

New call for applicants / research fellows
Improving Children's Auditory Rehabilitation (iCARE)
FP7-Marie Curie Initial Training Network

PhD position (36 months)

available at RWTH Aachen University, Institute of Technical Acoustics, Medical Acoustics Group, Germany
and

PostDoc Position (18 months)

available at RWTH Aachen University, Institute of Technical Acoustics, Medical Acoustics Group, Germany
in the FP7-Marie Curie Initial Training Network, Improving Children's Auditory Rehabilitation (iCARE).

Please find the description of the positions and general information about the project below.

IMPORTANT General information on ITN recruitment

Eligibility criteria for Early Stage Researchers (ESR):

You have at the time of recruitment:

Less than 4 years of research experience, and you are without a doctoral degree.

Eligibility criteria for Experienced Researchers (ER):

At the time of recruitment:

You are in possession of a doctoral degree or you have at least 4 years of research experience.

Mobility criteria for all fellows (ESR and ER):

The researcher must not have resided, worked or studied in the country of their host organization for more than 12 months in the 3 years prior to the time of recruitment. Compulsory national service and/or short stays are not taken into account. Special rules apply for international (European interest) organizations.

**PhD position available at RWTH Aachen University,
Institute of Technical Acoustics, Medical Acoustics Group, Germany**

The **Medical Acoustics Group at the Institute of Technical Acoustics** (<http://www.akustik.rwth-aachen.de/>), **RWTH Aachen University**, Germany is seeking to fill the position of a **PhD student (Early Stage Researcher)**. This full-time position is available for **3 years**, starting in **June 2014**.

The aim of the ESR is to develop realistic test procedures for children with hearing impairment. **A test battery should be developed for realistic acoustics scenes for Hearing Impaired children available to the research community.**

Objectives:

- Design of different complex acoustic scenes including room acoustic aspects and noise in classrooms (cooperation with a PostDoc working at the Institute of Technical Acoustics)
- Evaluation of relationship between room acoustic conditions, etc by means of standardized calculation schemes
- Listening Experiments with various scenes and different test stimuli
- Establishment of test battery with stimuli & room acoustic conditions for HI children

Tasks and methodology:

- Real-time simulation of complex acoustic scenes (room acoustics and head-tracking)
- Physically correct representation of a binaural scene
- Evaluation of speech recognition and speech intelligibility under various room acoustic conditions

The Institute of Technical Acoustics offers an attractive scientific environment in an international team of scientists and access to state-of-the-art acoustical equipment and labs. We are seeking for candidates with a Master (or equivalent) degree in electrical engineering, biomedical engineering, computer science or physics, who have excellent grades and a solid scientific background in acoustics, audiology, acoustic virtual reality, and signal processing. Familiarity with scientific tools and programming languages such as MATLAB or C, as well as excellent verbal and written communication skills in English, and an interest in multi-disciplinary research are essential. Research experience in any of the mentioned fields and a strong interest in application-oriented work are desirable.

To apply, provide (in English, in pdf), preferably no later than 26 January 2014:

1) a letter of interest (including motivation relevant to the research topic), 2) your detailed curriculum vitae (including study curriculum rankings, relevant research experience and publications), 3) your diploma and transcripts (including translation if possible), 4) two references and their full contact information, 5) English language proficiency test results (if available)

Prof. Dr.-Ing. Janina Fels
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Germany

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**PostDoc Position available at RWTH Aachen University,
Institute of Technical Acoustics, Medical Acoustics Group, Germany**

The **Medical Acoustics Group at the Institute of Technical Acoustics** (<http://www.akustik.rwth-aachen.de/>), **RWTH Aachen University**, Germany is seeking to fill the position of a **PostDoc (Experienced Researcher)**. This full-time position is available for **18 months**, starting in **July 2014**.

The aim of the ER is to develop an audio-reproduction system for HI using acoustic virtual reality with binaural technology. The ER should **create real-time acoustic virtual reality scenes for hearing impaired children**.

