



Job advertisement

Job description:

The EValTech (R&D department of Elettrica Valeri Srl), Gualdo Cattaneo, Italy, is seeking a PhD Student in the field of multi-sensory perception of indoor spaces to participate in the MSCA Doctoral Networks “Multi-sensory Solutions for Increasing human-building resilience in the face of Climate change” (MuSIC).

The position starts between 29th May 2023 and October 1st, 2023 and it is a full-time position (1720 hours/year) funded for a period of 36 months.

Institution description

The project will take place at the EValTech, the R&D division of Elettrica Valeri Srl, dedicate to research projects on building energy efficiency and prosumers’ communities, human-centric design in the indoors and outdoors towards comfortable built environment. The company headquarter is made by two buildings (300 m², about 40 people).

EValTech is currently involved in several scientific national and European research projects, mainly focused on improving human thermal comfort and well-being in general. Within a national research and development program, it was a promoter of a research fellowship that intended to educate people about energy savings enunciating energy efficiency and sustainability in the built environment. At the moment, within a national program (PNRR), it is also a promoter of a PhD about energy communities. The company also supports scientific events and initiatives, such as Nobel Prize invited conferences in Italy, and it constantly boosts any R&D and clean tech-ideas.

EValTech division is coordinated by PhD Benedetta Pioppi, that is the scientific responsible person for MuSIC and supervise the DC Dr. Benedetta Pioppi is a Doctor in Civil Engineering and holds a PhD in Energy and Sustainable Development. The main topic of her research is human centred comfort analysis and environmental monitoring. She is an expert of scientific dissemination and exploitation strategies.

Project description

The position is part of the MSCA Doctoral Networks “Multi-sensory Solutions for Increasing human-building resilience in the face of Climate change” (MuSIC). Climate change is leading to more frequent and severe extreme climate phenomena, affecting vulnerable subpopulations like children, the elderly, and the poor, as well as healthy people and their well-being. To increase human-building resilience against climate change, active building solutions are often sought and promoted. However, they require substantial energy use and thereby generate further environmental impact and/or lead to adverse effects like increased noise or pollution.



Also, these solutions protect from exposures rather than actually increasing human resilience. On the contrary, passive and hybrid solutions do not contribute significantly to greenhouse gas emissions but are often regarded as less robust and predictable and are affected by design challenges and potential rebound effects. For example, increased use of solar shading may affect lighting requirements, and night-time ventilation may influence indoor noise levels. With this multi-disciplinary, multi-sectoral MSCA doctoral network, MuSIC will address these challenges within the context of the existing European building stock and will provide solutions from a human-centred viewpoint. Five academic and one non-academic beneficiaries, together with two academic and three non-academic associated partners, will strive to educate the next generation of highly qualified young professionals able to provide future generations with more liveable and sustainable indoor and outdoor spaces in and management systems of cities by applying cutting-edge solutions, multi-sensory and multi-dimensional research and industrial development. 10 early-stage researchers will experience interdisciplinary and intersectoral training modules on science and technology as well as transferable skills and conduct individual R&D projects for improved understanding and predictability of human reactions and innovative human-centric building- and community-related solutions for increasing human-building resilience in the face of climate change.

The individual research project no. 9 is titled “Living lab for human comfort and building energy efficiency solutions”. The main goal is to develop a living lab for testing the most up-to-date hard and soft technologies to boost human comfort, wellbeing, and health together with energy efficiency in indoors/offices will be designed and realized. Innovative human-building interfaces, and communications protocols will be tested under a modular framework leaving the door open for using the same research infrastructure in the coming years/decades to follow research and market developments.

The PhD candidate will be enrolled at CIRIAF doctorate in Energy and Sustainable development in Perugia (Italy).

To complement the experience and training, the project includes planned secondments at (1) University of Perugia (Prof. Anna Laura Pisello, at months 18-20 of his/her doctoral path) and to the company (2) HUYGEN INGENIEURS & ADVISEURS B.V (Dr. Simona D’Oca and Dr. Sara Maggio, at months 9-10 and 15-16).

Tasks

The colleague interested in interdisciplinary and international work is expected to focus on the creation of office living-lab for testing innovative solutions in building energy accounting for human comfort and occupants’ behaviors. Moving from the experience gained through the developed research infrastructure, the ESR will empower and optimize the exploitation and dissemination perspectives of the identifies key exploitable Open Science results through Public Engagement. Tasks include:



- Office Living lab definition (setup of the environmental monitoring and control systems, human-building interfaces, data management, survey campaigns)
- Data collection and analysis of both environmental and human behavioural data to define innovative communication/interaction protocols to improve energy efficiency and human resilience to climate change
- Definition of novel communication/interaction protocols between humans and buildings and living lab design guidelines
- Planning the dissemination pathway towards the scientific community, industry, and civil society

Required Qualifications / Candidate profile

- The candidate is required
 - to have an excellent master's degree or equivalent (taken outside Italy) with a focus on building science, engineering, environmental science, and architecture,
 - NOT to have any kind of PhD degree.
- Fluency in written and oral English is compulsory.
- Willingness to travel internationally for the purpose of research, training and dissemination is mandatory.
- Previous research experience (shorter than 4 years) , although appreciated, is not mandatory.

