ACOUTECT

Open Position at Chalmers University of Technology in the Field of Building Acoustics

Models for assessing walking sound in open office spaces (ESR12)

Acoutect is a European project running from January 2017 until December 2020. This project has received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Sklodowska-Curie grant agreement number 721536.

Acoutect marries "Acoustics" and "Architect" and responds to the important role that Acousticians have in the design of modern buildings. The overarching aim of Acoutect is to set up a PhD training network on building acoustics and react to the acoustic challenges stemming from modern building concepts to deliver sustainable indoor environments with respect to health and well-being. The coordinator of the project is Eindhoven University of Technology (TU/e).

Within this project we are seeking an early-stage researcher (ESR) for a duration of 36 month to join the division of Applied Acoustics at Chalmers University of Technology, Göteborg, Sweden.

The Division of Applied Acoustics at Chalmers University of Technology

The division of Applied Acoustics is one of the leading acoustic laboratories in Europe. Its mission is to contribute to a sustainable built environment and infrastructure as well as to support European industry in the development of products and services with appropriate sound and vibration properties.

Ongoing research concerns experimental, theoretical and numerical studies to solve the acoustic challenges of dwellings in lightweight buildings with special focus in impact sound insulation and wooden houses.

As coordinator of the ITN SONORUS the division introduced the area of urban sound planning where the todays' research contributes besides others with prediction and auralisation tools for environmental sound in our cities.

The division has one of the most active research groups in the field of rolling noise in Europe. During the years they coordinated and participated in numerous national and international projects with focus on the simulation of tyre/road and wheel/rail interaction noise.

Further research topics concern vehicle acoustics and active noise control.

The division hosts the only Swedish MSc programme on Sound and Vibration, which covers a wide spectrum of the discipline acoustics and runs its own graduate school in Applied Acoustics.

Project Background

To ensure a healthy environment for people living and working in buildings, research and engineering in the area of building acoustics is essential. Developments in modern building concepts, such as sustainable low-energy consuming buildings, buildings with lightweight materials and open plan working environments, as well as the need to build in extremely noisy areas, require involvement of acoustic experts in order to successfully (re)design buildings without negatively impacting upon people's health and well-being. Taking up current and future acoustic challenges requires innovative solutions based on a thorough understanding and mastering of modern methods and tools, as well as a holistic acoustic approach involving acoustic design, products and subjective evaluation. However, in the complex field of building acoustics, research activities typically are not holistic and have become slightly marginalised. As a consequence, there is a lack of building acoustics experts.

To meet the future acoustic needs of the built environment, Acoutect is constructed around two objectives:

1. Establish a long-lasting European-wide training programme on building acoustics.
2. Launch an innovative research programme.

With these objectives, Acoutect will equip early stage researchers (ESRs) with skills to ensure acoustic quality of modern and future building concepts, and with excellent perspectives for a career in industry or academia within the area of building acoustics. The training and supervision to reach these objectives is offered by the Acoutect consortium.

Vacancy description

Walking sound can be a major source of annoyance in open office spaces. Depending on the design of the floors as well as the types of excitation (i.e. type of shoes), a very different sound character can be expected. However the underlying physics including e.g. lightweight floors with elastic covers or

carpets, different type of shoes as well as the surrounding room might strongly influence the sound. In the project, starting from measured and/or predicted contact forces due to a walker, the vibrations of and sound radiated from the floor are investigated. Innovative measurement techniques developed at the division will be utilized together with modeling techniques for the contact forces during walking. The obtained data are used for auralisation and listening tests of walking sound in office spaces.

Candidate Profile

All candidates must be fluent in spoken and written English. The R&D is highly multidisciplinary. An ideal candidate has an M.Sc. in engineering with specialisation in acoustics.

- The candidate should possess a broad knowledge in acoustics especially in psychoacoustics as well as insight in computational modelling, programming and signal processing.
- Interest in virtual reality approaches including auralisation techniques.
- Candidates get the opportunity to perform this work as part of a PhD study.

All members of the network are equal opportunity employers.

Job conditions

The host organisation will appoint the successful applicant under an employment contract with a very competitive salary according to EU regulation, including social security. The fellow is expected to join our host organizations starting from July 2017 (estimated time).

Additional funding for participation to courses, workshops, international conferences, etc. is ensured.

This position includes doctoral studies. The successful applicant must register for the PhD program in Applied Acoustics at Chalmers University of Technology. The duration of the doctoral studies in the Sweden is 5 years. Therefore, this position includes an additional 2 years contract at the end of Acoutect. As you are employed as student at Chalmers your salary will be in accordance with the university's regulations ca. 29500 SEK per month before tax.

EU Eligibility criteria for candidates (in short)

The applicant may be of any nationality.

The applicant shall at the time of recruitment be in the first four years of his/her research career and have not been awarded a doctoral degree. This is measured from the date when the applicant obtained the degree, which would formally entitle him/her to register as PhD candidate.

The applicant must not have resided or carried out his/her main activity in the country of the host institute for more than 12 months in the 3 years immediately prior to the recruitment.

Benefits

Chalmers University of Technology offers to the selected candidate an extremely competitive salary, including social security. The city of Göteborg offers a stimulating, young and multicultural working environment where more than 40000 students are living.

How to Apply

Follow the instructions at www.acoutect.eu.

APPLY NOW! Application open from February 1st 2017. The evaluation process of the applications will start from April 1st 2017.

For general questions regarding this position, please email info@acoutect.eu.

For specific questions on the PhD, research topic and Chalmers University of Technology, please email wk@chalmers.se.