data & research



## Tree & Plant Health

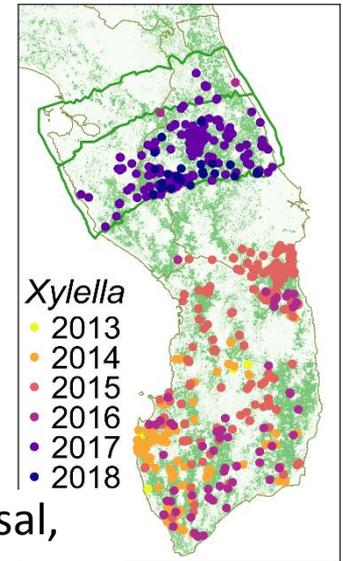
Host plant genetics



Host microbiome & plant virology



Ecological impacts of epidemics



Modelling dispersal, spread and impacts of invasive pest & diseases



Forest pathologist

*Phytophthora* diseases in nurseries and wider landscapes



Diagnosis, advice and research on a broad range of tree health issues

# Prof. Sarah J. Gurr – Exeter University

## Research experience on fungal plant pathogens

Arrived in Exeter in 2013, previously Oxford University;

Molecular biology of pathogenesis, fungicide mode of action and resistance, world-wide impact of plant diseases, global movement of crop pathogens; modelling and prediction

Funded continuously by research councils (BBSRC); >130 publications in high-end journals, including Nature (2012, 2014), Nature Climate Change (2013), Nature Microbiology (2016); Nat Comm 2016) Science (2010 and 2018).

Works on *Magnaporthe*, *Fusarium*, *Zymoseptoria*, *Chalara* and powdery mildew fungi

Works with various industries:-

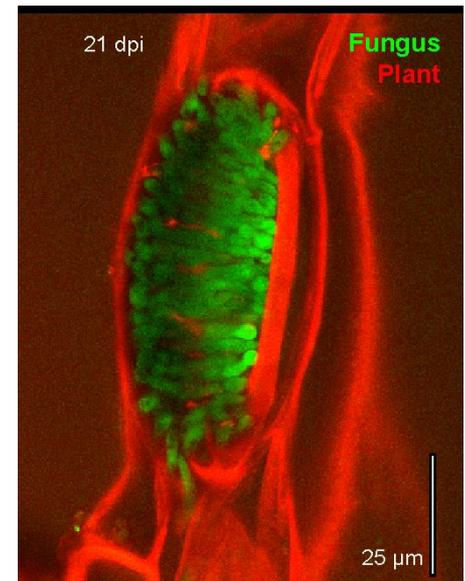
**PuriCore**  
Pure Science. Pure Life.

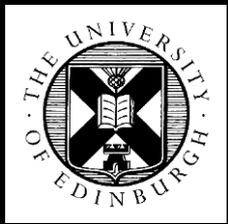


 **Dow AgroSciences**

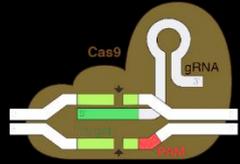
**syngenta**

 **Aventis**

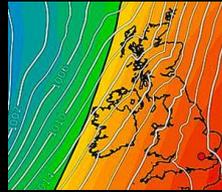




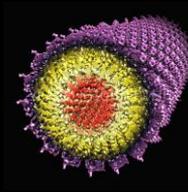
# Fundamental: mechanisms of Health and Disease



Gene editing



Climate impacts on health



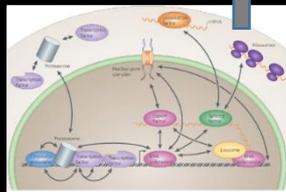
Disease



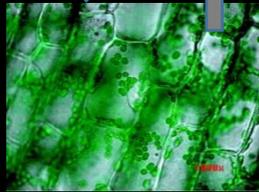
# Predictive: modelling that crosses scales



