

Cyber-Human Systems

Call for Project Proposals

A research program of the Hasler Foundation open to Swiss Universities, Universities of Applied Science and institutions of the ETH Domain.

Deadline for submission of short proposals: 24.07.2016

Earliest start of project funding: 01.04.2017

More information at www.haslerfoundation.ch

Berne, May 2016

BACKGROUND

Computing plays an ever increasing role in all aspects of our life. As a consequence, society and information technology continuously interact and influence each other in a complex process. In this context, cyber-human system research investigates the increasingly coupled relationship between humans and computing with the broad goal of advancing human capabilities. Novel models, methods, theories and technological innovations in information technology are developed to increase our understanding of this new class of computing systems and to exploit their large economical and societal potential.

Research in cyber-human systems addresses specifically all aspects close to the interface between humans and information technology. It is concerned with novel computing platforms such as wearable, textile-integrated and mobile devices or even person-embedded sensors and computers. The research also explores systems that interact with users through multiple modalities such as new interaction techniques, computer displays and even brain-machine interfaces. Algorithmic aspects in cyber-human systems concentrate on local data processing in smart devices at the network edge rather than sending all data to the cloud for processing. Finally, research also addresses the consequences of such an augmented life and society where an intelligent infrastructure could influence and impact all aspects of our lives.

GOALS OF THE RESEARCH PROGRAM

The HASLER CYBER-HUMAN SYSTEMS program will support research projects that provide foundations to explore the enormous potential of advanced relationships between humans and computing. Projects are supposed to seriously engage in the application of the new models and methods in scenarios that appear to be relevant in the digital society of tomorrow. In addition, projects should respect the interdisciplinary character of cyber-human research by involving the necessary expertise.

Particular research subjects include but are not restricted to

- Interfaces between digital and human world
 - biological interfaces, sensors and actuators, 3D vision and haptic interfaces
 - energy efficient sensing, actuating, communication and computation
- Computing
 - edge computing
 - signal processing, sensor data analysis, sensor fusion
 - text and media analysis, machine learning at the edge
- Analysis of economic and societal consequences, social interactions and networks

Advances in information and communication technology as well as in computer science should be in the center of all research projects in the HASLER CYBER-HUMAN SYSTEMS research program.

POTENTIAL APPLICANTS AND PROJECT PARTNERS

We solicit project proposals from professors or senior researchers from Swiss universities (including institutions of the ETH domain) and universities of applied science. Joint proposals of two or more partners are particularly welcome. Industrial participation to the proposed project is appreciated, but industrial partners have to cover their own expenses.

Proposals will be evaluated according to their scientific quality and their strategic importance to the overall program's objectives. These criteria being equal, we will give preference to project proposals where:

- The proposal shows close cooperation among research groups from universities of applied science and/or universities/ETH institutions.
- The proposal supports the start-up phase of a scientist at a university, e.g. a newly appointed senior researcher or professor.

FUNDING RULES

Hasler Foundation applies the funding rules of the Swiss National Science Foundation but does not cover overhead expenses. The foundation expects that additional project financing will be provided from the participating institutions' own resources or other sources.

Proposals should be set up for a funding duration of at most 3 years. After 2.5 years, there will be an evaluation as part of a HASLER CYBER-HUMAN SYSTEMS Workshop. At this time, there is the possibility to apply for a prolongation of the funding for at most one additional year.

SUBMISSION AND EVALUATION PROCEDURE

All documents are to be submitted in electronic form to contact@haslerstiftung.ch. Hasler Foundation will provide the corresponding project forms on its web-site by 01.06.2016.

1. Submission of short proposals by 24.07.2016
2. Evaluation of short proposals: Decision on acceptance of short proposals and invitation to a hearing by 05.09.2016
3. Hearings for invited projects on 14.10.2016 or 15.10.2016
4. Decision on invited projects to submit a full proposal by 24.10.2016
5. Submission deadline for full proposals by 30.11.2016
6. Final decision on acceptance of projects by 28.02.2017
7. Start of project funding from 01.04.2017

The following criteria will guide the evaluation of projects: contribution to the international state of the art in the field; expected impact; potential to improve Switzerland's position in information and communication technologies (in society, academia or industry); originality of the research questions and approach; adequacy of the methodology; track record of the applicants in the area of the proposal; feasibility, organization and financial planning of the proposal.

STRUCTURE OF SHORT PROPOSAL

The short proposal should be written in English and should contain the following three sections:

1. Administrative data (1 page):
 - Title
 - Planned duration of the project
 - Expected amount of funding from Hasler Foundation
 - Indication of own contributions (funded by home institutions or third parties)
 - Full address of the project leader
 - List of other project partners (if any)
2. Outline of the project (max. 2 pages, no appendices)
3. Short CV of the project leader including a list of most relevant publications, last 5 years

CONTACT INFORMATION

For more information, please contact the management office:

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