ULB UNIVERSITÉ LIBRE DE BRUXELLES

Postdoc fellowship in bio-inspired fluid dynamics and elastocapillarity

Description

Within the CapTure project, granted by the Concerted Research Actions, the Nonlinear Physical Chemistry Unit (NLPC) of the Université libre de Bruxelles (ULB) invite applications for ***one postdoc fellowship to begin in June 2021*** **or soon after**.

The successful candidate will conduct ***experiments*** and ***theoretical modeling*** to study ***fluid flows driven by elastocapillarity*** in the context of the capture of fluids by living organisms. A project summary is included below.

Type of appointment

1 + 1 year full time. The successful candidate must have appropriate authorization to work in the EU before employment begins.

Salary

Approximately 2500€ net per month.

Required Qualifications

Completed PhD in Physics or related fields. Good oral and written communication skills (in English) to work in a multidisciplinary team environment.

Application Procedure

Applicants should submit a cover letter including a statement of interest, a curriculum vitae and the name and address of persons of reference to F. Brau via email.

Deadline

Review of applications will ***begin on May 01, 2021*** and continue until the position is filled.

Project summary

Capturing viscous fluid at small scales is a challenge that nectarivores have solved by developing various type of specialized tongues or proboscis. These appendages typically consist of a complex assembly of flexible structures having a small size compared to the capillary length. Despite numerous recent papers studying these feeding strategies, most of the physicochemical mechanisms allowing some of those animals to quickly feed on nectar are not yet fully understood. The main objective of the CapTure project is to elucidate the mechanisms of nectar capture in nectarivores possessing “hairy” tongues such as bees, bats or honeyeater birds. To achieve this goal, the candidate will carry out systematic experimental and theoretical studies of elastocapillary effects coupled with viscous flows for a series of model systems mimicking biological systems. He/she will study the influence of various control parameters on the capture dynamics and assess the relevance of these models by comparisons with in-vivo measurements.

Contact Person

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