

## River Mechanics / Environmental Modeller: 3-year contract position Scientific Research & Innovation in Brussels (ULB)

An immediate job opportunity exists at University Brussels (ULB) for someone with a strong academic education in one of the exact sciences (preferably in applied mathematics, civil engineering, computing science or physics) willing to join a dynamic research team working in the field of water pollution control and environmental process modelling (three-year full-time salary). Candidates should have completed a PhD/ doctorate work (or 4 years research experience) in which numerical modelling is a key part, ideally in applications such as computational fluid dynamics or management of water systems.

The research will be conducted in English or French (some ability reading Dutch would be an asset).

The three-year research contract is offered as part of an ambitious inter-University project addressing modern tools of river basin management, funded by Brussels Institute for Scientific Research and Innovation (<http://www.irsib.irisnet.be>), following completion in 2007 of the highly sophisticated wastewater treatment plant in Brussels-North (1.1 million Equivalent-Habitants). During the highest storm-episodes and as a result of CSO discharges occurring in the City (upstream of the treatment plant site), high deliveries of suspended particles in the river are associated with typical deformation of the water surface profile, eventually peaking in the case of an “in-phase wave” configuration. This pattern can be recognized and used systematically as a new riverflow modelling paradigm / strategy in order to represent high particle flux events in the most cost-effective way, even when part of the sediment material displays cohesive transport/mobility behaviour (Huybrechts 2008, Verbanck *et al* 2007). Additional innovative approaches, e.g. inferring from Bejan’s constructal concept, will also be explored in an effort to account consistently for these events which are often insufficiently taken into account in particle-bound pollutant budgets proposed for river basins currently (details about this in the outcome of a recent European research project: [www.eu-aquaterra.de](http://www.eu-aquaterra.de), to which the Department contributed successfully). The experimental part of the river survey will be conducted in partnership with Dr Margaret Chen, Dept Hydrologic & Hydraulic Eng, VUB, as part of the IRSIB-funded project.

A representative example of the work carried out in ULB Dept Water Pollution Control can be found on our web page : <http://www.ulb.ac.be/polytech/stepfree/publications>. Details of the proposed research work (English or French available) are also to be found at the same URL. The research position is located in Brussels 1050, ULB Campus de la Plaine, a pleasant greenery setting with numerous shopping, sport and entertainment facilities within walking distance.

Application review begins Sept 1, 2009 and will continue until the position is filled.

Interested candidates should contact: Dr. Michel Verbanck. Dept Water Pollution Control, Faculty of Applied Sciences, Universite Libre de Bruxelles. Boulevard du Triomphe CP 208, B-1050 Brussels, Belgium. (Tel.: +32-2-6505198 Fax:+32-2-6505228) E-mail: [mikeverb@ulb.ac.be](mailto:mikeverb@ulb.ac.be) or [stepfree@ulb.ac.be](mailto:stepfree@ulb.ac.be). Informal enquiries about the post & salary conditions can also be made through phone contact (Tel.: +32-2-6505212 / 5213 Ms Michèle Loijens).