University of Zurich[UZH]

Department of Psychology
Applied Social and Health Psychology
Prof. Dr. Urte Scholz
https://www.psychology.uzh.ch/en/areas/sob/angsoz

Zurich, November 20, 2020

Postdoc Position in Agent-Based Computer Simulation of Social-Psychological Processes

The Chair of Applied Social- and Health Psychology, headed by Prof. Dr. Urte Scholz, in the Department of Psychology at the University of Zurich (Switzerland) is seeking a **postdoctoral researcher (80%)**, starting 1st of May, 2021 (negotiable), in the area of agent-based computer simulation of social-psychological processes. For more information on our research, see: https://www.psychology.uzh.ch/en/areas/sob/angsoz/research.html.

The appointment is for two years and financed by the SNSF project "Time and Ties: Dynamic modelling of temporal patterns in dyadic health behaviour change" (Prof. Dr. Urte Scholz & Dr. Robert Tobias). The project aims at developing a dynamic model of psychological and interaction processes in couples that supports the design of dyadic behaviour-change interventions.

Tasks:

- Developing an agent-based model of psychological and social processes related to behaviour-change, together with psychologists who run empirical investigations in the project.
- Implementing this model, estimating its parameters based on empirical time-series data and run systematic analyses of the model (parameter identification, sensitivity, cross-validation, etc.).
- Systematically explore the solution space of the model and run scenario investigations to optimize dyadic behaviour-change interventions and design an empirical study to test the model.
- Support Ph.D. and master students working in the project with statistical and simulation-based analyses, including applied introductions to areas of the computer-simulation method.
- Writing own scientific articles / cooperating in the writing of articles of other scientists in the team and presenting own research on scientific conferences.

Requirements:

- Ph.D. in psychology or related field or related to computer simulation and system analysis (e.g., systems science, computer science, physics) with strong interest in psychological research.
- Certified experience with agent-based modelling and/or system analysis of computer-simulation models (e.g., parameter estimation, sensitivity analysis, scenario investigation). Ideally, the candidate has experience in analysing agent-based models based on empirical data.
- Willingness to adapt psychological concepts and consider empirical methods of psychology in modelling and analysis. Ideally, the candidate has already applied (agent-based) computer simulation in the field of modelling cognitive processes, decisions, or human behaviour.
- Knowledge of advanced statistical methods and computer management (e.g., using cloud services, such as computer clusters)
- Ability to perform modelling and system-analysis tasks efficiently, in a self-organized way, and self-dependently from conceptualization, over implementation, to publication.
- Willingness to work in a team comprising mainly psychologists.
- Excellent spoken and written command of English; knowledge of German is helpful, but not required.

University of Zurich provides excellent working conditions and is situated in the City of Zurich renowned for its high living standard. The successful candidate will work in a small team of

researchers in close collaboration, though, the University of Zurich with its over 4,000 scientists provides ample opportunities to build up connections towards almost all research fields. Salary and terms of employment are according to SNSF regulations.

For **more information** on this position, please contact Dr. Robert Tobias (robert.tobias@uzh.ch).

To apply, submit a cover letter describing your motivation to apply for this position and how you fulfil the above requirements. Particularly, describe in more detail your experiences in agent-based modelling and system analysis, including short summaries of the models and analyses you developed and performed, respectively. If possible, attach a selection of your articles covering these investigations to your application. Further, please provide the following documents and information:

- Curriculum vitae (including list of own publications)
- Scans of your diplomas / titles
- At least two referees (including contact details and how these persons relate to your work)

Please compile all these documents in *one* pdf file and send it by e-mail to Mrs. Therese Piwnik (t.piwnik@psychologie.uzh.ch) **until January 15, 2021**.