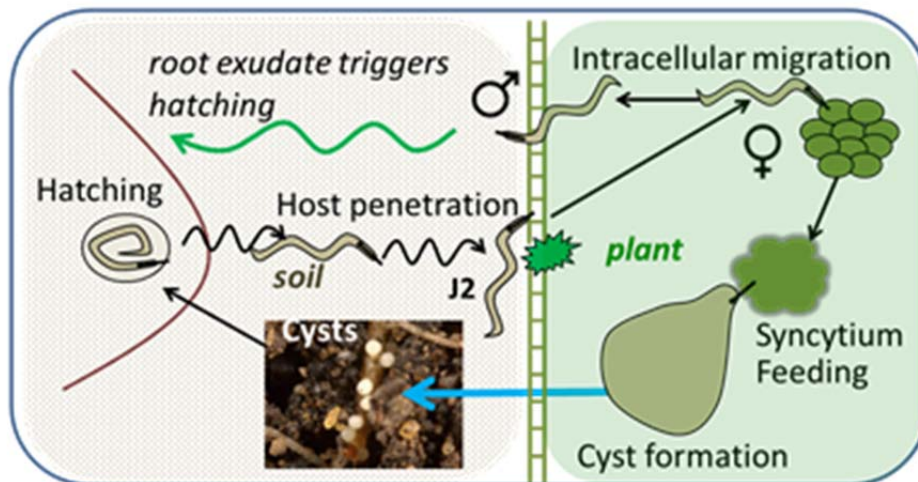


## Control of cyst nematodes by characterisation and manipulation of egg hatching compounds

How to feed the world is an increasingly important challenge for the 21<sup>st</sup> century. Talented scientists with flexibility to cut across disciplines are sorely needed to address this. This studentship will deploy fundamental principles of biochemistry, molecular genetics and plant sciences with experimental platforms from the exciting new discipline of microfluidics to understand the behaviours of pests that devastate food crops world-wide.

Training will be provided by the University of Southampton and the world-renowned James Hutton Institute; an excellent pathway for careers in academic research or industry.

**Funding is for 3 years for a UK/EU applicant and will cover fees and a stipend at current research council rates of £ 14,296 per annum. International applicants may apply but will not be funded in full. We invite applications from students who have or expect to obtain at least an upper second class degree in a life sciences discipline e.g. Biochemistry, Biological Sciences, Biomedical Engineering or allied subjects. Physics and/or Mathematics at 'A' level would be an advantage. To apply email Professor Lindy Holden-Dye [lmhd@soton.ac.uk](mailto:lmhd@soton.ac.uk) with the subject line 'PhD'. The post will remain open until a suitable applicant is appointed.**



**Project details:** Cyst nematodes are microscopic worms that invade plant roots. Worms hatch from eggs in the soil in response to root exudate (see above). The hatched worms invade the host root and establish a feeding site within the plant. Reproduction occurs within the root; the gravid female encysts eggs which are released into the soil to complete the cycle. The aim of this project is to define the cues that regulate hatching and either block it, or induce 'suicide hatching' i.e. when no crop is present, as a route to crop protection. This will involve biochemical, behavioural and molecular genetic techniques. It will bring together expertise at the Hutton Institute (Dr Vivian Blok and Dr Wayne Morris) and an interdisciplinary partnership between University of Southampton Biological Sciences (Profs Holden-Dye and O'Connor) and Hybrid Biodevices Group (Prof Hywel Morgan) providing a student with an opportunity to make an important contribution to the understanding of pest biology and advance environmentally sustainable approaches crop protection.

***Over 97% the University's research environment has been assessed as world-leading and internationally excellent.***