Participant Information Sheet

Restoring natural touch to active Prosthesis users: Training for myoelectric prostheses

## Introduction

We would like to invite you to take part in an experiment to determine an improved way of providing sensory feedback to upper-limb amputees using prosthetics. Before you decide to take part, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and if you have any queries or would like more information please contact Alex Smith, Faculty of Engineering and Technology, University of the West of England, Bristol ([alexander6.smith@brl.ac.uk](mailto:alexander6.smith@brl.ac.uk)).

## Who is organising and funding this research?

This work is funded by the ESPRC (Reference EP/L015293/1) as part of the FARSCOPE CDT. The director of studies for this research is Dr. Martin Pearson ([Martin.Pearson@uwe.ac.uk](mailto:Martin.Pearson@uwe.ac.uk)).

## What is the purpose of this study?

This research is aimed towards determining how a prosthesis user would like to have the sensory information from their prosthesis relayed to them. This includes what information is necessary to the user, when it is best to communicate this information and how to communicate it effectively through vibration of the skin. This is planned to be investigated by comparing multiple different strategies and levels of feedback in terms of their intuitive use and user preference across the cases.

## Why have I been invited to take part?

You do not have to take part in this research. It is up to you to decide whether or not you wish to be involved. If you do decide to take part, you will be asked to give consent to use your data. You are free to withdraw without giving a reason by terminating the experiment at any time. At the end of the experiment you will be asked once more whether we are allowed to use your data. If you answer ‘no’, all data will be deleted. You may also withdraw from the study any time up to 2 weeks after completion and your data will also be destroyed and not included in the study results.

## What will happen to me if I take part and what do I have to do?

If you agree to take part, you will be asked to first fill in a demographics questionnaire. In the form of the experiment itself there are four different methods of relaying pressure through vibration, which you will be asked to compare in terms of your preference and the accuracy by which you perform. This accuracy is determined by the correct identification of a particular stimulus in terms of weight and placement of an object on a platform which simulates a sensory enabled prosthetic. You will also be recorded via video for further analysis, though your face should not be visible.

## Coronavirus precautions

We will follow the familiar social distancing guidelines to help ensure your safety during the experiment. Face masks and hand sanitiser will also be provided for you and used by the researcher. Any equipment, such as the prosthetic platform, will also be thoroughly sanitised between participants. If you are feeling unwell in any way, please inform the researcher using the contact details provided, at which point either a new date for experimentation will be arranged or an alternative.

## What are the possible benefits and/or risks of taking part?

The overall goal of the project is to improve the methods by which we can provide a sense of touch to those who may have lost it. The impact of losing a hand is huge on the quality of life of an individual, so the more than can be done to narrow the gap between prosthetics and healthy limbs the better. In taking part you will help us gain a better understanding of the factors that affect the abandonment and use of sensory enabled prosthetics. We do not foresee or anticipate any significant risk to you in taking part in this study. If you however feel uncomfortable at any time, you are free to terminate the study without any explanation.

## What will happen to your information?

All the information we receive from you will be treated in the strictest confidence. All gathered data will be anonymised and confidential, and participants will never be identifiable post-publication. All information collected in this research project will be processed by the University in accordance with the terms and conditions of both the Data Protection Act (2018), as described in the UWE Data Protection Policy, aka the General Data Protection Regulation. We will store the anonymised data on the UWE data repository and not make it available to any third party unless permitted or required to do so by law.

## Where will the results of the research be published?

A report will be written containing our research findings. This report will be available on the University of the West of England’s open-access Research Repository. A hard copy of the report will be made available to all research participants if you would like to see it. Key findings will also be shared within the University of the West of England. Anonymous and non-identifying direct quotes may be used for publication and presentation purposes.

## Who has ethically approved this research?

The project has been reviewed and approved (hopefully) by the Faculty of the West of England University Research Ethics Committee. Any comments, questions or complaints about the ethical conduct of this study can be addressed to the Research Ethics Committee at the University of the West of England at: Researchethics@uwe.ac.uk, quoting the title of the study and the reference number **FET.2122-63**.

## What if something goes wrong?

Any concerns, queries and /or complaints can be addressed by contacting either the lead experimenter, Alex Smith ([alexander6.smith@brl.ac.uk](mailto:alexander6.smith@brl.ac.uk)) or the Director of Studies, Dr. Martin Pearson ([Martin.Pearson@uwe.ac.uk](mailto:Martin.Pearson@uwe.ac.uk)).

## What if I have more questions or I do not understand something?

If you would like any further information about the research please contact in the first instance: Alexander Smith, Coldharbour Lane, BS16 1QY, Bristol, UK. ([alexander6.smith@brl.ac.uk](mailto:alexander6.smith@brl.ac.uk)).

Thank you for your time!