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CHIST-ERA CONSORTIUM

CHIST-ERA is a consortium of research funding organisations in Europe with programmes supporting Information Communication Sciences & Technologies (ICST). CHIST-ERA promotes transnational and multidisciplinary ICST research by funding projects on selected topics with a potential to lead to significant breakthroughs.

CHIST-ERA also reinforces the European Research Area in ICST by deepening the cooperation among Member States as well as between them and the European Union. CHIST-ERA coordination activities are supported by the European Union's Future and Emerging Technologies scheme (FET) as an ERA-NET project.

PARTNERS

ASSOCIATES

FUNDING OPPORTUNITIES from the **FUTURE & EMERGING TECHNOLOGIES** scheme — SEVENTH FRAMEWORK PROGRAMME

chist-era

European Coordinated Research on Long-term Challenges in Information and Communication Sciences and Technologies ERA-NET

Call 2013
on

Adaptive Machines in Complex Environments
and

Heterogeneous Distributed Computing

Call Deadline: 21st January 2014

www.chistera.eu

Call 2013 Topics

*CHIST-ERA is looking for transformative and highly multi-disciplinary research projects in ICST. They should explore new ideas with potential for significant scientific and technical impacts in the long term. Each year, CHIST-ERA launches a call for research proposals in two new topics of emergent scientific importance (*Quantum Communication *and* Autonomic Systems *in 2010,* Knowledge Extraction *and* Low-power Computing *in 2011,* Intelligent User Interfaces *and* Adaptive Communication Networks *in 2012).*

Heterogeneous Distributed Computing
HDC

Proposals must contribute a transformative and multidisciplinary research project in order to advance the state of the art in one or more of the following four research themes:

- Programming models and tools
  This theme includes new programming models, abstractions and tools for software development, in particular to abstract from physical devices and connectivity, and to obtain high performance across platforms. It also includes verification and resource management.
- Data movement and management
  This theme includes techniques for the streaming and placement of data across platforms, data reduction techniques and inferences.
- Monitoring and optimisation techniques
  This theme includes optimisation of the performance/energy-efficiency trade-off, pervasive monitoring techniques, application of machine learning techniques and runtime code restructuring.
- Dependability and resilience
  This theme includes the design and development of fault-tolerant, reliable and secure heterogeneous distributed systems. It also includes security from malicious behaviour.

Adaptive Machines in Complex Environments
AMCE

Research proposals must contribute to advancing the state of the art in one or more of the following five research themes:

- Dealing with uncertainty
  This theme includes modelling and planning under uncertainty. It also includes resilient approaches to recognising, dealing with, and learning from, errors and inconsistent sensor data.
- Knowledge representation and reasoning
  This theme includes techniques for the integration of logic and probabilistic reasoning, reasoning for spatial-temporal phenomena and non-monotonic reasoning. It also includes semantic technologies and cognitive modelling for adaptive systems.
- Embodiment, perception, cognition and interaction
  This theme includes human-machine interaction and embodied intelligence. It also includes developmental approaches to sensorimotor control, coordination and learning.
- Verification methods
  This theme includes experimental validation of theory, effective model checking and simulation of adaptive systems. It includes the use of these approaches to ensure that machines are trustworthy and that privacy is preserved.
- System integration, interoperability and composability
  This theme includes the integration of high-level reasoning and low-level controls, including between agents. It also includes the design and development of communication and coordination mechanisms and protocols for the integration of system components, and resource allocation.

Selection Procedure

The coordinator prepares a joint proposal for the consortium, using the template available on the CHIST-ERA website (www.chistera.eu). The form is submitted using the electronic submission system on the website.

Consortium Eligibility

The following criteria must be met:

- The consortium is international: it must have a minimum of three partners and partners must be located in at least three distinct countries.
- The consortium is balanced: at most 60% of the total funding may be requested by partners from one country.
- The consortium is focused: research must have a clearly defined goal. Consortia should normally contain between three and six partners.

Projects have a duration of either 24 or 36 months.

Research groups from countries whose national funding organisations do not participate in the call may be part of a consortium if they are able to secure their own funding. Third-party funding is not considered for the criteria above. The consortium coordinator must be supported by a funding organisation participating in the call.

Funding Decision

The proposals will be evaluated by an international panel according to the following criteria: *Scientific & Technical Quality*, *Implementation,* and *Impact*.
On the basis of the ranking and of available funding, the funding organisations will propose a list of projects to be funded. The final decision remains with the funding organisations.