

Invitation to participate in a SHORT-TERM STUDY VISIT FOR (3) STUDENTS/DOCTORAL RESEARCHERS IN THE FIELDS OF ACOUSTICS, VIRTUAL REALITY OR ERGONOMICS (BIOMECHANICS) at Tech-Safe-Bio Laboratory - The Centre for Research and Development on Work Processes and Safety Engineering, WARSAW, POLAND (21-27 September 2020*)

The Central Institute for Labour Protection – National Research Institute invites you to participate in a short term (one week) study visit at the Tech-Safe-Bio Laboratory - The Centre for Research and Development on Work Processes and Safety Engineering, Warsaw, Poland.

We offer a one week study visit (21-27 September 2020*) for 3 students/doctoral researchers who want to extend their knowledge and improve their research skills in the fields of:

- 1) vibroacoustics,
- 2) virtual reality,
- 3) ergonomics (biomechanics).

The aim of the study visit is to familiarise the participants with the Tech-Safe-Bio Laboratory equipment and procedures, present research and development activities of the Laboratory, encourage scientific discussion and exchange of ideas, and stimulate international cooperation, especially among young researchers. Also, the study visit aims at promoting R&D opportunities and infrastructure available at CIOP-PIB among international researchers and encouraging long-term cooperation in the field of Environmental Engineering.

At the Tech-Safe-Bio Laboratory researchers conduct R&D work aimed at protecting health and safety of workers, i.a. the impact of physical and psychosocial environment on workers; noise and mechanical vibration hazards; design of workplaces using virtual reality techniques and computer simulations.

The laboratory equipment includes:

In the field of vibroacoustics:

- ❖ two types of acoustic camera,
- ❖ system for sound intensity / particle velocity 3D visualisation: Microflown Scan& Paint 3D,
- ❖ semi-anechoic chamber,
- ❖ multichannel (80 input / 128 output) system for sound measurement and reproduction,
- ❖ ambisonic microphone,
- ❖ different types of precision sound level meters, sound recorders and analysers.

In the field of virtual reality

- ❖ Motion capture system in large laboratory (14x11 m)
- ❖ Simulators of: car, tower crane, crane, loader
- ❖ Human-size mobile robot with two arms
- ❖ Powered exoskeleton for upper limbs
- ❖ A lot of different HMDs

In the field of ergonomics (biomechanics):

- ❖ Noraxon TeleMyo DTS System (electromyography and goniometers)
- ❖ Biodex Balance System SD (balance evaluation)
- ❖ Biodex System 4 Pro (isometric, isokinetic measurement)
- ❖ JBA Zb. Staniak Force and Torques Measurement System (hand grip, pinch force, knee torque)
- ❖ JBA Zb. Staniak Vertical Jump System (CMJ, ACMJ jump)
- ❖ JBA Zb. Staniak Accuracy of Steering Measurement System (lever, pedal steering)

More information about the Laboratory and the Institute is available at: <https://www.ciop.pl/en>

What we offer:

We cover travel costs (round-trip plane/train ticket), accommodation for 7 nights in a hotel, alimentation/subsistence allowance, public transport tickets, health and accident insurance and an orientation meeting including a Warsaw guided tour.

Ideal candidate:

A student (master's studies preferred) or a doctoral researcher interested in occupational safety and health, eager to learn and expand his/her international network.

Additional requirements:

- 1) for vibroacoustics programme:
 - studies in one of the areas of technical sciences: mechanics, electronics, automation, environmental engineering
 - knowledge of the basics of acoustics
 - research interests in one of the areas of: noise reduction, sound measurement, sound processing
- 2) virtual reality programme:
 - good knowledge in C# and Unity environment
- 3) for ergonomics (biomechanics) programme:
 - basic knowledge of physics, mechanics, anatomy, computer skills, at least in the scope of the office suite
 - knowledge of the use of statistical methods for data analysis and using Matlab program is advisable

Only EU/EAA residents or candidates from countries that have signed a visa-free agreement with the Schengen Area or candidates holding a valid visa enabling them to study and travel in the Schengen Area (like Student Schengen Visa or Long-Stay Study Visa) will be accepted.

Application procedures: All candidates interested in the study visit are requested to send their CV and an optional motivational letter (up to 1 page long) clearly stating their academic achievements and interests together with the application form.

The application should be sent as ONE pdf document entitled (respectively) NAME_NAWA_acoustics/VR/ergonomics to an email address nawa@ciop.pl **no later than 26 July 2020 8 p.m. CET.**

The application will be evaluated by CIOP-PIB experts. If necessary, selected candidates may be interviewed online to determine the best suiting participants and may be asked to provide a consent to participate in the study visit from an academic supervisor/superior indicated in the application form.

CIOP-PIB reserves the right to contact only the successful candidates.

To obtain more information regarding the study visit recruitment, please send an e-mail to: nawa@ciop.pl

* CIOP-PIB reserves the right to reschedule or cancel the recruitment process as well as the study visit. The study visit will take place ONLY if the health and safety situation resulting from combating against the SARS-CoV-2 virus (and any related threats to the public health and safety) is declared by the public authorities as allowing for international travels, including (but not limited to) opening Polish borders for international citizens and provided the Agency financing the study visit does not ban participants' arrivals.

The candidate must come from a country that has NOT been listed by the Polish Ministry of Foreign Affairs as inadvisable to travel from on the time of the training.

Successful candidates will be kept informed of any changes related to the above.

If, due to the health and safety situation related to the SARS-CoV-2 virus or any other public safety threats, the funding agency decides to postpone or cancel the study visit, the applicants will be informed immediately of the relevant actions.

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