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**Title of research study:**

*Biometrics Recognition and Identification at Altitude and Range Testing and Evaluation*

**Investigator:**

*David Cornett III*

**KEY INFORMATION:** The following is a short summary of the study to help you decide whether to be a part of this study. More detailed information is included later in this form.

You are being invited to take part in a research study conducted by David Cornett III, from the National Security Sciences Division at Oak Ridge National Laboratory (ORNL). If you choose to participate, you will be provided with compensation in the form of a gift card for \$100-\$200. There will be indoor and outdoor portions. The outdoor collection selections are chosen randomly. Please take the time to read the following information carefully. Ask us questions if anything is not clear or if you would like more information. Take your time to decide whether you agree to volunteer to take part in this research study.

This study is in support of the Intelligence Advanced Research Projects Activity (IARPA) Biometrics Recognition and Identification at Altitude and Range Testing and Evaluation (BRIAR) program. The goal of this research is to improve the types of imagery and sensors that can be used for reliable and accurate biometric matching. Further research in biometric recognition and identification at altitude and range may support protection of critical infrastructure and transportation facilities, military force protection, and border security. Information about you will be stored with your images, but that information will NOT include your name or any contact information. We will use a code/unique identifier in lieu of your name to make it more difficult to associate your data with you. We will protect your data in accordance with Federal and other applicable requirements, limiting access to those on the BRIAR research team and partner organizations that have signed and agreed to abide by the terms of data transfer agreements.

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The dataset collected may be shared broadly with US government and its partners for additional research, development projects, or training activities, following Institutional Review Board (IRB) review, and in accordance with the requirements for the protection of personally identifiable information. This data will be access controlled. You will not be notified about these future uses.

The objective of this project is to collect several images and videos of individuals while they stand at different poses or perform other simple tasks such as walking. The images are collected from several camera systems some of which look at the face and others used to take whole-body measurements. These systems may be close to the individual, at a great distance, mounted to poles or attached to unmanned aerial vehicles (UAVs). The use of several camera systems at various distances or heights allows the team to collect a large variety in quality of images for future use to evaluate the capability of artificial intelligence (AI) systems to recognize individuals in non-ideal scenarios. There will be a clothing change in between a set of stations and participants are asked to bring a change in shirt, sweater, and/or jacket and a change in footwear but can be varied based on participants preference. We will also provide military style clothing/uniforms for some participants for the clothing change. Nearby private rooms/restrooms will be used as a changing room.

A team member will always be with the participant to provide instructions. There is a check box at the end of this form to opt-in to allow photos and/or videos of you to be used in public presentations and/or reports/settings. Also, you may be contacted for future research projects, including for this project, if you opt-in to be contacted in the future.

### **Why am I being invited to take part in a research study?**

We invite you to take part in a research study because the Intelligence Advanced Research Projects Activity (IARPA) has tasked the principal investigator (PI) to perform human subject testing to collect images and videos for human identification from various distances. This study will recruit individuals, such as yourself, from the public.

### **What should I know about a research study?**

- Someone will explain this research study to you, **and you must be 18 to participate.**
- Whether or not you take part is up to you.
- You can choose not to take part.
- You can agree to take part and later change your mind with no negative impacts on you.
- Your decision to participate or not participate will not be held against you.
- You can ask all the questions you want before you decide.

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- This study is being sponsored by Intelligence Advanced Research Projects Activity (IARPA).
- Participation in this research study will result in your data being included in a secure, access-controlled dataset for research during this project and in other future research projects, development projects, or training activities, following IRB review and approval.
- You can opt-in to also use your photos/videos for public presentations and/or reports/settings during this study and for future projects conducted for the U.S. Government and its partners.
- You can opt-in to be contacted for future research projects.
- Clothing change for this collection requires a change in shirt, sweater, and/or jacket and a change in footwear and can be varied based on participant preference. Military clothing/uniforms will be provided for some participants and will be cleaned regularly.
- There will be individual packs of sunscreen, insect repellent, indoor staging area, limited outdoor exposure, water and refreshments provided for the outdoor location.
- Your height and weight will be measured at the beginning of your participation.
- The following Covid-19 precautions are being taken, in accordance with guidelines provided by the Centers for Disease Control (CDC), IARPA, ORNL, local public health authorities, and the facility:
  - Sanitizing of commonly used areas
  - Procedures for team members and participants if there are any signs of illness
  - ORNL Health Services Division will be consulted for up-to-date procedures.

