Post-Doctoral Fellow position in

**Building and energy simulation, optimization and surrogate-modelling**

Buildings, renewable energy generation and storage technologies and associated energy systems all pose complex, interacting design and operational challenges. Finding high-performing solutions to these problems requires a new generation of computational tools, blending aspects of simulation, optimization, machine learning and visualization. This position will work to combine all of these areas via a unified cloud-based portal that will make modular software components available to other researchers as well as the general public.

The position will be supervised by Dr Ralph Evins (Imperial College London, ETH Zurich), who’s Energy Systems and Sustainable Cities research group is pioneering the use of advanced computational techniques to deliver the low-energy buildings, cities and energy systems of the future. The work will be carried out in the stimulating multi-disciplinary environment of the Institute for Integrated Energy Systems (IESVic) at the University of Victoria in beautiful British Columbia.

**Responsibilities**

The core tasks of this project include:

- Coordination of the software development underpinning the portal, including modules for multi-scale energy systems modelling, optimization and surrogate modelling.
- Conducting research on the methods and models underpinning the portal to improve performance.
- Conducting research using the portal to tackle challenges related to buildings and energy systems.
- Supervision of graduate and undergraduate students, research administration, and the preparation of journal and conference papers and technical reports.
- Working to develop additional funded projects.
**Requirements**
- A PhD in engineering, computer science, mathematics or physics is required.
- A good working knowledge of Python is required. For an exceptional candidate, an expert level in another programming language could be acceptable instead.
- Experience with at least one of machine learning, building energy simulation, meta-heuristic optimization and energy systems modelling is required; familiarity with more than one is desirable.
- Experience of software development (e.g. working with Git and Agile) is highly desirable.
- Mastering the English language is required.

The University of Victoria is an equity employer and encourages applications from persons with disabilities, visible minorities, Aboriginal Peoples, people of all sexual orientations and genders, and others who may contribute to the further diversification of the University.

**Timeline**
Start date: ideally July 2018 (specify in your cover letter when you are available).
Duration: initially for 1 year, renewable for 1 further year depending on performance.

**Funding**
This position is funded at a level commensurate with NSERC post-doctoral fellowships. Holders of such fellowships will be eligible for top-up funding.

**How to apply**
Interested candidates should email iesvic.admin@uvic.ca with the subject Evins PD, attaching the following items:
- a detailed curriculum vitae
- a 1 page cover letter explaining your fit for the position and describing programming expertise and previous research experience
- names and contact information of at least two professional or academic references.

Review of applications will begin in mid-June, though later submissions may be considered.