



Exploiting the oak immune system for resistance against powdery mildew

BIFoR Annual Conference - 29th January, 2020



Dr Estrella Luna-Diez



@ELunaDiez

lunadiezlab.com



**UNIVERSITY OF
BIRMINGHAM**

BIFoR
BIRMINGHAM INSTITUTE OF FOREST RESEARCH

[The JABBS Foundation](http://TheJABBSFoundation.org)

Lines of research

Studying the expression of
priming of defence in oak

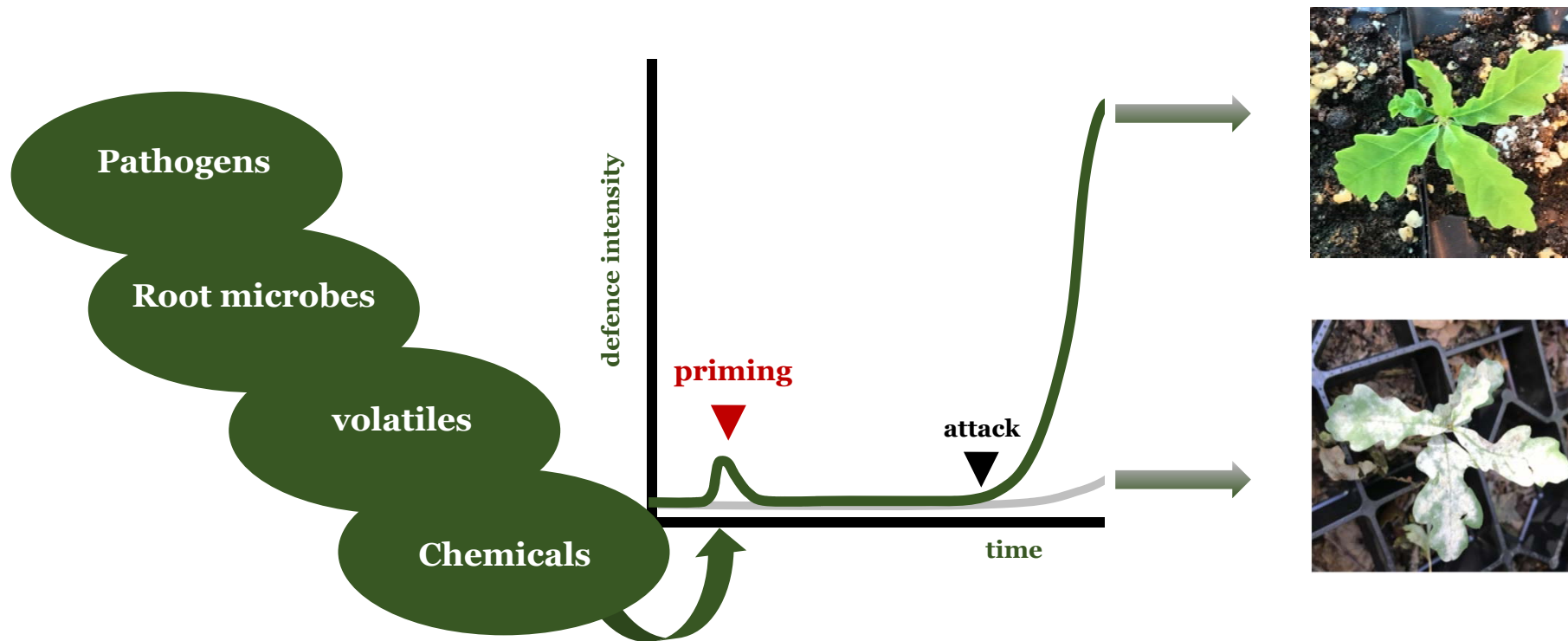


Studying the effect of
elevated CO₂ in resistance



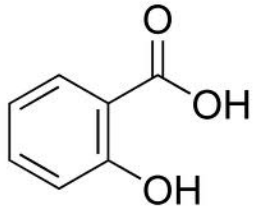
Priming of defence

PRIMING: “An increased sensitivity to certain stimuli due to prior experience”

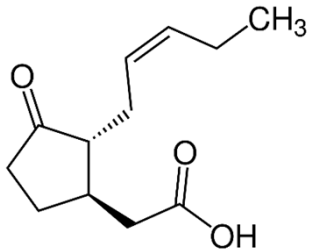


Can trees be primed?