**Why is this research being done?**

This research is being conducted to collect data for future evaluation of identification from images and videos. Research based on the data collected under this study will contribute towards improved understanding and technology that supports national security. There are no direct benefits to you for your participation. However, there may be possible benefits to society and the research community based on results from this study. Your participation may help us develop, test, and evaluate new methods to identify and recognize individuals under sub-optimal imaging conditions. Currently, no publicly available dataset exists that represents the imagery needed to address these technical challenges. Your participation will help us build this novel dataset.

**How long will this research last and what will I need to do?**

Your actual participation will require a maximum of 2-4 hours of your time in a single visit and compensation of \$100-\$200 will be provided to you at the completion of your participation. Your data from the study, without your name, will be stored on protected computer systems

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and shared for use long term by the U.S. Government and its partners. The dataset may be shared broadly with US government and its partners for additional research, development projects, or training activities. You will not be notified about these future uses.

If you decide to participate, you will arrive at the location and you will be directed to the consent area. You will have the opportunity to ask questions. At the end of the consent process, you will be directed to an indoor collection site. There will be multiple stations that you will arrive at, and you will be asked to follow the instructions of the team member so that they can obtain measurements, including walking and turning at various angles. There will be two rounds of indoor lab collections, separated by a clothing change, in-between sets of stations. If randomly chosen to complete the outdoor collection, a team member will notify you and transport you to a nearby location for the outdoor portion. Once arriving at the outdoor collection site, you will be checked in. A team member will direct you to paths to walk on and turn at various angles, as well as activities to complete. There will be two rounds of outdoor, separated by a clothing change. Transportation will be provided between locations. At the completion of the collections, you will be directed to an area for debriefing. During the debriefing, you will be given a copy of your consent form, checked out of the study, and provided details on how payment will be received.

More detailed information about the study procedures can be found under, ***“What happens if I say yes, I want to be in this research?”***

**Is there any way being in this study could be bad for me?**

The risks of participating in this study are minimal. The primary risk is privacy concerns due to the usage of photos and videos and demographic information of participants. However, the dataset will be stored on secure, access-controlled computers in accordance with Federal requirements for the protection of personally identifiable information (PII).

Additional risks are potential exposure to COVID-19 and other risks are typical with being outdoors in a natural area including sun exposure, cold exposure, bugs, etc. Small, unmanned aircraft (aka “drones”) are being operated in this project. All aircraft will be operated by certified flight crews. Additionally, onsite medical/first aid care will be provided at no cost to participants, should any slips, trips or falls occur. If you choose to participate, you can tell the researcher of any concerns and ask any questions.

More detailed information about the risks of this study can be found below under, ***“Is there any way being in this study could be bad for me? (Detailed Risks)”***

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**Will being in this study help me in any way?**

There are no direct benefits to you from your taking part in this research. We cannot promise any benefits to others from your taking part in this research.

**What happens if I do not want to be in this research?**

Participation is completely voluntary. You can decide to participate or not to participate, and you may withdraw with no negative impact on you, at any time up until two weeks after data collection has been completed for the study. If the withdrawal is more than 2 weeks after participation, some videos and images may have already been distributed, and if so, it will not be possible to remove them from the dataset. Your alternative to participating in this research is to not participate.

**DETAILED INFORMATION:** The following is more detailed information about this study in addition to the information listed above.

**Who can I talk to?**

If you have any questions, concerns, complaints, or think the research has hurt you, you may talk to any member of the research team. Specifically, you may speak with David Cornett III, PI, at 865-241-2425 or email [biometrics.study@ornl.gov](mailto:biometrics.study@ornl.gov). If you call our phone and we are unable to respond, please leave a voicemail with your name, and contact information. We will respond to voicemails and emails as soon as possible. During business hours that is usually within 2 to 3 hours. Voicemails and emails received close to the end of business, afterhours, holidays, and weekends will be answered during the next business day.

