

## **Annex B**

### **List of research specialisms for Sub-panel 11: Computer Sciences and Informatics**

This REF topic classification is taken from the Association of Computing Machinery (ACM) Computing Classification System March 2012 Revision, hence the use of American spelling.

Please have the REF topic classification number enclosed in '< >' as the first characters in the topic descriptor, followed by a text topic descriptor. If the output relates to more than one topic, please select the one to which the contribution is the greatest. Since the purpose is to assess whether we have sufficient expertise (and later, to assign outputs to sub-panel members), please use only a single topic. If there are many sub-topics which apply equally, then choose one at the highest level.

We think the ACM classification will apply to anything we have assessed in the past – from art to quantum physics – but we have allowed for 'Other topics'.

As noted, the information will enable the sub-panel to determine whether there are topics for which they do not have sufficient expertise, and a similar classification will be used to allocate outputs to sub-panel members for review. We realize this is a very coarse grained classification but a finer grained classification is impractical. This classification is only an aid to the sub-panel and will not affect assessment of outputs in any way.

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Communication hardware, interfaces and storage	1
Signal processing systems	1
Digital signal processing	1
Beamforming	1
Noise reduction	1
Sensors and actuators	1
Buses and high-speed links	1
Displays and imagers	1
External storage	1
Networking hardware	1
Printers	1
Sensor applications and deployments	1
Sensor devices and platforms	1
Sound-based input / output	1
Tactile and hand-based interfaces	1
Touch screens	1
Haptic devices	1
Scanners	1
Wireless devices	1
Wireless integrated network sensors	1
Electro-mechanical devices	1
Integrated circuits	1
3D integrated circuits	1
Interconnect	1
Input / output circuits	1
Metallic interconnect	1
Photonic and optical interconnect	1
Radio frequency and wireless interconnect	1
Semiconductor memory	1
Dynamic memory	1
Static memory	1
Non-volatile memory	1
Read-only memory	1
Digital switches	1
Transistors	1
Logic families	1
Logic circuits	1
Arithmetic and datapath circuits	1
Asynchronous circuits	1
Combinational circuits	1
Design modules and hierarchy	1
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Sequential circuits	1
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High-speed input / output	1
Programmable logic elements	1

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Interconnect power issues	1
Circuits power issues	1
Chip-level power issues	1

Platform power issues	1
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Electronic design automation	1
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Circuit optimization	1
Sequential synthesis	1
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Defect-based test	1
Design for testability	1
Built-in self-test	1
Online test and diagnostics	1
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Fault models and test metrics	1
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