

# Postdoctoral Fellowship Opportunity



UNIVERSITY OF TORONTO  
FACULTY OF INFORMATION



## The psychology of decision making in systems design

At the University of Toronto, a postdoctoral position is available. The successful applicant will join the research group led by Prof. [Christoph Becker](#) to explore how decision making actually happens in systems development project teams.

The initial appointment will be for one year, with the possibility of extension based on funding and the direction of the research. The desired **start date** is between now and January 1<sup>st</sup> 2019. The stipend is \$55,000 (Canadian) plus benefits. For procedures and guidelines, refer to the University of Toronto page for [Postdoctoral Fellows](#).

**The place:** The [Faculty of Information](#) is a dynamic interdisciplinary space that values and promotes excellence at the intersection of social and technical perspectives. We cover information systems, human computer interaction, data science, knowledge management, cultural heritage, libraries and archives, digital curation, science and technology studies, culture and technology, and other areas of information. The Fellow will collaborate with research partners in academia and industry and will be embedded in the Sustainability Informatics research group (<http://web.cs.toronto.edu/research/areas/si.htm>) and the international research network on sustainability design, <http://sustainabilitydesign.org/>.

**The project:** High-level *design decisions* about software systems inevitably negotiate social and technical concerns. These decisions determine the scope of analysis or of a system to be developed; they include or exclude stakeholders, negotiate trade-offs between future outcomes, and define success criteria, metrics and evaluation mechanisms. Software systems are now essential parts of the fabric of our information societies, so stakeholders must understand both the social and the technical sides of systems design. But they are currently unlikely and ill-equipped to design for sustainability. A key reason is that generally accepted methods of systems development and software engineering rely on outdated assumptions about how humans actually make decisions involving uncertain future outcomes.

Instead of studying how designers and engineers *should* make decisions according to engineering methods, this project examines their *actual* practices. We develop a psychological understanding of their decision making and use it to design practical interventions for sustainability design in software systems with a focus on requirements, the key to sustainability (see this [article](#)). We conduct case studies of information systems development projects in which we examine team decision making on requirements and architecture; conduct experiments to examine how project participants make trade-off decisions between uncertain future outcomes at different points in time ([intertemporal choice](#)); and develop sustainable design methods and tools that take into account what people actually do. We evaluate and refine these in collaboration with partners from industry and academia. In leading this work, the applicant will establish themselves in the emerging area of sustainability design. Depending on the candidate's interests, the focus can be on design and human computer interaction, requirements engineering, software engineering, information systems, or other disciplines.

**Required Qualifications:** The applicant must have completed (or are about to complete) a PhD with relevance to the empirical focus of this project. Relevant fields include (but are not limited to) the psychology of judgment and decision making, collaborative and human aspects of software engineering, studies of requirements engineering or project management practice, design studies, behavioral software engineering, and others. Knowledge of these areas is much more relevant to this project than classical 'software engineering' work such as modelling, the development of tools or modelling languages, method development or quantitative analysis. Excellent candidates will have demonstrated experience in field studies or experiments and knowledge of decision making theories and research methods.

Please get in touch with by Prof. [Christoph Becker](#) to discuss your fit or if you have any questions!

**To apply,** email a motivation letter with a statement of research interests, full curriculum vitae and a list of relevant publications, and contact information for three referees. Review of applications begins immediately and will continue until the position is filled. Finalists will be asked to contact references to obtain support letters.

The University of Toronto is strongly committed to diversity within its community and especially welcomes applications from visible minority group members, women, Aboriginal persons, persons with disabilities, members of sexual minority groups, and others who may contribute to the further diversification of ideas.