

PhD position (f/m) Liquid Chromatography / microfluidic chips

Vrije Universiteit Brussel (www.vub.ac.be) is an internationally oriented university in Brussels, the heart of Europe. Through tailor-made high-quality research and education, VUB wants to contribute in an active and committed way to a better society for tomorrow. The PhD student will be working in the Department of Chemical Engineering at the Vrije Universiteit Brussel and will be supervised by Prof. S. Eeltink (promotor) and Prof. K. Broeckhoven (co-promotor).

Goals of the PhD project: The project aims at designing and developing novel microfluidic devices to enhance the coupling between multi-dimensional LC separations and to advance the hyphenation of LC to detector technology. In particular, the PhD student will develop a chip device to couple a first-dimension electro-driven separation to pressure-driven separations, *i.e.* aiming at spatial 2D- and 3D-LC separations. To enlarge the range of mobile-phase additives to broaden chromatographic selectivity, and to make “incompatible” mobile-phase system compatible, microfluidic membrane technology will be developed to remove target ions from the solvent system. The principles will be incorporated on chips allowing for sample transfer between columns in a multi-dimensional LC set-up and after the chromatographic separations prior to the detector.

Admission requirements: Applicant must hold a master's degree in the field of (analytical) chemistry or (bio)chemical engineers with interest in analytical science. Previous experience in the field of separation science as well as a broad interest in analytical sciences will be important selection criteria, as well as motivation, independence, and creativity. The successful candidate has excellent English communication and writing skills. After initial selection via a conference call, the candidate should be able to come to Brussels for a lab visit and interview.

Application procedure: Interested applicants should send an application letter, a brief description of research ideas relevant to the project, your curriculum vitae, grade list, and two recent letters of recommendation as a single pdf via E-mail to:

Prof. dr. S. Eeltink

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