

# Workshop

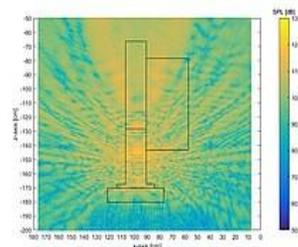
## Airborne ultrasound: assessing effects on the public and workers. 31 January 2019, London

In contrast to the generally accepted normal frequency range of hearing, the effects of ultrasound on humans has gained only moderate attention, despite the proliferation of sources and growing number of complaints in recent years. Several questions relating to these effects have been addressed within the project “Metrology for modern hearing assessment and protecting public health from emerging noise sources” (EARS II) which is carried out within the framework of the European Metrology Programme for Innovation and Research (EMPIR). This workshop will focus on two questions:

- What are the effects of ultrasound exposure on humans?
- What measurement methods are appropriate for assessing exposure to ultrasound in the workplace and in public spaces?

The workshop provides an opportunity for those in science and industry to discuss the results of the EARSII project and related issues. The schedule comprises:

- Keynote speakers highlighting aspects of the topic and giving an overview of the history and current state of the art
- Presentations of EARS II project results
- Round-table discussions with distinguished experts on current questions and new concepts, potentially initiating new ideas and future collaborations
- All participants may present a poster on their current work including a 5-minute talk (please state upon registration).



### Registration

Online via:  
[www.ears-project.eu](http://www.ears-project.eu)  
Deadline: 17<sup>th</sup> Jan 2019

### Location:

UCL Ear Institute  
University College London  
332 Gray's Inn Road  
London  
WC1X 8EE  
<https://www.ucl.ac.uk/ear/>

### Fees

No Fees for registration will be charged. Lunch and refreshments are provided free of charge.

### Poster

Please state upon registration whether you will present a poster. Maximum format is DIN A0.

### Chair

Ben Lineton, ISVR

### Scientific Committee

Tim Leighton (ISVR)  
Christoph Kling (PTB)  
Andrea Wolff (DGUV)  
Stefan Uppenkamp (Uni Oldenburg)  
Mark Fletcher (ISVR)  
Additional input from  
UK Acoustics Network



EMPIR Joint Research Project  
Metrology for modern hearing  
assessment and protecting public  
health from emerging noise  
sources.

**Project Coordination:**  
Dr. Christian Koch  
Physikalisch-Technische  
Bundesanstalt (PTB)

### Project Contact:

Email [info@ears-project.eu](mailto:info@ears-project.eu)  
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### Workshop Contact:

Ben Lineton (ISVR, University of  
Southampton,  
[SoundHealth@soton.ac.uk](mailto:SoundHealth@soton.ac.uk))

## Programme

10.30-11.00 am **Coffee**

11.00-11.05 am **Dr Ben Lineton: Welcome**

11.05-11.30 am **Professor Timothy Leighton: Introduction**

*An overview of the topic will be given.*

11.30-11.55 am **Dr Andrea Wolff: "Ultrasound in the workplace – Part 1"**

*The status of noise exposure at German ultrasound-exposed workplaces will be demonstrated. Problems of current measurement methods will be illustrated and an approach to overcome these problems will be presented.*

11.55-12.20 am **Dr Christoph Kling: "Ultrasound in the workplace – Part 2"**

*The presentation will include high-resolution measurements of ultrasound fields and a draft for a new measurement procedure to assess the exposure of a worker and it will give some examples of practical measurements.*

12.20-12.40 pm **Group discussion and questions to the speakers**

12.40-1.40 pm **Lunch**

1.40-2.05 am **Dr Mark Fletcher: "Ultrasound and very high-frequency sound in public places"**

*Measurements of the sound level produced by very high-frequency and ultrasonic sources in public places in the UK will be presented. The possible implications of the presence of very high-frequency and ultrasound exposure at the levels measured will also be discussed.*

2.05-2.30 pm **Dr Benjamin Lineton: "The effects of ultrasound and very high-frequency sound on humans"**

*Results from experiments exploring the conditions under which very high-frequency sound and ultrasound exposure can generate symptoms in humans measured in the lab will be presented.*

2.30-2.55 pm **Dr Stefan Uppenkamp: "Auditory functional MRI as a tool to evaluate audibility, loudness and annoyance"**

*Describing planned work to measure brain responses to VHF/ US.*

2.55-3.25 pm **Group discussion**

3.25-3.30 pm **Dr Benjamin Lineton: Closing statement**