

## Participant Information Sheet (PIS)

Version : V2-01/01/2024

**Research Title:** Asthma Attack Simulation

**Investigators:** Prof. Abbes Amira, Prof. Fatih Kurugollu, Dr. Adel Oulefki, Mr. Mohammad Mohmmad Rashad Alshowekey

We are extending a warm invitation for you to participate in our pivotal research study. Prior to making a decision about your involvement, it is crucial for us to ensure that you have a comprehensive understanding of the purpose behind this research and what your participation would entail.

Dr. Adel Oulefki, Mr. Mohammad Mohmmad Rashad Alshowekey are at your disposal to discuss the study in detail, address any inquiries you might have, and provide clarification on any aspect as required. Our team is committed to ensuring that you have all the information you need to make an informed decision about your participation.

### What is the purpose of the research?

The primary aim of this research is to explore the relationship between thermal imaging data and asthma attacks, seeking to identify patterns that could inform better management and treatment strategies. This study represents a pilot initiative, integrating advanced imaging technologies into respiratory health research. Our team, comprising members currently engaged in academic qualifications, is dedicated to contributing meaningful insights to the existing body of knowledge on asthma. We are committed to presenting our objectives transparently and succinctly, ensuring that potential participants are fully informed without the use of overly complex scientific terminology or potential biases in their responses.

In essence, this research endeavours to open new avenues in asthma management through the innovative use of thermal imaging, with the goal of improving the diagnostic for individuals affected by this condition.

### Why have I been invited to participate?

You have been invited to participate in this research study because we are seeking male and female volunteers who can assist us in simulating asthma symptoms in a controlled environment with ( $T=\pm 20^{\circ}\text{C}$ , 1,5m distance from thermal camera). Your involvement helps us to understand the thermal imaging patterns associated with changes in breathing patterns, which are characteristic of asthma attacks. For this research, we are aiming to involve a total of **100** participants to ensure robust and comprehensive data collection.

## Do I have to take part?

☐ No, I do not have to take part:

Participation in this research study is completely voluntary, and you are under no obligation to join. If you decide not to participate, it will not affect your usual care, working practices, or studies in any way. We respect your decision, and you are free to change your mind at any time, even if you initially agree to participate.

☐ Yes, I want to take part:

If you decide to participate, your contribution will be highly valued, and you will play an important role in helping us understand asthma attacks better. We are committed to ensuring a safe and supportive environment throughout this data acquisition, and we are here to answer any questions you may have. Your participation is important to us, and we appreciate your willingness to contribute to this research.

## Study overview

- **Start and End of Participation**

Your participation in this study will commence on the agreed upon date and is expected to last for a single session. The estimated end date for the entire study is 24/10/2024, spanning a duration of one year.

- **Duration and Frequency**

Your involvement will require a one-time participation, during which you will engage in specific activities designed to simulate asthma symptoms and measure related physiological responses.

- **Research Activities**

During your participation, you will be asked to:

- **Face the Thermal Camera:** Position yourself in front of the camera to ensure accurate thermal imaging as you simulate breathing patterns when we ask you to do so.
- **Simulate Breathing Patterns:** Engage in controlled breathing exercises, starting with slow breathing, followed by a period of fast breathing.
- **Wear a Shimmer Device:** This device will be securely placed on you to monitor and calculate your heart rate throughout the simulation.

The entire session is expected to last for approximately **10 minutes**, and you will be guided through each step by a member of our research team.

- **Additional Information:**

- This study does not involve any blood tests or invasive procedures.
- Your participation is voluntary, and you are free to withdraw at any time.
- The data collected will be used solely for research purposes, and all personal information will remain confidential.

## **What are the possible disadvantages and risks of taking part?**

In this study, we will be using the Fluke TiX620 Infrared Camera, which comes with specific safety warnings to prevent eye damage and personal injury. We are committed to ensuring the utmost safety during your participation.

Our research team is trained to follow all safety guidelines and will be closely monitoring the setup and execution of the study to ensure your safety. Despite any precautions, if you feel any discomfort or have concerns at any point, you are encouraged to communicate this with the team immediately.

Take note that, the Fluke TiX620 Infrared Camera, employed in our study, is a passive sensor and poses no risk to the eyes. Additionally, the camera's laser function will not be used during the experiment. It requires specific steps to activate, and our trained team ensures that this functionality will remain deactivated throughout the experiment, further ensuring participant safety.

## **Privacy notice**

☐ [STUDENTS]

☐ [STAFF]

### Privacy Notice

Data collected will be used by the student to analyse the correlation between thermal imaging patterns and simulated asthma symptoms via pre-processing process such as alignment and cropping the important parts of the face such as nose and mouth, aiming to enhance the understanding of asthma attacks and contribute to the development of more effective classification strategies.

Anonymised data from this project may be used in future publications and could be published on GitHub to promote transparency and allow other researchers to validate their findings or use the data for further research.

As a data subject you can request withdrawal of consent of 2 weeks by contacting Mohammad Mohammad Rashad Alshoweky ([malshoweky@sharjah.ac.ae](mailto:malshoweky@sharjah.ac.ae)). After this period data are anonymised and we will be unable to extract your individual data.

### Additional Information

The supervisor of this project, who also has access to the data, is highly qualified and experienced and has been very careful to discuss with the student processes to ensure the security of your data.

We are obliged to:

- Not seek more information from you than what is essential and necessary for this research.
- Make sure that you are not identified by using ID codes.
- Use your anonymised / pseudonymised data for the purposes of this study and for any relevant publications that arise from it.
- Store data safely in password-protected databases to which only the named researchers have access.

Further information about the project can be obtained from Mr. Mohammad Mohammad Rashad Alshoweky or Prof. Abbas Amira, Prof. Fatih Kurugollu, University of Sharjah, e-mail addresses @ [aamira@sharjah.ac.ae](mailto:aamira@sharjah.ac.ae); [fkurugollu@sharjah.ac.ae](mailto:fkurugollu@sharjah.ac.ae);

### \*Special Category Data

## **What will happen to the results of the research?**

The results of this research hold the potential to significantly contribute to the existing body of knowledge on asthma and its diagnostic, with the possibility of culminating in a journal paper and even a patent. We are committed to ensuring the utmost confidentiality and privacy of all participants involved in this study.

Your contribution to this study is invaluable, and we are committed to ensuring that the results are used responsibly and ethically, with the highest regard for participant privacy and confidentiality.

## **Who is organising or sponsoring the research?**

The research is being organized and sponsored by the University of Sharjah, specifically under the College of Computing and Informatics. The University of Sharjah is not only providing the necessary academic and infrastructural support but is also funding the research to ensure its successful completion.

The College of Computing and Informatics plays a crucial role in facilitating the research activities, offering access to resources, expertise, and the necessary technological support including thermal camera used in this study. The involvement of the college underscores the academic nature of the project, ensuring that the research adheres to the highest standards of integrity and scholarly excellence.

## **Thank you**

Thank you for reviewing the information sheet about our study. We truly appreciate your consideration of participating in our research. Your involvement is crucial to our work and could contribute significantly to our field.

In case of concerns or complaints regarding your participation in this research, you can contact the Research Ethics Committee at: 06-5057304 or by Email: REC@sharjah.ac.ae