

HES-SO University of Applied Sciences and Arts Western Switzerland – Geneva is recruiting for the Geneva School of Business Administration, Economie d'entreprise department, a position of

A postdoctoral researcher in Arc Routing Problems
Limited duration contract of 9 (up to 12) months
Part-time (80%)

to work on the *Smart City Cleaning* project, funded by InnoSuisse. This project involves two industrial partners and the Ecole Polytechnique de Lausanne (EPFL). The postdoctoral researcher will focus on periodic capacitated arc routing problems applied to daily routing of sweepers on a week horizon.

In a dynamic environment, directly connected to the business milieu, in particular with start-ups, we offer a position allowing you to:

- To develop skills in research-related activities
- To demonstrate autonomy and initiative in varied activities

Project overview:

The objective is the development of an automatic planning solution for city cleaning, and for the routing planning of street sweepers. The data-driven approach consists of three steps: cleanliness monitoring, cleanliness prediction and routing optimization. The last two work packages are the focus of this postdoctoral research.

Planned methodologies include time series forecasting for cleanliness prediction; mathematical programming (MIP) and heuristic search (ALNS) for routing optimization. Different inventory strategies are to be defined.

The researcher is expected to join a small team of junior and senior researchers.

Qualifications requirement:

- Phd in Operations Research, Transportation, Applied Mathematics or related fields, with experience in Vehicle Routing Problems
- Very good knowledge of Julia
- LaTeX and article writing
- Knowledge of python is a plus, as well as experience with Open Street Map

Particularity of the Academic Associate position UAS

- The grade level is class 15 - annuity 4 (<https://www.ge.ch/document/echelle-traitements-2021>).

Application deadline: 15.08.2021
Starting date: 01.09.2021 or to be agreed.
Duration: 9 months, with the possibility of extension to 12 months.
Place of work: HEG – Campus de Battelle – Rue de la Tambourine 17, 1227 Carouge

HES-SO University of Applied Sciences and Arts Western Switzerland – Geneva is an equal opportunity employer and offers competitive wages and benefits.

Complete application form, including cover letter, curriculum vitae, references, photocopies of work certificates, photocopies of diplomas and most recent grades, should be sent **by e-mail only** to sacha.varone@hesge.ch

For any further information, please contact the Human Resources department of the Geneva School of Business Administration at victor.pivron@hesge.ch, tel.: +41 22 388 17 13.