

# Investigation into the Molecular Mechanisms Underlying NEmatode recognition by the Ma receptor

## IMMUNE Project

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AgreenSkills+ Annual Meeting  
2018



Co-funded by  
the European Union

Simon Saucet

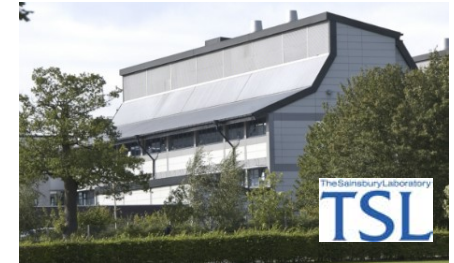


12/06/2018

# Research background:

## Molecular Plant-Pathogen interactions

2009-2013, **PhD** in Jonathan Jones's lab  
at The Sainsbury Laboratory, England  
Plant-Bacteria Interactions



2014, **Post-doc** in Daniel Esmenjaud's lab  
at the Institut Sophia Agrobiotech, France  
Plant-Nematode Interactions



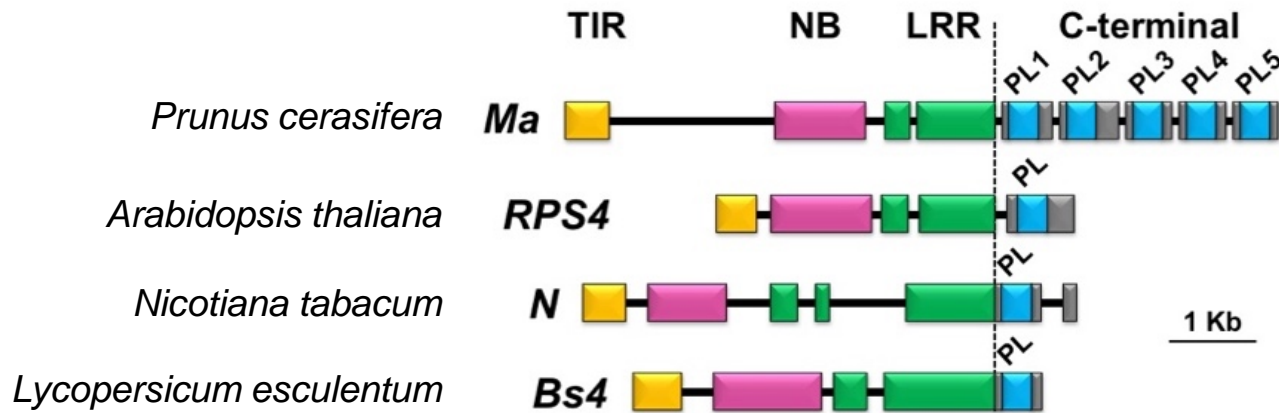
2014-2017, **Post-doc** in Ken Shirasu's lab  
at RIKEN, Japan  
Plant-Parasitic Plant Interactions



2017-2019, **Post-doc** in Daniel Esmenjaud's lab  
at the Institut Sophia Agrobiotech, France  
Plant-Nematode Interactions  
AgreenSkills+ fellowship



# The *Ma* TIR-NB-LRR gene provides resistance to the root-knot nematodes (*Meloidogyne*) in *Prunus* trees

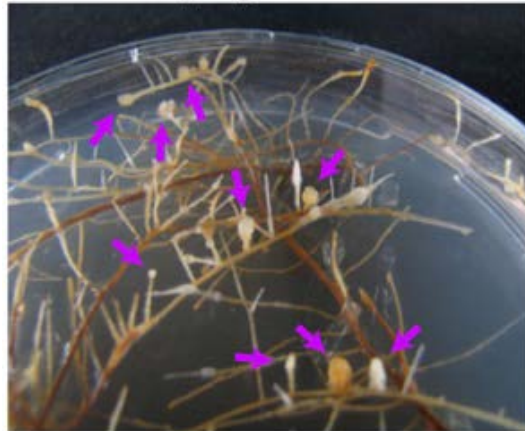


***Ma* (S) roots  
+ Empty vector**

***Ma* (S) roots  
+ *Ma* (R)**



*Meloidogyne incognita*



**Susceptible (S)**

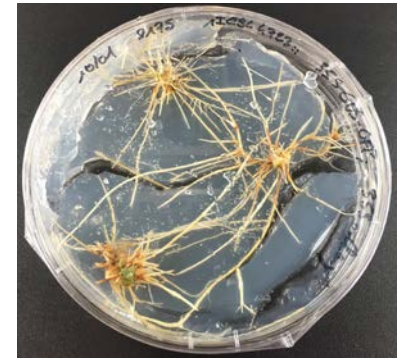
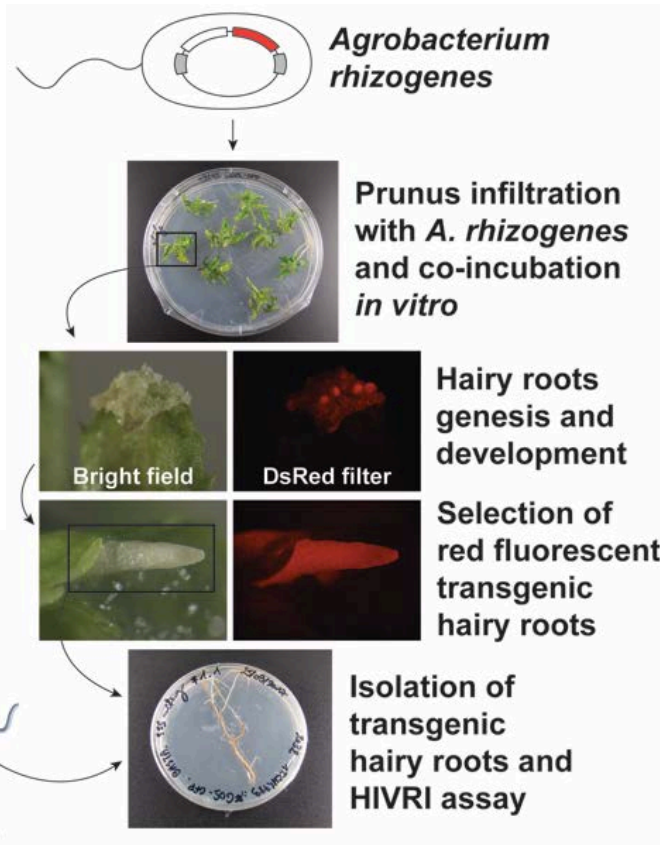


**Resistant (R)**

# How does the Ma resistance protein functions for nematode recognitions?



Transgene for *Prunus* transgenic hairy roots



*Meloidogyne* sp.