

Candidate Information

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| Position: | Marie Curie Early Stage Researcher |
| School/Department: | Electronics and Computer Engineering Cluster |
| Reference: | 19/107438 |
| Closing Date: | Monday 3 June 2019 |
| Salary: | Basic salary with pension: £30,424. Basic salary without pension: £37,081. |
| Anticipated Interview Date: | 14 June 2019 |
| Duration: | 36 Months |

JOB PURPOSE:

The Early Stage Researcher (ESR) will undertake research in the framework of the project "VRACE: Virtual Reality Audio for Cyber Environments" and will be funded for 36 months through the prestigious Marie Skłodowska-Curie Actions (MSCA) Innovative Training Network (ITN) programme. VRACE will establish a multidisciplinary training and research programme focusing on the analysis, modelling and rendering of dynamic 3-dimensional soundscapes for applications in Virtual Reality (VR) and Augmented Reality (AR), delivered by nine cooperating European Universities and their industrial partners including Siemens, Mueller BBM, Sennheiser and Facebook Reality Labs (former Oculus). The ESR will be an active member of the research project team at Queen's University Belfast (QUB) assisting in the delivery of research and training activities of the VRACE Network and required to work towards the expected results of the QUB-led project entitled "Physics-Based Source Modelling with Time-Variant Parameters". In addition to their individual scientific projects all ESRs will benefit from further continuing education through a dedicated training program in the various fields of expertise of the consortium partners which includes active participation in workshops, conferences and outreach activities.

MAJOR DUTIES:

1. Conduct research in physics-based source modelling with time-variant parameters as set out in the additional information below.
2. Carry out the research and training activities specified by a personal career development plan (PCDP) and contribute to the PCDP development.
3. Study and follow the technical literature including academic papers, journals and textbooks to keep abreast with the state-of-the-art in the project topical area.
4. Record, analyse and write up results of research work and contribute to the production of research reports and publications.
5. Prepare regular progress reports on the performed research and training activities and present the research outcomes at meetings, project workshops and to external audiences to disseminate and publicise research findings.
6. Work closely with researchers of other consortium members and facilitate knowledge transfer within the VRACE consortium and in accordance with the consortium agreement.
7. Undertake mandatory training programs and secondment as required at the facilities of other consortium members in Europe and the US.
8. Actively participate in training activities and submit reports in fulfilment of the project requirements.
9. Participate in outreach, dissemination and administrative activities promoting the VRACE Network project including contributing to the consortium webpages and to organisation of VRACE project training workshops and events.
10. Carry out undergraduate supervision & demonstrating duties under supervisor direction and according to university regulations.

ESSENTIAL CRITERIA:

1. Have or about to obtain a 1st class or 2.1 Honour Degree or equivalent in a discipline relevant to the research project in the realm of engineering (e.g. mechanics, electronics) and science (e.g. physics, mathematics).
2. Relevant experience in computer programming including the ability to develop computational models in Matlab.
3. Demonstrable awareness of, and willingness to participate in, highly interdisciplinary research spanning across acoustics, numerical methods, virtual reality, and music.
4. Strong analytical and problem solving skills.

5. Ability to logically conceptualise and summarise the research findings.
6. Excellent verbal and writing communication skills.
7. Ability to interact with colleagues and staff.
8. Ability to organise resources, manage time and meet deadlines.
9. Willingness to assist in undergraduate supervision.
10. 1Be willing and able to participate in training programs at the facilities of other consortium members across Europe and in the US.
11. 1At the time of recruitment by the host organisation, be in the first four years (full-time equivalent) of their research careers and not yet have been awarded a doctorate. This four-year period is measured from the date of obtaining the degree that would formally entitle to embark on a doctorate.
12. Must not have resided or carried out their main activity in the UK for more than 12 months in the 3 years immediately prior to their selection for this post.

DESIRABLE CRITERIA:

1. Masters Qualification in a relevant subject.
2. Specialist knowledge in numerical methods, musical acoustics, or digital signal processing.
3. Proficiency in in C/C++ .
4. Experience in working with audio/music software.
5. Experience in developing audio plugins.
6. Academic or industry experience in participating in engineering or science research projects.
7. Academic or industry experience in working with virtual/augmented reality systems.
8. Familiarity with website maintenance and the use of social media tools.