Remote sensing



Pathway



Cell



Plant



Field

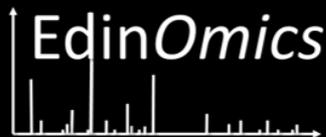


Region



# Infrastructure: open facilities

Data sci and HPC



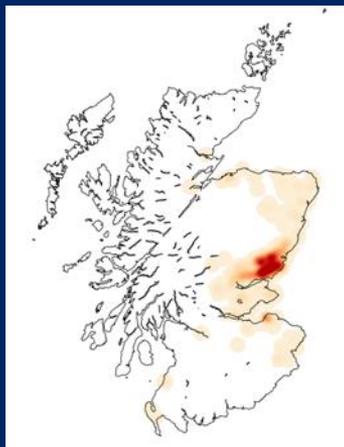
Edinburgh Genome Foundry



# David Kenyon – SASA



Plant Health Inspectorate



Pest & Disease Monitoring



Molecular Taxonomy



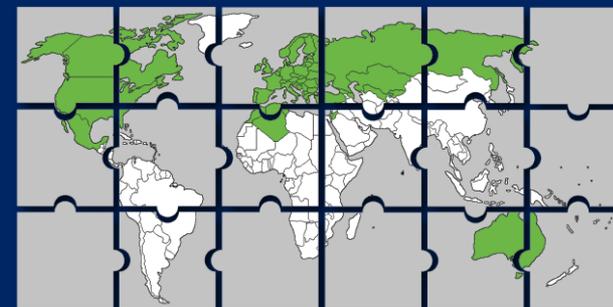
High-throughput Diagnostics



Plant health



Quarantine Facilities



Euphresco Network

# Adam Kleczkowski – Strathclyde

Environment



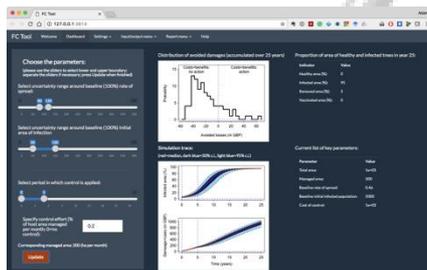
Bioeconomic  
modelling of forest  
diseases



Modelling trade and  
disease outbreaks



Bioeconomic  
modelling of crops  
(vines, potatoes)



Decision support  
system  
FC and DEFRA



Modelling aquatic food  
security and  
sustainability

Host



Modelling pollination  
and pesticide risks



# David Knott - RBGE



Climate impacts

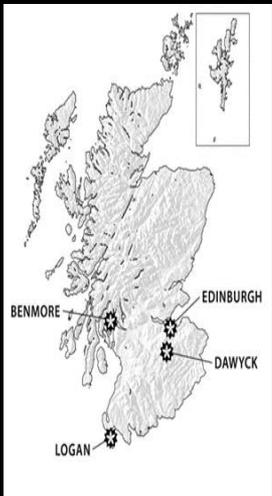


Climate Change

INNS



Plant Health



Scotland

Living Collection



Global



Conservation



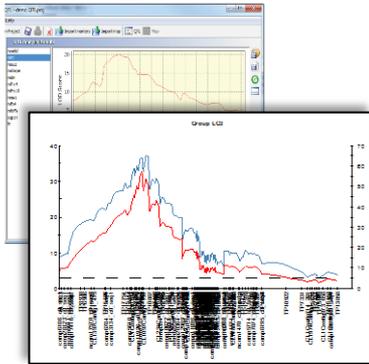
Training



Outreach and communication

# Glenn Marion

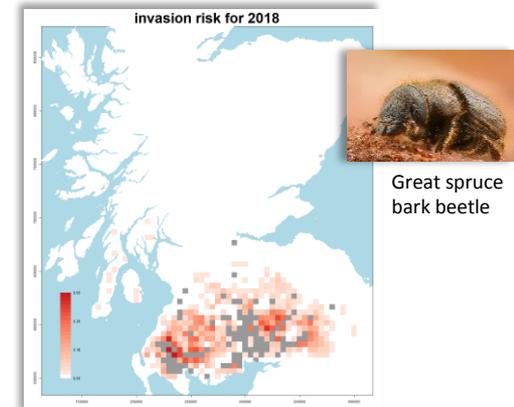
## - Biomathematics & Statistics Scotland



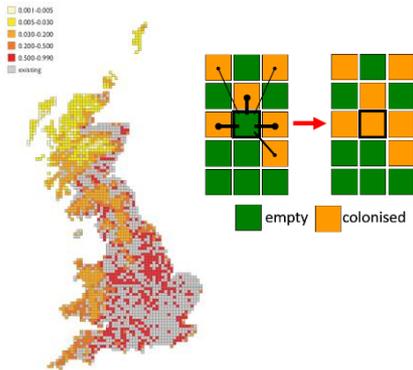
**plant breeding**



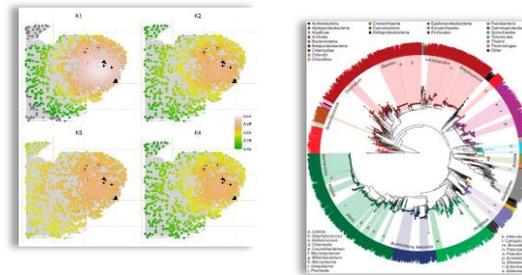
**natural pest control**



**landscape scale control**



**systems modelling**



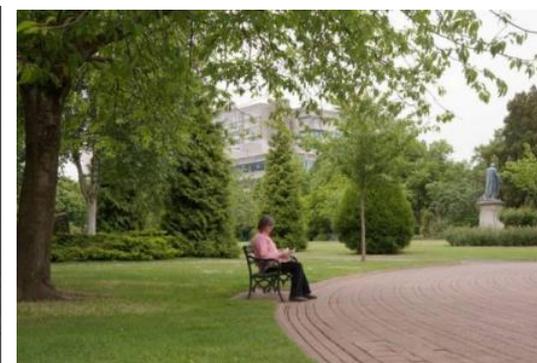
$$P(\theta, x | y) = \frac{P(y | \theta, x) \pi(x | \theta) \pi(\theta)}{P(y)}$$

**computational statistics**  
incl. statistical genetics



Centre of Expertise for Scotland

**new tools for plant health**



## Social dimensions of tree & plant health

Understanding the stakeholder landscape

Knowledge & Awareness

Attitudes & Behaviour change

Risk communication & engagement

## Ecological impacts of plant diseases

