

Call 2015 Draft Topics & Keywords

In the **Call 2015**, to be published in October, two new and hot topics are addressed, namely *Security and Privacy in Internet of Things* and *Terahertz Band for Next-Generation Mobile Communication Systems*.

The following topic keywords are given as illustration only. The CHIST-ERA Conference 2015 in Lisbon, June 16-18, brings together scientists and CHIST-ERA 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.

CHIST-ERA Conference 2015: <http://conference2015.chistera.eu> ^[1]

1. Security and Privacy in Internet of Things

The current IoT vision is grounded in the belief that the steady advances in microelectronics, communications and information technology witnessed in recent years will continue into the foreseeable future. However, technical flaws and threats of intrusions might significantly lower the benefits of the new developments. Traditional protection techniques are insufficient to guarantee users' security and privacy within the future unlimited interconnection. There is a widely acknowledged need to guarantee both technically and regulatory the neutrality of the future internet. Moreover, all aspects of security and privacy of the user data must be under the control of their original owner by means of as simple and efficient technical solutions as possible.

Keywords:

- Internet of things
- Smart objects
- Mobile and ubiquitous computing
- Big data
- User privacy
- Security
- Information protection
- Trustworthiness

2. Terahertz Band for Next-Generation Mobile Communication Systems

Within a decade a 1000-fold increase in wireless communication traffic volume is expected, requiring increased throughput and data rates. Although usage of already allocated spectrum frequencies should be further optimised, the Terahertz (THz) band, which remains largely unexplored and is yet unallocated for frequencies over 275 GHz, offers new possibilities. The

development of cutting edge low-cost THz devices has recently started, and new network concepts have the potential to cover the connectivity requirements of 5G systems. However, further research on Terahertz band transceivers, antennas, channel models and networking techniques is needed towards the realization of efficient and practical THz Band communication networks.

Keywords:

- Future wireless communications
- Terahertz communications
- Terahertz waves

Attachment	Size
 CHIST-ERA Call 2015 - Topics Flyer.pdf ^[2]	588.49 KB

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