

GROW BOT

Towards a new generation of plant-inspired growing artefacts

Grant Agreement No. 824074



Assistant Engineer Position: Anatomy, morphology and biomechanics in a plant biomimetics project (one year renewable one year)

We are recruiting an **assistant engineer** who will be motivated to help us develop anatomical, morphological and biomechanical observations for a new Europe-funded project aiming to develop **plant-inspired robotic artefacts**. Main tasks will involve laboratory and field-based observations of climbing plant (vine and liana) morphology and growth patterns, anatomical preparations of plant material (embedding, microtome sectioning), scanning electron microscopy and biomechanical observations and measurements, image digitalisation and quantitative image analysis.

Our laboratory at **AMAP (Botany and Modelling of Plant Architecture and Vegetation)** combines research at different scales from the organismal level to ecological and regional scales and particularly for tropical environments. The post will be working alongside plant morphologists, anatomists and biomechanics specialists and with a consortium of research labs across Europe on a new H2020 project.

The Project

Biomimetic research has much to offer humanity in the development of new bioinspired technologies in a changing world. The biodiversity of plant structures in natural tropical ecosystems is a rich source for biomimetic research. The post is part of a new and highly innovative H2020 European project called “GrowBot”- Towards a new generation of plant-inspired growing artefacts” as part of the FETPROACT-012018 – FET proactive: emerging paradigms and communities Research and Innovation Action – Grant Agreement no. 824074. The aim is to develop along with affiliated partner laboratories a new generation of climbing plant inspired robots that can navigate highly heterogeneous terrains without falling or becoming stuck. The principal roles at AMAP in the context of this initiative are to provide a palette of detailed information on the performance of climbing plants from field and laboratory analyses which can then be implemented in the development of technical robotic artefacts.

The Candidate

We are looking for an early career stage assistant engineer who is motivated to combine a range of laboratory techniques for investigating the behaviour, structure, anatomy and biomechanical properties of climbing plants. A typical background would preferably include experience in at least one of the following: plant morphology, plant anatomy, electron microscopy, image analysis, plant biomechanics, field work and measurements of plant functional traits and biomechanics in the tropics. We will be especially looking for candidates who are capable of multidisciplinary collaboration.

The Laboratory (<http://amap.cirad.fr/fr/index.php>)

AMAP (Botany and Modelling of Plant Architecture and Vegetation) is situated on the outskirts of the city of Montpellier on the south coast of France. Our laboratory is affiliated with the University of Montpellier and numerous research Institutes locally, which make up one of the largest poles of biological research in Europe and is vibrant community for biological research.

The application

Must be written in either French or English and must include:

- A one page motivation letter describing your background and why you would like to be part of our team.
- A CV maximum of 3 pages.
- Diplomas (Bac, Licence, Master, degree or equivalent) and grades.
- Two signed, written references (one page maximum) from recent employers or education supervisors/mentors.
- Please sent applications by email to Dr. Nick Rowe (n.rowe@cirad.fr) and Dr. Christine Heinz (christine.heinz@umontpellier.fr)

Deadlines

The deadline for the application is 31 March, 2019, 24h Paris time.

Following the expiry of the deadline for applications the recruitment managers will select applicants for assessment on the advice of the interview committee. Interviews will take place in April. The post will start in May 2019.

The position is financed by the project “GrowBot” and the employment and conditions follow those of the CNRS for early researcher assistant engineer rates of 1932,29 euros per month for candidates with less than three years’ experience.