

## **Post-doctoral Position in Logistics routing protocols in a decentralized and interconnected network - Physical Internet**

**Location:** Centre de Gestion Scientifique (CGS), MINES ParisTech, PSL University, Paris, France

**Contract:** 6 to 18 months

**Expected starting date:** as soon as possible

**Keywords:** Physical Internet, Routing protocols, Dynamic traffic assignment, Vehicle Routing Problem.

**Context and Subject:** The post-doctoral position is available at CGS, MINES ParisTech, supported by the Physical Internet Chair. As a postdoc, you will mainly contribute to the research work focusing on *logistics routing protocols in a decentralized and interconnected network like the Physical Internet (PI) network*. The PI aims to interconnect logistics systems on a large scale in order to take advantage of synergies in logistics. It would connect interoperable existing logistics networks to establish the network of networks. This network of networks requires standardized and intelligent containers which are traceable over a large number of collaborative routing centers (CRC, or the so-called PI-hubs). It receives pooled logistics flows from multiple shippers and reroute them towards their destinations using new routing protocols.

This new concept of more shared transport network of networks will challenge the way how logistics flows are transported today, so to require a radically different design of the protocols and processes to manage the freight transport. The presence of intermediate collaborative centers would divide the whole PI network into several different sub-networks. The absence of consensual and effective routing protocols would prevent the whole PI network from functioning. We are interested in the question of the design of appropriate routing protocols for decentralised and interconnected logistics network.

As a postdoc, you will also work with the team on several research projects (EU and French levels), and in collaboration with the industrial (Geodis, GS1, Orange, P&G) and academic partners of the chair. You will also participate in other relevant activities, e.g. meetings, seminars, conferences. Considering the publication potential of the topic, high level scientific publications are sought during the post-doc period.

**Skills and Experience:** The applicants should have PhD degree. He/She should have solid knowledge of logistics and supply chain management, of optimisation models (e.g. Vehicle Routing Problems, Dynamic Traffic Assignment Problem, etc.) and simulation approaches. It is a plus if he/she has experience with the following software: *MATLAB, ILOG CPLEX, Anylogic*.

### **To Apply**

The applicants should send by e-mail a **single PDF file** to [eric.ballot@mines-paristech.fr](mailto:eric.ballot@mines-paristech.fr), [shenle.pan@mines-paristech.fr](mailto:shenle.pan@mines-paristech.fr) and [Mariam.lafkihi@mines-paristech.fr](mailto:Mariam.lafkihi@mines-paristech.fr). The file should include:

- i) cover letter describing background and motivation
- ii) CV
- iii) 3 most important publications

Please contact us via the mail above for any further information or question you may have.

### **For More Information**

PSL University: [www.univ-psl.fr](http://www.univ-psl.fr)

MINES ParisTech: [www.mines-paristech.fr](http://www.mines-paristech.fr)

Centre de Gestion Scientifique: [www.cgs.mines-paristech.fr](http://www.cgs.mines-paristech.fr)

Physical Internet Chair: [www.cip.mines-paristech.fr](http://www.cip.mines-paristech.fr)

