EUPHONON COORDINATION ACTION PUBLISHES REPORT ON NANOPHONONICS

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The EU funded EUPHONON coordination action has published a report which includes Position Paper, Road Map and Strategic Research Agenda on Nanophononics in the context of ICT.

This document aims at presenting Nanophononics to attract all the relevant stakeholders and help them to synergize into a vast but sound and well defined field. This call is made in direction of academic members, industries, SMEs and governmental organizations to join the nanophononics community (www.euphonon.eu).

Nanophononics gathers the research fields targeting investigation, control and application of vibrations in solids or liquids that manifest themselves as sound or heat. This document aims at defining Nanophononics, bringing forth the urgent need to aggregate a Nanophononics community in Europe and boost its consolidation. This report seeks to demonstrate that phonons are at the conceptual heart of several scientific communities such as TeraHertz Phonons, Phononic Crystals, Micro-Nanoscale Heat Transfer, NanoMechanics and Optomechanics, Thermodynamics and Statistical Physics.

The impact of building the Nanophononics community is reaching beyond the core phononics communities since the EU's pivotal fields like Nanoelectronics, Quantum Technologies and Neuroinformatics are strongly dependent on knowledge in phononics.

The **position paper** aims to introduce Nanophononics, place it in context and exemplify its impact on ICT illustrated with representative applications.

The objective of the **Road Map** is to summarise the main research challenges and scientific questions in nanophononics, check the state of the art, identify the scientific and technological challenges to be addressed, estimate both the degree of complexity and the time scale to address them.

The main objective of the **Nanophononics Strategic Research Agenda** is to define the role and impact of nanophononics in today's society and in the industry, and give insight to the potential of the field to improve the properties of current information technology devices, enhance energy efficiency and advance the health and well-being and safety. The major impact at the moment can be seen to be in the thermal management, handling of heat and also in energy harvesting, including photovoltaics and thermoelectrics.

More info:
EUPHONON - Building a European NanoPhononics Community - www.euphonon.eu
Nanophononics report (online version): www.euphonon.eu/EPH/reports.php
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The Phantoms Foundation was established in 2002 (Madrid, Spain) in order to provide high level Management profile to scientific projects. The Phantoms Foundation focuses its activities on NanoScience & Nanotechnology (N&N) and is a key actor in structuring and fostering European Excellence and enhancing collaborations in this field.