

Vacancy: PhD candidate The effects of human decision-making on settling in risk-prone urban areas

The department of Urban and Regional Planning and Geo Information Management (PGM) of ITC works on the linkage of geospatial technologies with both Urban Planning & Management and Land Administration. The department takes the role of people as stakeholder in all processes central, and looks both at understanding the past and the present, as well as predicting and supporting governance decisions for the sustainable future of urban regions and their hinterlands. The key focus of the work is on developments in the global South and is highly related to global challenges as recently described in the SDGs.

Job description

The biggest part of urbanization takes place in cities of the global south, often in informal settlements. Many such settlements are located in unfavourable locations facing risks such as flooding, subsiding land and others. Often, there are strong interrelations between expanding and densifying settlements in risk-prone areas and the impacts of settlements onto the risk, thus implying a feedback from the built and non-built environment to human behaviour. Such a coupled social-ecological urban system can behave very differently when assuming different human decision-making approaches. For instance, decision-makers might take or not take into account future risks, learn from past experiences, or imitate the behaviour of others. Therefore, it is crucial to incorporate social science theories on human decision-making when analysing such systems, for example rational choice, risk perception, learning et cetera. Agent-based models provide the means of exploring the effects of different human decision-making approaches in a virtual laboratory: By simulating the socio-ecological system in a computer model, one can investigate the potential effects of different decision-making approaches onto the system and the feedbacks within.

You shall thus develop your own research around the question: What is the impact of different approaches to model human decision-making on settlement patterns in urban risk-prone areas?

You will

1. analyse the main actors and feedbacks in the socio-ecological system, linking settlement patterns and factors contributing to the risk;
2. focus on one actor type and investigate their decision-making to inform the selection of appropriate theories of human decision-making;
3. design and implement an agent-based model representing the system,
4. allowing for testing different human-decision-making approaches within this setting.

The PhD project shall work on a real-world case study in the global south; the case study and specific risk will be chosen when developing the research proposal. You will elaborate this research proposal in the first period of the PhD; the proposal will be evaluated 6 months after the start by a Qualifier committee.

Your profile

We are looking for a creative and motivated candidate. You should have:

- A Master degree in social sciences with a strong interest in environmental sciences or in environmental sciences with a strong interest in social sciences.
- Experience or strong interest in agent-based modelling using NetLogo or other programming languages.
- Excellent oral and written English language skills.
- Interest to work in an interdisciplinary and international environment.

Short-listed applicants will be required to submit a concept paper of 1500 words describing how they plan to study this topic.

Information and application

For more information you can contact Dr. Nina Schwarz (e-mail: n.schwarz@utwente.nl). You are also invited to visit our homepage.

Please submit your application (detailed Curriculum Vitae and a motivation letter elaborating the motivation for the application and your links to the three fields described above) through the form before February 28, 2018 (choose “apply now” below).

In your motivation letter, please explain how your interests and/or previous experiences relate to the three fields of agent-based modelling, urban systems and social sciences.

Job interviews will be held in the week of March 26, 2018.

Our offer

We offer you an inspiring multidisciplinary and challenging international and academic environment. The university offers a dynamic ecosystem with enthusiastic colleagues in which internationalization is an important part of the strategic agenda.

You will be fulltime employed for a period of 4 years. Salary and conditions will be in accordance with the Collective Labour Agreement (CAO-NU) of the Dutch Universities.

- A starting salary of € 2222,- in the first year and a salary of € 2840,- in the fourth year gross per month;
- A holiday allowance of 8% of the gross annual salary and a year-end bonus of 8.3%;
- A solid pension scheme;
- Minimum of 29 holiday days in case of full-time employment;
- Professional and personal development programs;
- Costs for moving to Enschede may be reimbursed.

The organization

The University of Twente. We stand for life sciences and technology. High tech and human touch. Education and research that matter. New technology which leads change, innovation and progress in society. The University of Twente is the only campus university of the Netherlands; divided over five faculties we provide more than fifty educational programmes. We have a strong focus on personal development and talented researchers are given scope for carrying out groundbreaking research.

We are an equal opportunity employer and value diversity at our company. We do not discriminate on the basis of race, religion, color, national origin, gender, sexual orientation, age, marital status or disability status. Because of our diversity values we do particularly support women to apply.

The Faculty of Geo-Information Science and Earth Observation (ITC) of the University of Twente provides international postgraduate education, research and project services in the field of geo-information science and earth observation using remote sensing and GIS. The aim of ITC's activities is the international exchange of knowledge, focusing on capacity building and institutional development in developing countries and emerging economies.

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