Objectives:

- Extension of the software for virtual acoustics (RAVEN and Virtual Acoustics-Tool) by the Institute of Technical Acoustics to make the tool applicable for children/adults with hearing impairment and cochlear implants.
- The work also includes working on three subprojects (SP1-SP3):
 - SP1: Real-time simulation implementation of different complex acoustic scenes
 - SP2: determine binaural input for different types of hearing aids using Boundary Element Simulations (BEM), dummy heads and on subjects
 - SP3: assist with organization of a winter school at RWTH Aachen University

Tasks and methodology:

- Acoustic Virtual Reality: Real-time simulation of complex acoustic scenes including room acoustics and head-tracking related to the acoustic input of the hearing aid
- BEM and/or measurement of HRTFs for the physically correct representation of a binaural scene

The Institute of Technical Acoustics offers an attractive scientific environment in an international team of scientists and access to state-of-the-art acoustical equipment and labs. We are seeking for candidates with a PhD degree in electrical engineering, biomedical engineering, computer science or physics, who have excellent grades and a solid scientific background in acoustic virtual reality, (real-time) signal processing, audiology, and (room-) acoustics. Familiarity with scientific tools and programming languages such as C and MATLAB, as well as excellent verbal and written communication skills in English, and an interest in multi-disciplinary research are essential. Research experience in any of the mentioned fields and a strong interest in application-oriented work are prerequisite.

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General Information:

Improving Children's Auditory Rehabilitation (iCARE)

FP7-Marie Curie Initial Training Network

The objectives of improving Children's Auditory REhabilitation (iCARE) are 1) to provide training to create a new generation of researchers capable of exploiting the synergies between different disciplines to optimize spoken communication in children with hearing impairment, and 2) to combine research across disciplines to develop novel methods, training skills and procedures for improving auditory rehabilitation. iCARE is an international and interdisciplinary consortium from academia, industry and socio-economic agencies and offers a choice of **11 PhD and 3 postdoc** positions, starting **June or July 2014**. Each project is supervised by a multidisciplinary team of experts and will benefit from extensive training. Please contact 1 or more partners for project specific educational prerequisites. In December 2013 a website will be available with more details and a procedure for applying.

Partners and topic

KU Leuven (Leuven, Belgium): Prof. Dr. Astrid van Wieringen (astrid.vanwieringen@med.kuleuven.be)

- Temporal processing in children with unilateral HI.

KU Leuven (Leuven, Belgium): Prof. dr .Wim Van Petegem (wim.vanpetegem@kuleuven.be)

- Factors influencing e-learning.

RWTH (Aachen, Germany): Prof. Dr.-Ing. Janina Fels (Janina.Fels@akustik.rwth-aachen.de)

- Acoustic Virtual Reality for HI and Development of 'realistic' test procedures for children with HI.

LiU (Linköping, Sweden:) Prof. dr. Björn Lyxell (bjorn.lyxell@liu.se)

- Higher-order (auditory-cognitive) remediation.

RUN (Nijmegen, the Netherlands): Prof. dr. Ad Snik (A.Snik@kno.umcn.nl)

- Optimizing auditory scene analysis for the hearing impaired.

UCL (London, UK): dr. Lorna Halliday (l.halliday@ucl.ac.uk)

- Auditory processing in children with HI.

UOM (Thessaloniki, Greece): Prof. dr. Areti Okalidou (okalidou@uom.gr)

- Speech processing cues in children with HI.

GAVLE (Gävle, Sweden): Prof. dr. Staffan Hygge (Staffan.Hygge@hig.se)

- Learning in different acoustic scenes.

COCHLEAR UK (Mechelen, Belgium*): dr. Filiep Vanpoucke (fvanpoucke@cochlear.com)

- Investigating listening situations by means of scene classifiers.
- Music remediation.

NOLDUS (Wageningen, the Netherlands): dr. Nico van der Aa (n.vanderaa@noldus.nl)

- Development of a new system to determine quality of communication.

Eligibility: Marie Curie funding is intended to promote mobility of early career researchers within the research community. Candidates must: a) have received a degree (Bachelor or Master's) that qualifies them for PhD training, b) should not have undertaken more than 4 years of fulltime research subsequent to that degree, and c) should not have been resident within the 'country of interest' (see individual projects*) for more than 12 months within the 3 years prior to 1 June 2014. For a full description of the eligibility conditions see: <http://ec.europa.eu/research/mariecurieactions/>.

An excellent 1st degree, good verbal and written communication skills in English, and an interest in multi-disciplinary research are essential. At this stage applicants can express their interest and/or ask for additional information by contacting the individual partner(s). Mobility expenses are provided in addition to a salary. Applicants should send a completed application form (available at the iCARE- website in December 2013) along with a covering letter detailing their suitability for the fellowship, C.V. and 2 academic references.

*note that Cochlear UK is based in Mechelen, Belgium. Persons from the UK are therefore not eligible.