

Job offer : post-doctoral position

Assessment and characterization of tyre noise emissions

Laboratoire Vibrations Acoustique (LVA), INSA-Lyon, 18 months

The project Low particle Emissions and lOw Noise Tyres (LEON-T) is supported by the European Commission (from June 2021 to May 2024). It aims at reducing the particle and noise emissions from tyres, because tyres became the dominant source in modern vehicles (especially in electric vehicles).

The consortium includes car manufacturers (Audi, Ford), technical centers and engineering companies (Idiada, ETU, VTI, TNO, RIVM) and universities : Univ. of Gothenburg (UGOT), INSA-Lyon).

Regarding noise, the *Sound Environment and Health Research Group* of Univ. of Gothenburg will study the influence of tyre noise on various diseases through sleep disturbance. Beforehand, LVA will study the assessment of tyre noises by listeners (through subjective evaluation and physiological measurements) and will determine timbre parameters of such noises. This will allow UGOT to select noises to include in the evaluation of sleep disturbance.

Beside, LVA will be responsible for the *Dissemination and communication* task (which includes the design and maintenance of a website).

A post-doctoral researcher is sought to contribute to this work. The tasks will be :

- Selection and preparation of sound stimuli used in the experiment. Tyre noise will be recorded by other partners (pass-by procedure, in a free-field) and some filtering will be needed to simulate noise as heard by people at home;
- Definition of the experiment procedure : assessment of noise annoyance and determination of most typical timbre characteristics;
- Carrying out the experiment in the laboratory sound proof booth (subjective evaluation and physiological measurement);
- Analysis of the results and proposition of stimuli to be used by UGOT for sleep disturbance experiments;
- Design and update of the website, and other social media tools (e.g. Twitter and LinkedIn).

The study will take place in Laboratoire Vibrations Acoustique, INSA-Lyon, in Villeurbanne, next to Lyon. Lyon is the third most important city in France and allows for a very lively lifestyle (in normal times....). LVA is part of Lyon Acoustic Centre, a network of the various research teams dealing with acoustics in the area (see <https://lva.insa-lyon.fr/> and <https://celya.universite-lyon.fr/>)

Required profile for application : Ph.D. in acoustics dealing with psychoacoustics, sound perception or noise annoyance, or Ph.D. in cognitive sciences (with an experience in behavioural experiments). Some experience of social media tools (more than just an user !) will be appreciated.

Duration : 18 months, starting from September 1st, 2021

Salary : approx. 2000 €/month (net salary).

To apply : please send the following data to Etienne Parizet (etienne.parizet@insa-lyon.fr), project leader at INSA : a CV including a list of your publications, a letter outlining your motivation to apply, your skills which fit to the job description and the names and email addresses of some colleagues who might support your application.