



PhD position open

Modelling planetary wellbeing – an interdisciplinary approach

Institute	Institute for Environmental Sciences, University of Geneva
Thesis advisors	Prof. Jérôme Kasparian, jerome.kasparian@unige.ch Prof. Jaya Krishnakumar, Jaya.Krishnakumar@unige.ch
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Starting date	Open, as soon as possible

The multidimensional concept of *human* development, with Amartya Sen's capability approach as the philosophical foundation, has become a reference concept to use for assessing wellbeing. Even if it is not explicitly stated, sustainability is and should be an integral part of human development. Often 'nature' is treated as an input for the enhancement of human wellbeing. However, the evolution of nature is intricately linked to human wellbeing and vice versa.

To better describe this mutual dependence, this project proposes a more symmetrical framework for studying the *planetary development* process, in which *nature's* wellbeing is considered at the same level as *human* wellbeing. Together, human and nature's wellbeing define the *planetary* wellbeing, and the new framework acknowledges that both the human and nature components of this planetary wellbeing are affected by human-made systems and decisions, which are in turn dependent on natural systems.

The highly interdisciplinary Institute of Environmental Sciences of the University of Geneva offers an ideal context for developing this new framework, at the crossroads of physical sciences, natural sciences, as well as economics and econometrics. In this context, we are hiring a PhD student for developing a new model in line with the proposed framework, implementing it numerically, as well as validating it with real data.

The project will start with the development of the theoretical model including physical, biological and human components. The model will then have to be implemented numerically and the sensitivity of the model outcome to the input parameters will have to be tested. In a third step, the model will have to be empirically validated using real data. In this connection, the student will have to explore various existing databases and construct a suitable data set for estimating the model.

The proposed project requires a broad intellectual curiosity, a keen interest in multidisciplinary work, and strong modelling, quantitative and numerical skills. Knowledge and experience in large-scale mathematical and econometric modelling will be preferred. The successful candidate should also have a great capacity to work within an international team. A Masters degree is necessary to enrol for a PhD at the University of Geneva.

The gross salary is approximately 52'853 CHF (~45'000 € at the rate of December 2017). Social charges and taxes amount approximately to 20%.

Interested candidates should apply to jerome.kasparian@unige.ch with the following documents:

1. A motivation letter
2. CV
3. Transcripts of Bachelors and Masters degrees
4. Two recommendation letters
5. Master thesis if completed

Deadline for application: January 19th, 2018