

Postdoctoral position

IPREM - E2S UPPA

Du 9 décembre 2018 au 29 janvier 2019



Publication: From December 10, 2018 to January 30, 2019



↓ Project description

A wide variety of organic pollutants are found in natural and treated water sources, such as

pesticides. Traditional methods for their detection and quantification involve mass spectrometry, often in combination with gas or liquid chromatography. Since these methods are expensive, time-consuming, require a skilled labour, and are not suitable for on-site analyses, current research efforts are devoted to develop disposable sensors based on specific targeting coupled to colorimetric, fluorescence, or electrochemical detection. However, an emerging method involving DNA aptamers for pollutant detection is currently explored. These nucleic acids have been widely used as recognition elements for biosensor construction, especially in the detection of pathogens (*Escherichia coli*), drugs (cocaine), hormones (β -estradiol), organic pollutants (bisphenol-A), etc.

In this project, the main objective is to develop an aptamer-based biosensors for on site and real time analyses of pesticides. An electrochemical platform based on a screen-printed electrodes will be explored. Different strategies will be evaluated to immobilize the aptamer on the surface.

Keywords: Biosensor, aptamer, pesticide, electrochemistry

Working conditions

Hosting laboratory: IPREM, UMR CNRS 5254, Université de Pau et des Pays de l'Adour.

Localisation address: IPREM, Technopôle Helioparc, Pau, France

Starting period: Beginning of 2019

Duration: one year

Gross salary range: 2665 €/month.

Funding: This post doc position is funded by the E2S-UPPA project (Energy Environment Solutions) of core scientific domain focused on Environment and Energy to meet challenges related to the energy transition, geo-resources, aquatic habitats and the environmental effects of natural and anthropogenic changes.


<https://e2s-uppa.eu/en/index.html>

Profile

Priority will be given to candidates with a PhD degree in Electrochemistry, Bioengineering, Analytical Chemistry, Polymer physical chemistry or related field.

An experience in electrochemistry, electrochemical biosensors or chemical sensors would be preferred.

Application procedure

Applications must be sent as a **single pdf file** and submitted by email to  [Corinne Parat](mailto:Corinne.Parat@univ-pau.fr)

They must include:

- a cover letter addressing the skills required above (max 2 pages)
- CV (max 2 pages)
- a *publication list*



- contact details of at least two relevant professionals who can provide a reference letter based on request
- a copy of PhD diploma,
- as well as the report provided after the PhD defense (*'Rapport de soutenance de thèse'* or equivalent) and reports from the principal examiners of the PhD defense jury (*'Avis des rapporteurs'* or equivalent)