Preferred Qualifications / Additional appreciated skills and competencies are:

- Data analyst skills
- Programming and modelling skills
- Knowledge in sensing architecture development
- Knowledge regarding the influences of environmental boundaries on human behaviours
- An outstanding research interest in interdisciplinary and internationally visible research
- Independent and accurate work ethic, a strong sense of responsibility, the ability to integrate into a team and project management skills.
- Team building skills
- Research management skills

Eligibility requirements

Doctoral candidate (DC) appointments are full-time fixed term for 36 months. Candidates matching the required profile will be evaluated until a successful candidate is appointed. There are strict eligibility rules associated with recruitment in MSCA Innovative Training Networks. Previous research experience (which must be no longer than 4 years), although appreciated, is not mandatory.

Career: At the time of recruitment, the DC must hold a Master's degree (taken in a non-Italian University) giving access to a PhD. A PhD degree in any field is not compatible with this DC



position. The candidate should not have a research experience longer than 4 years before applying.

Mobility: Transnational mobility is an essential requirement of MSCA Doctoral Networks. At the time of recruitment, the DC must not have resided or worked in Italy for more than 12 months in the 3 years immediately prior to the recruitment date. Applicants must be aware that seconding periods are planned for this position as described above.

Language: A good-to-excellent knowledge of spoken and written English is required and will be evaluated during the selection process. Knowledge of Italian language is not mandatory, but specific learning courses will be available upon request after getting enrolled in the PhD programme. In general, willingness to learn some Italian language skills is recommended.

How to apply

Applicant shall provide the documents listed below.

The documents shall be sent by e-mail to the following addresses: rad@valerielettrica.com with reference [MuSIC application] in the email subject. A confirmation message will be sent upon submission.

The requested documents to be sent to the contact above should be written preferably in English, or even in Italian, and they are as follows:

1. **Curriculum Vitae** with track records and academic skills (written in English or Italian), professional experience, English Language level (and certifications, e.g. TOEFL, if any) and specifications about the eligibility criteria (see above)
2. **Motivation letter** including considerations about research statements and interest in the topic
3. (Optional) Reference letters
4. Scanned **Valid ID**
5. Copy of university diplomas and study certificates (including grades and university courses)
6. Abstract of the Final Dissertation (Thesis) in English (max 1 page)
7. (if applicable) ____ scientific publications

With the submission of the documents, applicants agree that the documents will be shared among all PIs of the MuSIC consortium and additional members of the respective search committees.

Application Deadlines

The deadline for sending the candidacy is March 31st, 2023, and in any case, and in any case the position will remain open until filled.

Contact Information



For further information, please contact Dr. Benedetta Pioppi (e-mail: rad@valerielettrica.com).

Evaluation and interview

The selection process will consist of an evaluation of CVs, motivation letter and other documents provided as well as at least one interview taken in English (additional interviews could be required). The documents will be evaluated according to firstly, the eligibility rules, and then their completeness, relevant expertise and knowledge, dedication to the topic of the project, university scores and demonstrated English language skills. The interview(s) will take place at the host institution or, for those candidates who are not able to travel Italy, by internet connection (e.g. Microsoft Teams planned meeting). During the interview, the motivation to complete PhD, mastering project topics, personality, English command and communication skills will be assessed as well as potentially the knowledge transfer capability, independent thinking and the level of maturity in dealing with scientific issues. The candidates will be ranked according to both their records and the interview(s). The candidate at the highest-ranking position will be offered the position. In any cases, all the applicants will be notified about each step of the selection procedure. If, for any reason, the selected candidate will decline the offer or will fail to comply with the requirements for enrolment in the position, the one following the list will be selected up to the very last applicant who will be declared as “suitable” to take the position. More details on the selection process could be found on MuSIC WEBSITE (www.music-dn.com), EValTech website (www.evaltech.eu) and on the official EURAXESS LINK (coming soon).

Rights and responsibilities of researchers participating in Marie Skłodowska-Curie Actions

The European Charter for Researchers is a set of general principles and requirements which specify the roles, responsibilities and entitlements of both researchers and the employers and/or funders of researchers. The aim of the Charter is to ensure that the nature of the relationship between researchers and employers or funders is conducive to successful performance in generating, transferring, sharing and disseminating knowledge and technological development and to the career development of the researchers.

It is obligatory for applicants to read and understand the detailed information regarding the rights and responsibilities of researchers engaged in an MSCA Doctoral Network.

The European Charter for researchers can be accessed at: <https://euraxess.ec.europa.eu/jobs/charter/european-charter>

Employment contract and remuneration

The selected candidate will be appointed under a 36-months full-time employment contract. We offer performance-based remuneration in accordance with the provisions of TV-L (EG13), including attractive public service benefits.



The gross amount per year of the allowances includes the salary (39,739.20 €) the mobility allowance (7,200€) and a family allowance, if eligible (5,940 €). These gross amounts include all compulsory deductions under national applicable legislation (taxes depend on the country of the host institution).