**ESS DTP: Project Proposal for REP’s 2018**

**Project Title:**
Modelling the future of ex-situ conservation in botanic gardens in the face of climate change

**Lead Supervisor Details:**
Samuel Brockington, Curator, Cambridge University Botanic Gardens, sb771@cam.ac.uk

**Co-supervisor Details (if applicable):**
N/A

**Project Description (max 500 words please):**
Climate change is likely to have a significant effect on the long-term future of conservation of plant species in the ex-situ living collections of the world’s botanic gardens. This project will explore the vulnerability of species in living collections to different climate change scenarios. Utilizing living collection from the UK, the climate risk of living collection will be assessed by comparing the temperature of locations where each species naturally occurs and are known to be cultivated, with several temperature projections for climate futures. Data will be collected from GBIF and using bioclim variable envelopes. These temperature ‘envelopes’ for each species will be compared with projected climates under current temperatures, and moderate and extreme climate change scenarios for the UK to identify the vulnerability of ex-situ living collection to current and projected future temperatures.

**Specific details of project:**

**The applicant should have excellent skills in the use and application of ‘R’ and ‘R studio’**

This project is subject to funding. Students must meet all of the following criteria. The student must:

- Be studying for a degree in a quantitative discipline outside of NERC’s scientific remit (e.g. mathematics, statistics, computing, engineering, physics)
- **Be applying for a placement in a different department to their undergraduate degree**
- Be undertaking their first degree studies (or integrated Masters)
- Be expected to obtain a first or upper second class UK honours degree or equivalent
- Be eligible for subsequent NERC PhD funding (UK, EU or right to remain in the UK)

Please send a CV to the lead supervisor as soon as possible but no later than Thursday 31 May 2018. The project will be carried out over the summer holiday 2018.

**Links to relevant supporting information:**

**Funding Situation:**

This Research Experience Placement (REP) is funded by the Natural Environment Research Council, who supply £2500 per REP. This is meant to cover a stipend of £200 per week for up to 10 weeks, plus £500 in research expenses.