

## Communiqué

### Development of research in the field of perception and assessment of non-audible sound

There are numerous indicators that infrasound and airborne ultrasound emission influences human beings and that sound at such frequencies can be perceived. However at present, the precise mechanisms of sound perception at these frequencies are unknown and this lack in understanding is reflected by the disappointing status of existing regulations, standards and safety. The participants of the workshop *Metrology for the perception of non-audible sound* held in Berlin from 16 to 17 of April 2015, who signed below, agree on the following issues:

- The assessment of noise at non-audible frequencies within Europe represents an important cornerstone of personalised healthcare for a society with increasing individual focus and demands for quality of life.
- It is essential to enable and improve the fundamental understanding of the perception of sound sources at frequencies outside the hearing range and to investigate their potential for adverse health effects.
- Increased effort is necessary
  - to develop models of the perception mechanisms in terms of sensory processes and their locations of activity in the brain, using neural imaging, objective audiology methods and in-ear sound field measurements,
  - to establish measurement and assessment methods for infrasound and ultrasound in public and at working places,
  - to determine experimentally the impact of infrasound and ultrasound on hearing, mental health, cognitive abilities and quality of life.
- A comprehensive concern of these issues is an interdisciplinary work which can only be performed with an adequate personal and economical basis to be provided by an appropriate public research funding.

- Names, Affiliations and signature of 17 signatories -