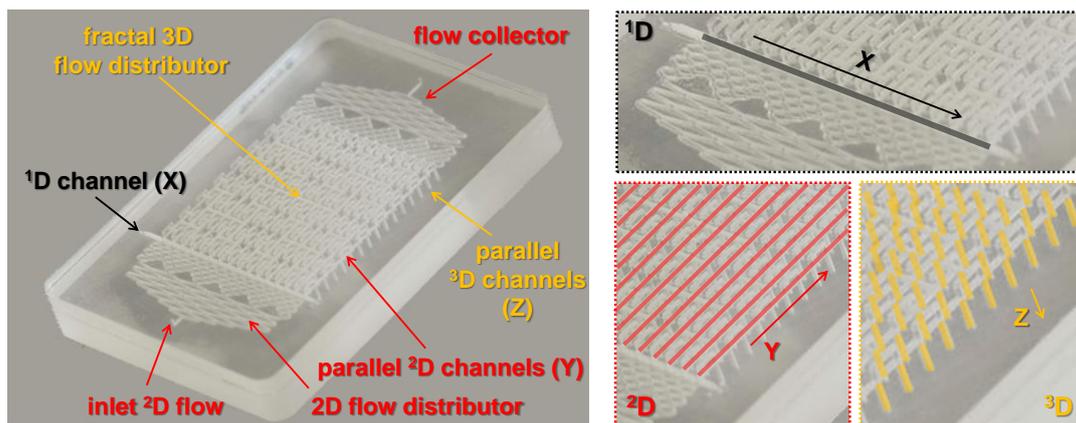


2 PhD positions in microfluidic chips / Analytical Chemistry

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 Eeltink research group in the Department of Chemical Engineering at the Vrije Universiteit Brussel. The main research themes of the Eeltink group are *i)* Advancing fundamentals of separation science, *ii)* design and development of functionalized monolithic nanomaterials, *iii)* Realizing novel concepts via microfluidic solutions, and *iv)* Developing UHPLCⁿ-MS/MS workflows in support of post-genomic biotechnology and medical diagnostics.

Outline PhD research project:

The PhD student will work on a research project that is aimed at establishing a novel concept: comprehensive spatial three-dimensional chromatography that promises unmatched separation performance. Spatial 3D-LC separations will be performed by making analytes migrate to different positions in a three-dimensional body. The separation of 1,000,000 components can ultimately be realized given that the maximum peak capacity is the product of the three individual peak capacities. Due to parallel analysis in the second and third dimensions the analysis time is greatly reduced, overcoming the fundamental limitation of coupled-column multi-dimensional approaches, in which sampled fractions are analyzed sequentially. For more information see B. Wouters *et al.* Lab on a Chip 15 (2015) 4415-4422.



The main task will be to conduct research developing microfluidic solutions for spatial 3D-LC. Results will be presented at conferences and published in international journals. The PhD student is expected to complete the PhD thesis within 4 years. In addition, the PhD student will contribute to the education program of the university.

Admission requirements:

- MSc degree in the field of (analytical) chemistry, material science or a related field (*or degree obtained before August 2018*).
- Strong proven background and interest in separation science (HPLC) and chip technology.
- Very good knowledge in spoken and written English.

Interested?

Please send your application letter, including your CV and grade list, and two (recent) letters of recommendation. The addition of a short 1-page research proposal explaining how you would like to design and prototype a spatial 3D-LC chip is greatly appreciated.

To apply send an email to: Prof. dr. S. Eeltink (sebastaan.eeltink@vub.be)