POSTDOCTORAL OPENING on PHYSICAL APPROACHES TO HUMAN MOBILITY

A 1-year postdoctoral position is being opened at Institut Lumière Matière (Université de Lyon 1 & CNRS, France) on physical approaches to human mobility.

Human mobility is a major challenge of the 21st century: As urbanisation and travel demand keep growing, the issues of congestion, overcrowding, and environmental damage that they raise raise call for efficient remedial policies. Reliable models for human mobility are therefore needed.

The project explores novel approaches, inspired from Statistical Physics, to establish the first laws that govern mobility. Indeed, mobility issues result from the coupled actions of many agents who interact under some physical constraints, which makes such approaches promising.

One primary goal will be to model the time spent searching for parking in crowded conditions. Despite the importance of the topic1 and the central role given to parking policies, surprising little is known about the basic laws governing this search time. A model will be developed and analysed, both numerically and analytically, with experimental validation in sight. Besides, the postdoc will also have the opportunity to participate in ongoing efforts to develop continuous models for pedestrian dynamics.

Applicants are expected to have
- a PhD in Statistical Physics, Applied Mathematics, Traffic Engineering or a related subject,
- a strong background in random processes and/or probability, as well as
- a firm inclination for exploratory research on interdisciplinary issues.

Previous experience with traffic-related problems would be an asset, but not a must.

This postdoc is funded by IDEXLYON, an Excellence Initiative of Université de Lyon.
Net salary: 2,300 – 2,400 € / month

Applications – including a CV with a publication list and the contact details of 3 references – should be emailed to (informal inquiries are welcome!)

Alexandre NICOLAS
alexandre.nicolas@univ-lyon1.fr
http://ilm-perso.univ-lyon1.fr/~anicolas

1 It has been estimated that around 30 % of cars are cruising for parking in many cities around the world.