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## PhD position in a research project on the perception of electric vehicles from a pedestrian's perspective, Johannes Gutenberg-University Mainz

We seek to fill a position of a doctoral student who will be supervised by Dr. Daniel Oberfeld-Twistel, Institute of Psychology, Johannes Gutenberg-Universität Mainz, Germany.
The position is part of a project that investigates the interaction of pedestrians with electric vehicles, funded by Unfallforschung der Versicherer (Accident Research Department of the German Insurers). Compared to conventional vehicles, electric vehicles have different acoustic characteristics. For example, in some situations they produce less sound than vehicles with combustion engines. The aim of the project is to investigate whether the acoustic characteristics of electric vehicles represent a potential safety risk for pedestrians crossing a road. Behavioural experiments will be conducted to test whether pedestrians can use the auditory information provided by an electric vehicle about its driving dynamics as well as for a vehicle with a combustion engine.
The project makes intensive use of state-of-the-art virtual reality techniques. In a combination of auditory VR (3D audio using higher-order ambisonics) and visual VR (interactive 3D simulations on a HTC Vive Pro), participants are tested in a simulated street-crossing situation in which an electric or conventional vehicle approaches.

### Required skills

- Strong interest in human perception and virtual reality
- Master's degree or equivalent degree at a university in Germany or another country in psychology, physics, human factors, cognitive science, computer science, electrical engineering or any other field relevant to the project topic (to fulfill the requirements for a doctorate at the Faculty 02 of the University of Mainz)
- Prior experience in at least two of the following areas: auditory or visual perception, virtual acoustics, virtual reality, experimental psychology, statistics, database programming, computer graphics.
- Excellent oral and written communications skills in English (minimum requirement: Common European Framework of Reference for Languages (CEF) level C1). German language skills are not mandatory.
- Basic programming knowledge (e.g. in Matlab) is an advantage, but can also be acquired in the project.

### You will spend your time...

- Participation in the conception, implementation and analysis of behavioral experiments on the perception of electric vehicles from a pedestrian's point of view.
- Contribution to project reports and publications in scientific journals; presentations at national or international conferences.

### Gains:

- We offer an attractive research environment with excellent technical facilities.
- You will conduct research in an interdisciplinary team

- Mainz is a vibrant city with one of Germany's largest universities, beautifully located on river Rhine in the Rhine-Main Metropolitan Region, which offers an excellent infrastructure. Mainz is a Great Wine Capital, surrounded by Germany's largest wine-producing area with a mild climate.

This is a fully funded 50% position (19.5 work hours/week), paid on the German TV-L E13 government scale. The position is fixed-term and is initially available for 9 months. An extension will be possible if additional funding becomes available. Gross salary approx. 2,000 €/month, net income approx. 1,400 €/month (after taxes, social security, and health insurance).
The position is initially limited to 9 months. A promotion possibility exists and a promotion intention is expressly welcomed.
The Johannes Gutenberg University endeavours to increase the proportion of women in scientific staff and therefore asks women to apply. Severely handicapped persons with the same aptitude will be given preference.
Further information can be obtained from PD Dr. Daniel Oberfeld-Twistel (oberfeld@uni-mainz.de).
We look forward to receiving your detailed application including a letter of motivation, a CV, information on research experience (e.g. as part of the final papers), certificates, publications (if available) and contact information from a reference. Please send your application in electronic form (as a single PDF file) to PD Dr. Daniel Oberfeld-Twistel (oberfeld@uni-mainz.de ). The application deadline is September 20th 2019.