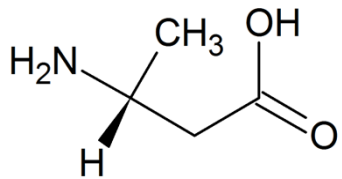
Salicylic Acid



Jasmonic Acid



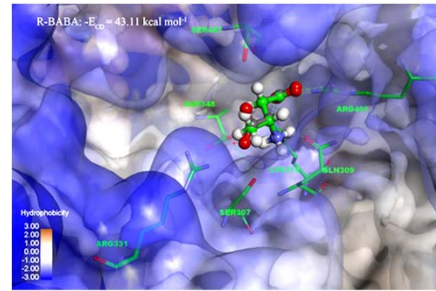
B-aminobutyric acid



Chemicals

defence intensity

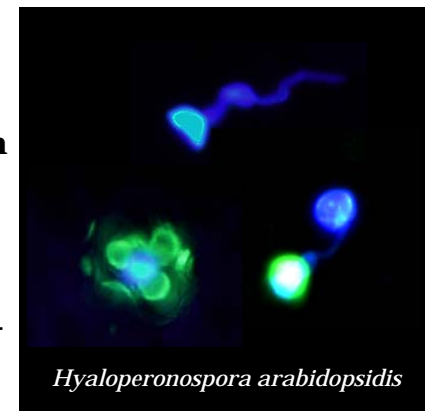
priming



Luna *et al* (2014), *Nature Chemical Biology*;
Buswell *et al* (2018) *New Phytologist*

Infection

Infection +
BABA



Funded by: [The JABBS Foundation](#)

Lines of research

Studying the expression of
priming of defence in oak



Studying the effect of
elevated CO₂ in resistance



Effect of elevated CO₂



Dr Carolina Mayoral

**Metabolomic analysis of
naturally regenerated seedlings**

Lines of research

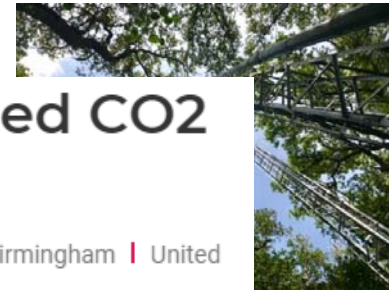
Studying the expression of
priming of defence in oak



Priming of defence in an elevated CO₂
world ★

University of Birmingham | The Forest Edge Doctoral Scholarship programme | Birmingham | United Kingdom

Studying the effect of
elevated CO₂ in resistance



Dr E Luna-Diez
Dr S Hayward



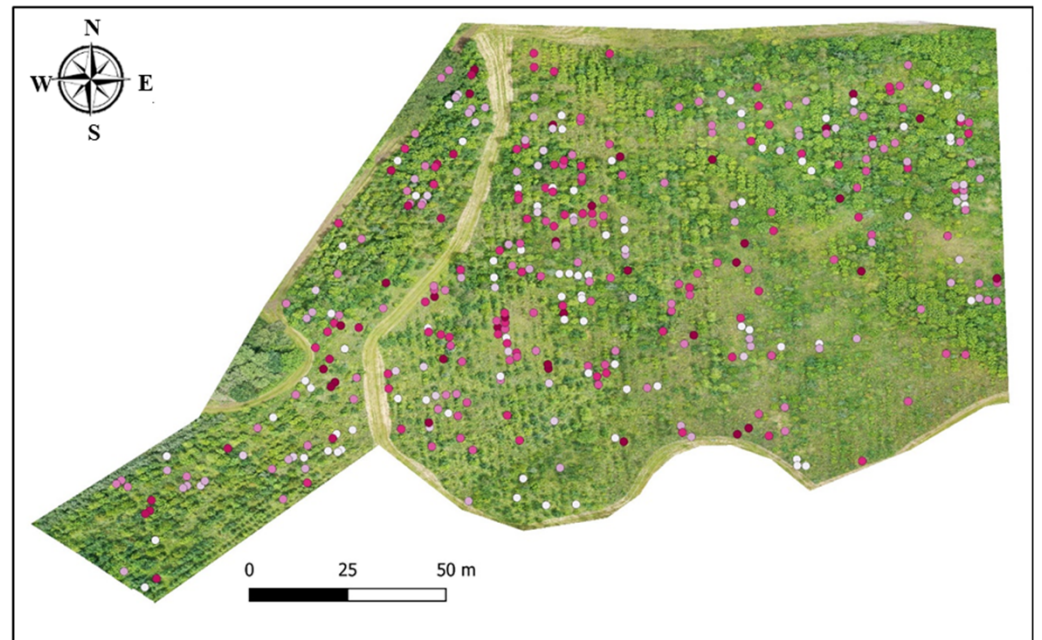
Monday, February 10, 2020



Competition Funded PhD
Project (European/UK Students
Only)

Lines of research

Investigating the effects of mixed plantations in resistance to ash dieback disease



From left to right: **Iwan Evans**, Rachel Bromley, Ana Pua, Deemah Ziari and Matthew Ashpole

Many thanks



The JABBS Foundation



BIFOR
BIRMINGHAM INSTITUTE OF FOREST RESEARCH




**UNIVERSITAT
JAUME•I**



Many thanks for your attention

BIFoR Annual Conference - 29th January, 2020



Dr Estrella Luna-Diez



@ELunaDiez

lunadiezlab.com



UNIVERSITY OF
BIRMINGHAM

BIFoR
BIRMINGHAM INSTITUTE OF FOREST RESEARCH

[The JABBS Foundation](http://TheJABBSFoundation.org)