

European Coordinated Research on Long-term Challenges in ICST

Call 2013 Topics

The CHIST-ERA ERA-NET is a consortium of funding organisations in Europe with programmes supporting ICST. The consortium is itself supported by the European Union's Future & Emerging Technologies scheme (FET). CHIST-ERA promotes multidisciplinary and transnational ICT research with the potential to lead to significant breakthroughs. The funding organisations jointly support research projects selected in the framework of CHIST-ERA, in order to reinforce European capabilities in selected topics.

In the Call 2013 (to be published in October), two new and emerging topics are addressed

Adaptive Machines in Complex Environments

Autonomous systems are set to play an ever-increasing role in society, for example, in service robotics, assistive technologies, advanced manufacturing and many other sectors. To perform effectively and safely, these autonomous systems must be adaptive and perceptive to human requirements. Research in this topic addresses this challenge by developing autonomous systems that are perceptive to human requirements and that have the ability to continuously learn, adapt and improve in "real world" complex environments. These systems should be capable of continuous learning, such that they are able to work alongside humans in a reliable, safe and trust-worthy manner.

Keywords:

- Autonomous and semi-autonomous agents
- Artificial intelligence
- Machine learning
- Predicting, interpreting and responding to human emotions
- Human-machine interaction
- Learning by imitation, observation and reinforcement
- Reliability, safety and security
- Provenance and trust
- Ubiquitous computing



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Heterogeneous Distributed Computing

Heterogeneous distributed systems have the potential to increase computational performance while reducing energy consumption. The increase in the number of devices *per capita* and the challenge of processing ever-increasing amounts of data require new approaches involving researchers working across system levels. For example, hardware and software researchers working together to develop new approaches leading to improved performance, optimisation, reliability, fault tolerance and energy efficiency of distributed systems.



Keywords:

- Parallel computing
- Distributed architectures
- Performance
- Optimisation
- Reliability
- Fault tolerance
- Energy efficiency

CHIST-ERA Conference 2013

Save the Date: June 13-14, Brussels (Belgium)

The topic keywords are given as illustration only. The *CHIST-ERA Conference 2013* in Brussels (Belgium), June 13-14, brings together prominent scientists and representatives of CHIST-ERA in order to identify and formulate promising scientific and technological challenges at the frontier of research with a view to refine the scientific content of the Call.

Participate in the definition of the Call 2013

In addition to introductory keynote talks by internationally renowned scientists the Conference will propose facilitated break-out sessions. This event represents a unique opportunity for the scientific community to directly participate in scoping the Call topics content and defining the Call text.

Info and registration: www.chistera.eu

Call Information

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