

## Participant Information Sheet

Project title:	Validation of Unobtrusive Sensors for Care Monitoring
Principal investigator (PI):	Professor Tughrul Arslan
PI contact:	Tughrul.arslan@ed.ac.uk
Researcher collecting data:	Dr. Imran Saied (PDRA), Dr. Srinjoy Mitra, Dr. Anil Kumar Appukuttan Nair Syamala Amma (PDRA)
Funder (if applicable):	Nil

### Who are the researchers?

The research team consists of Dr. Imran Saied, Dr. Srinjoy Mitra (PhD research student) and Dr. Anil Kumar Appukuttan Nair Syamala Amma. The team is led by Professor Tughrul Arslan, School of Engineering, University of Edinburgh who is also the Co-Lead for the Integrated Technologies of Care workpackage within the Advanced Care Research Centre (ACRC). The research team is also associated with the Advanced Care Research Centre working for the data-driven care of the older population. Their research focuses on new technologies of care that can help in the early detection, monitoring and management of some of the most common movement disorders that come with age.

### What is the purpose of the study?

The rapid increase in the ageing population has led to an increase in occurrences of age-related conditions. Therefore, people in later life require timely care to manage their conditions and lead an independent life. Age-related changes in breathing, movement, and hydration can negatively affect the activities of daily living in the ageing population. This research project aims at developing systems that will be useful in accurately detecting and monitoring various health parameters remotely. The data collected during the research will be used to devise various algorithms that can help in the detection, calibration, and quantification of abnormal patterns related to breathing, movement, hydration and temperature. This will lead to the early detection abnormal events that will be used to provide timely care interventions that allows people to manage existing underlying conditions and enhance independence. In addition, this data and associated algorithms from the unobtrusive sensors can prove

to be beneficial in avoiding unnecessary delays in detection that arise due to sporadic clinical visits and preventing adverse events such as falls.

### **Why have I been asked to take part?**

As a volunteer, you have agreed to take part in the research experiments. Your participation will help generate data that can become the basis of the data-driven care algorithms and systems to achieve the research goal.

### **Do I have to take part?**

No, your participation in this study is entirely up to you. You can withdraw from the study at any time, up until the data collected has been used in results and analysis, without giving a reason. We do not require your name to be used in the research. Your personal data will be deleted and anonymised data will be combined such that it is impossible to identify individual information in the analysis. Your rights will not be affected. If you wish to withdraw, contact the PI. We will keep copies of your original consent, and your withdrawal request.

### **What will happen if I decide to take part?**

You will first be asked whether researchers can conduct the study at home or in the sensor room within the Scottish Microelectronics Centre. If you choose to conduct the study at home, researchers will setup and install the RF-based and IR-based sensor devices based on the convenience and comfort of the volunteer. The sensors are standalone devices that resemble cushions, pillows, and everyday household furnishings that pose no impact to the volunteers' home. Setup and installation of the sensors is quick and will be removed immediately upon completion of the activities. Depending on where you choose to perform the activities, you will be asked to perform simple everyday tasks, such as walking, standing, sitting in a chair, simulating eating or drinking in front or sitting on the sensors. The sensor transmits electromagnetic waves which reflected from the target will give information about the activity being performed. The activities will be performed twice in repetition and the whole session will not take more than 30 minutes. You will only be asked to appear once for the complete session.

### **Are there any risks associated with taking part?**

There are no significant risks associated with participation. The only risk involved is the time invested by the participants during the experiments. To minimize this, care will be taken that you (as volunteers) are informed ahead of time about all the sensors to be installed and which room would be suitable to perform the experiments. In addition, researchers will ensure that the sensors are completely ready before being installed in the volunteer's home to minimize the amount of time taken to setup and remove sensors. Those participants that agree to perform the various activities, give full consent and have been asked that they do not have any back problems, recent accidents or any pains in their body. They should give consent that they are completely healthy.

### **Are there any benefits associated with taking part?**

Small snacks such as chocolates, biscuits or juice can be provided.

### **What will happen to the results of this study?**

The results of this study will be summarised in published articles, reports and presentations. We will remove any information that could, in our assessment, allow anyone to identify you, though the chances are rare as your name will not be recorded. Also, we do not intend to take audio data from you. Your data may be archived for a maximum of 4 years. All potentially identifiable data will be deleted within the first 4 months of the research.

### **Data protection and confidentiality.**

Your data will be processed under Data Protection Law. All information collected about you will be kept strictly confidential. Your data will be referred to by a unique participant number rather than by name. Your data will only be viewed by the researcher/research team Nazia Gillani and Tughrul Arslan.

All electronic data will be stored on a password-protected encrypted computer on the University's secure encrypted cloud storage services and all paper records will be stored in a locked filing cabinet in the PI's office. Your consent information will be kept separately from your responses to minimise risk.

### **What are my data protection rights?**

You have the right to access information held about you. Your right of access can be exercised under Data Protection Law, General Data Protection Regulation (GDPR) and the Data Protection Act (2018). You also have other rights including rights of correction, erasure and objection. For more details, including the right to complain with the Information Commissioner's Office, please visit [www.ico.org.uk](http://www.ico.org.uk). Questions, comments and requests about your personal data can also be sent to the University Data Protection Officer at [dpo@ed.ac.uk](mailto:dpo@ed.ac.uk).

### **Who can I contact, if I have a question?**

If you have any further questions about the study, please contact the lead researcher, Professor Tughrul Arslan at [tughrul.arslan@ed.ac.uk](mailto:tughrul.arslan@ed.ac.uk).

### **Who can I contact, if I have a complaint?**

If you have any further questions about the study, please contact the lead researcher, Professor Tughrul Arslan. If you wish to make a complaint about the study, please contact [Ethics.Eng@ed.ac.uk](mailto:Ethics.Eng@ed.ac.uk). When you contact them, please provide the study title and detail the nature of your complaint.