



Trinity College Dublin
Coláiste na Tríonóide, Baile Átha Cliath
The University of Dublin



OPW Oifig na
nOibreacha Poiblí
Office of Public Works

MSc/PhD Studentship Opportunity: Genetic characterisation of oak (*Quercus* spp.) for breeding and conservation

Background

We are seeking an enthusiastic and highly motivated student for an MSc or PhD through research in the area of forest tree genetics and conservation funded by the Future Trees Trust and Forest Genetics Resources Trust (FGRT) Ireland. The project is supervised by Dr Trevor Hodkinson (Trinity College Dublin), Dr Colin Kelleher (National Botanic Gardens, Glasnevin, Ireland) and Dr Jo Clark (Future Trees Trust, UK). Funding has been secured for a 2 year Masters by Research (MSc) project and there is potential to extend this to a PhD (3 to 4 years).

Studentship description

Since the 1990s, Future Trees Trust (FTT) and FGRT Ireland have been developing a tree improvement programme for oak (*Quercus petraea* and *Q. robur*) in the UK and Ireland. Approximately 300 individuals with a superior phenotype for timber production – known as ‘plus trees’ – have been selected from a broad geographic range across the UK and Ireland and assigned a species based on morphological characteristics. A series of progeny trials were established in 2003 to investigate the heritability of growth and form traits of these plus trees.

DNA analysis using single nucleotide polymorphisms (SNPs) will be applied to gather information on 1) species identity, hybridisation and introgression, 2) genetic variation within the plus tree collection in relation to other British and Irish populations and, 3) family purity in the half-sib families. The project will provide guidance on best practice and analysis to this proposed project and wider information for oak conservation genetics and breeding. There is also opportunity for the student to use morphometric techniques on the provided leaf samples to distinguish the two species and compare these results with the SNP analysis.

Requirements and award

Applicants should have a First or Upper Second Class Honours degree or MSc. in an appropriate discipline such as Botany, Plant Biology, Genetics or Forestry. Experience of genetic analysis and/or tree improvement is desirable.

Stipend: The student will receive a tax-free stipend of €25,000 per year from which tuition fees are deducted. There are additional funds for travel and project costs.

Further Information

Professor Trevor Hodkinson, Trinity College Dublin; e-mail: Trevor.Hodkinson@tcd.ie, Dr Colin Kelleher colin.kelleher@opw.ie and Dr Jo Clark jo.clark@futuretrees.org

Application Procedure

Submit an electronic copy of Curriculum Vitae and a Letter of Interest (**as a single PDF file**) to: Trevor.Hodkinson@tcd.ie (quoting the reference number in the subject field. Closing date 015.02.2022 or until filled.