

Fully funded 42-month PhD studentship from October 2019 at University of Glasgow.

Project: Low cost lab-on-a-paper sensors for microbial source tracking for water quality

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Application deadline: Jan 31, 2019

Studentship details:

- Waive tuition fees, Stipend: ~£1 300/month or UK/EU candidate, overseas student may waive tuition fees only;
- Grant to support travel for conference, with opportunity to secondment to industry partner

Key words: Sensors, paper microfluidic, analytical chemistry, environmental science, water quality

Project: Water contamination with microbial organisms is a global issue. In this project, low-cost, deployable biosensor devices (**lab-on-paper**) will be developed for the online monitoring of water quality to address such global water contamination issues. Using a paper-microfluidic sensor, similar in its size to a pregnancy test, we will develop rapid, sensitive and easy-to-use sample-to-answer testing devices (The device has been field-tested for diagnosis of infectious disease in India and Africa, [ACS Sens 2018](#), [Anal Chem 2017](#)), which can be widely deployed to identify multiple pathogens in drinking water and track their source. These novel devices will also help identify microbial and human contamination patterns and dynamics, and in doing so enabling industry to “adopt new and more productive ways of working.”

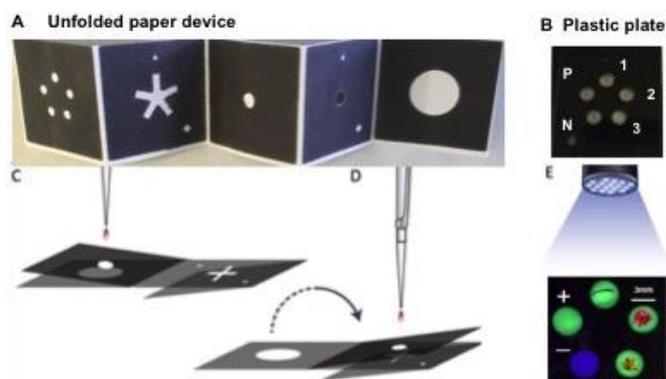


Figure 1 Paper-origami sensors for the visual multiplexed detection of pathogens.

Working with Scottish Water and other industry partners, we aim to translate this new understanding on the dynamics and transportation of microbial contamination into effective monitoring strategies and remediation processes, to maintain "sustainable communities and sustainable homes". The project will be supported by Dr Yang's NERC fellowship grant.

Candidates: Candidates with backgrounds from **Engineering, Chemistry, Biology and Environment Science** are welcome to apply. She/he will have opportunity to secondment to industry partners. The project will be in collaboration with Scottish Water, EU COST Action network (ES 1307) which are composed of a wide range of world-leading scientist on water analysis across EU, Australia, US and China. The PhD will start from **October 2019**.

[Application Procedure](#)