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PhD position available

DetectOP-BChE : Development of enzyme based detection kits for Organophosphorus Nerve Agents

Organophosphorus nerve agents (OP) are highly toxic for human and are used as pesticides, but unfortunately also as chemical warfare agents. Considering the serious threat that they represent to the worldwide security and health, much efforts have been devoted to the development of sensitive and selective devices for their detection. Nowadays, none of the developed strategies have led to a detection system that is at the same time sensitive, rapid, wearable, robust, reliable, universal and visual. The **DetectOP-BChE project aims at developing such a system by designing a warning detection system towards OP** and an advanced tool to identify the nature of OP responsible for the alert. The PhD position will aim at developing the first tool, **in close relationship with a local start-up** (ChemForAse; www.chemforase.com/en). The strategy is based on the highly sensitive, visual and simply operational fluorescent/colorimetric detection approach associated with the characteristics of cholinesterases as excellent, rapid and selective biomarkers of OP exposure. This novel OP-detection approach will dramatically decrease the false positive alerts, thus enhancing the reliability of the system, and should allow to reach low detection limits in limited time course. The DetectOP-BChE devices will be suitable to the French and International Armed Forces for the protection of their military troops as well as for the protection of first rescuers and surrounding civilians in the context of the perverted use of OP in armed conflicts and terrorist attacks. OP being also used as pesticides, the DetectOP-BChE devices will be applicable for the protection of researchers and staff of the chemical industry as well as farmers.

PhD candidate profile: (Bio)-organic chemist with strong interest for chemistry-biology interface, and involvement in a start-up development.

Three years' contract ("contrat doctoral") starting on January 1st 2019 (gross salary 1758€ / month ; net salary ca. 1450 € / month).

How to apply :

- Vitae, master degree results, recommendation letters or e-mails of two former supervisors.
- **Before Sept 15th 2018 by e-mail to :** pierre-yves.renard@univ-rouen.fr and ludovic.jean@univ-rouen.fr.
- Selection process will begin as from sept. 15th 2018.