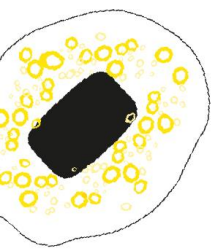


# UNIVERSITY OF TWENTE.



## Vacancy title

*Microfluidic cartridge for multi-modal sensing of individual biomarker particles*

## Level of education

Doctorate

## Committee chairperson

Prof. Séverine Le Gac

## Members of the committee

Prof. Serge Lemay

## Job description

You will develop a microfluidic cartridge housing a multi-modal sensor for the detection of biomarkers for respiratory disorders, at the single particle level. This microfluidic cartridge will perform all sample preparation steps, supporting a “sample-in/answer-out” paradigm for a point-of-care solution.

## Vacancy

The AMBER (Applied Microfluidics for BioEngineering Research) group seeks qualified candidates for a postdoc position in the frame of an EU project, Unicorn-Dx. This project aims at developing an innovative sensing platform using a multi-modal detection mechanism for the detection of biomarkers at the single-particle level. Your role in this broad project will focus on the sample preparation steps and the device integration. You will develop an integrated microfluidic platform to support a “sample-in/answer-out” paradigm for a point-of-care solution integrating adequate sensing modalities (developed by other partners). This microfluidic cartridge will be designed to be fully disposable and user-friendly, and for being employed at the point of care with a short answer (e.g., 15 min). While our overarching goal is to develop a flexible and broadly applicable sensing platform, we will focus, in this project, and as proof of concept, on the detection of acute respiratory infections.

The present project is part of an EU-funded consortium in the frame of the ATTRACT 2.0 call, involving seven European universities and companies providing complementary expertise ranging from innovative sensing modalities, microfluidics, up to the final clinical validation. This consortium is led by a local, UTwente-based startup [ECsens](#).

## Your Profile

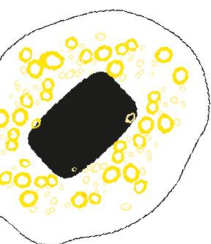
- Ph.D. degree in physics, nanoscience, electrical or mechanical engineering
- Experience with microfluidics and cleanroom microfabrication
- Interest in developing new diagnostic devices and sensing applications
- Interest and aptitudes in modelling (not mandatory but desirable)

## Our offer

- You will be appointed for a period of maximum 2 years full-time within a very stimulating scientific environment. The university offers a dynamic ecosystem with enthusiastic colleagues.
- Your salary and associated conditions are in accordance with the collective labour agreement for Dutch universities (CAO-NU);



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- Excellent benefits including a holiday allowance of 8% of the gross annual salary, a year-end bonus of 8.3% and a solid pension scheme;
- Between 29 and 41 leave days in case of full-time employment;
- Excellent support and facilities for professional and personal development.
- We are also a family-friendly institution that offers parental leave (both paid and unpaid) and career support for partners.

## Information and application

Are you interested in this position? Please send your application via the 'Apply now' button below and include:

- an application letter emphasizing your specific interest and motivation, as well as your suitability for the position
- a detailed CV,
- names/contact information for three or more references.

An interview and a scientific presentation will be part of the selection procedure.

For more information regarding this position, you are welcome to contact [Prof. Séverine Le Gac](#).

## About the department

You will work in the AMBER (Applied Microfluidics for BioEngineering Research) group, at the Faculty of Electrical Engineering, Mathematics and Computer Sciences (EEMCS), University of Twente in close collaboration with the BioElectronics group (Prof. Serge Lemay). We are an internationally oriented group focusing on the development of innovative microfluidic and miniaturization strategies for biological and medical applications. Our activities include the development of devices for single cell and biological nanoparticle analysis, organ-on-a-chip (OoC) models for cancer research, and microfluidic solutions for reproductive biology and medicine. Ongoing research activities include analysis of molecular signals involved in cancer metastasis using a multi-OoC approach and adequate sensing strategies for molecules and single particles; analysis of the impact of plastic micro/nano particles on Human health; and the incorporation of adequate mechanical stimulation of 3D cellular constructs in OoC models.

