

Call 2012 Draft Topics & Keywords

In the **Call 2012**, to be published in October, two new and hot topics are addressed, namely *Intelligent User Interfaces* and *User-driven, Context- and Content-aware, Communication Networks*.

The following topics keywords and examples are given as illustration only. The *CHIST-ERA Conference 2012* in Edinburgh (UK), July 5-6, brings together scientists and CHIST-ERA's representatives 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. The Conference is based on a number of high-level keynote talks by invited internationally renowned specialists. In addition, the attendees are encouraged to participate in the definition of the call's text, as far as is possible, with a short talk (10' + 5' discussion) or a poster presentation (A0, in portrait format).

Conference website: <http://conference2012.chistera.eu> ^[1]

1. Intelligent User Interfaces

Innovative human-machine interfaces embedding advanced processing of information about users and their environment in order to provide new interaction functionalities.

Keywords:

- Smart, adaptive, human-centered interfaces
- Sensor-based interfaces
- Tangible user interfaces
- Multimodal interfaces, pen-based, spoken and natural language interfaces
- Affective and social interfaces
- User modeling, learning from the users
- Conversational interfaces, dialogue error recovery
- Empirical studies and evaluation of intelligent user interfaces

Examples:

- Non-intrusive brain sensors for playing games
- Non-intrusive body sensors for health monitoring
- Recognition of handwritten text and shapes on large surfaces
- Emotion and body language recognition for empathic robot companions
- Video scene analysis for context-aware robotic assistants

- Gesture recognition and eye tracking for pointing
- Tangible tabletop devices for modeling and creativity tasks
- Spoken dialogue for system control and knowledge elicitation
- Combinations of the above

2. User-driven, Context- and Content-aware, Communication Networks

Innovative concepts, architectures and algorithms to improve the quality of service and the quality of experience to globally connected users equipped with multi-sensor smart devices such that the communication network will adapt to the content being communicated and context it is communicated within.

Keywords:

- User-driven network self-configuration and control
- Context-aware networks
- Content-aware networks
- In-network content adaptation
- Content-centric transmission/routing/networking
- Adaptive content replication, migration and distribution
- Privacy/security in networks

Example:

- People in a crowd take pictures of the same scene and want to send them to their friends, some of whom are nearby. Smart devices might make use of any suitable combination of content- and context-aware device to device communication, cooperative communication, joint source and channel coding or network coding to satisfy their communication requirements

Attachment	Size
 CHIST-ERA Call 2012 - Topics Flyer.pdf ^[2]	632.62 KB

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