

Six month paid internship from Oct 2024

Project title: The effects of *Xylella fastidiosa* on UK tree species

The Centre for Forest Protection is offering this opportunity as part of an exciting programme of six-month science project internships. This placement will be based at Forest Research and provides training in research and professional skills, as well as work experience with Great Britain's principal organisation for forestry and tree-related research.

General Information

Salary

£24,323 per annum

Location

This project will be based at Forest Research, Alice Holt, Farnham, Surrey. GU10 4LH. The majority of the work will be carried out within the Holt lab, which is a state-of-the art quarantine facility. Aspects of the work could be undertaken at The Birmingham Institute for Forest Research (BIFoR) at the University of Birmingham (optional).

Host Department

Tree Health Pathology

Supervisor

Dr Lisa Ward, Prof. Rob Jackson

Project details

The bacterium *Xylella fastidiosa* is a versatile and dangerous pathogen that has caused substantial losses overseas. It is of particular concern as it has numerous hosts including some broadleaved trees such as oak, ash, elm, cherry and plane. It is not thought to be in

the wider environment in the UK at present, but if it did arrive here it could have devastating effects.

You will be contributing to work that helps to assess the risk that *Xylella* might pose to UK trees in advance of its arrival. The project is investigating which UK tree species could be affected by *Xylella fastidiosa*, and what the degree of disease severity might be. The work will help us to predict the impact of this disease and to understand more about how the pathogen may establish and spread in UK woodlands and forests. This will ensure that susceptible sites can be monitored and managed effectively.

You will be exploring the effects of different strains of *Xylella* on a number of native UK tree species. You will help to determine the movement of the bacteria within trees and monitor them for infection symptoms. You will be taking samples and processing them using molecular techniques such as DNA extraction and real-time PCR. You will also be evaluating the response of trees to infection by identifying secondary metabolites within the tree using metabolomic analysis techniques such as mass spectrometry.

What you will gain through this internship

- Experience working within an interdisciplinary team and contributing to a major UK research project.
- Experience of working on a phytosanitary project within a Level 2 Quarantine Laboratory.
- New skills/experience of molecular techniques such as DNA extraction, real time PCR and metabolomic extraction and mass spectrometry.
- Experience of bacterial isolation techniques using specialised *Xylella* media.
- Experience of laboratory work both individually and as part of a team.
- Experience of analysing and managing data and best laboratory practice.
- Opportunity to carry out mass spectrometry aspects of the work at Birmingham Institute for Forest Research (BiFoR) at the University of Birmingham (optional).
- Opportunities to communicate your work to science and non-science audiences.
- Opportunities to build networks and access leaders in their fields.

Person specification

Applicants must have the right to work in the UK

Education and experience

- Bachelor's degree in an appropriate subject area (e.g. Zoology, Ecology, Biology, Forestry or similar).
- Experience in data collection, analysis and interpretation within a research project.
- Experience of laboratory environments.
- Experience or interest in molecular or metabolomic laboratory techniques.
- Electronic data management through use of spreadsheets and competency with MS Office.

Personal skills

- Good attention to detail.
- Ability to work independently and as part of a team.
- Good verbal and written communication skills.
- A willingness to listen, learn and adapt.
- A self-starter able to manage their own time effectively.

Application Information

Closing date:

4th August

Interviews:

Between 8th and 22nd August

For more information on the project:

Contact Dr Lisa Ward

lisa.ward@forestresearch.gov.uk

To apply for this position:

Please email your C.V. to Dr Suzanne Sancisi-Frey suzanne.frey@forestresearch.gov.uk together with a personal statement addressing:

- Why you are interested in this post (250 – 300 words)
- How you feel you could contribute to the project/s (250-300 words)