This research has been reviewed and approved by an Institutional Review Board (“IRB”). You may talk to them at [DL-DOEIRB-C@NNSA.DOE.gov](mailto:DL-DOEIRB-C@NNSA.DOE.gov) (301) 903-7693 or [elizabeth.white@doe.ic.gov](mailto:elizabeth.white@doe.ic.gov) or 202-586-1444, or [cheri.hautala-bateman@doe.ic.gov](mailto:cheri.hautala-bateman@doe.ic.gov) if:

- Your questions, concerns, or complaints are not being answered by the research team.
- You cannot reach the research team.
- You want to talk to someone besides the research team.
- You have questions about your rights as a research subject.
- You want to get information or provide input about this research.
- Or for any reason you wish to talk to the IRB.

If you want to know more about the program, visit the DOE Human Subjects Protection Program website, at: <https://science.osti.gov/ber/human-subjects>.

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### How many people will be studied?

We expect approximately 450+ people in this location that will be in this research study out of approximately 3600+ people in the entire study nationally. This is the target total to be reached over the duration of the study and not all participants will be onsite at the same time.

### What is the location of this study and are there any requirements for entering the site?

This collection for the study will be held at the Christman Airfield at Colorado State University in Fort Collins, Colorado. There are no requirements to enter the site, **however, you must be 18 to participate in the study.** A team member will be present with you the entire process to provide directions.

### What happens if I say yes, I want to be in this research?

- You will participate in a collection event. The study is a minimum of approximately 450 people and selections will be made to meet diversity goals that are inclusive of all backgrounds except for people determined to be not eligible for participation. When arriving at the location and after giving consent, you will be directed to an indoor collection site. A team member will guide you through a series of stations. The first station will require measurements. The remaining stations require walking and turning at various angles while videos and images are captured. After completing one set of indoor stations, then a clothing change is needed, which will require a change in shirt, sweater, and/or jacket and a change in footwear but can be varied based on participant's preference. Military clothing/uniforms will be provided for some participants clothing change. Once the clothing change is completed, then you will be guided through the same stations again. If randomly chosen for the outdoor field collection site, then you will be transported to a nearby outdoor site. At the outdoor collection site, you will walk several paths, turn at different angles, and complete small activities that include lifting small objects, while videos and images are captured. After completing one set of outdoor activities, then a clothing change is needed, which will require a change in shirt, sweater, and/or jacket and a change in footwear but can be varied based on participant's preference. Military clothing/uniforms will be provided for some participants clothing change.
- During the collection, cameras will be used to capture video and images.
- The following data will be recorded during this study:
  - Study participant identifier
  - Video and images of participants
  - Demographic information

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- During this testing you may interact with several members of the research team who are on hand to ensure that the collection event and its various components are operating smoothly.
- The portion of the study involving interaction with participants is expected to last approximately 5 years though each individual participant only requires one interaction no more than 4 hours. Research using the study data may continue beyond that date indefinitely, in accordance with IRB approval and sponsor requirements.

**What are my responsibilities if I take part in this research?**

If you take part in this research, you will be responsible for completing all the collection site stations at a scheduled time. These tasks will include following team members directions to each station, walking and turning at different angles. The tasks also include a clothing change in-between round of stations. A change of clothes will need to be brought by the participant and will consist of a change in shirt, sweater, and/or jacket and a change in footwear but can be varied based on participants preference. Military clothing/uniforms will be provided for some participants clothing change. If chosen for the outdoor sites, you will be transported to a nearby location for the outdoor site. You will then complete the outdoor tasks of walking several paths and completing small activities.

**What happens if I say yes, but I change my mind later?**

You can withdraw at any time, and it will not be held against you, but withdrawal 2 weeks or more after participation will be more difficult due to images/videos possibly having already been distributed. If you decide to withdraw prior to completing your participation: you may cancel your appointment, inform a team member who is present at the collection site, or contact a team member at 865-415-7867 or [biometrics.study@ornl.gov](mailto:biometrics.study@ornl.gov). If you withdraw after your participation, your data may be retained for group images or videos used in the study however, we will remove individual data from the study where possible depending on the time frame. If the withdrawal is more than 2 weeks after participation, some videos and images may have already been distributed, making withdrawal more difficult. At that time, images will have been shared, and it will not be possible to remove them from the dataset. Some data including your appearance may be maintained as part of our data archive and backups.

If you decide to withdraw after completing your participation, please contact 865-415-7867 or [biometrics.study@ornl.gov](mailto:biometrics.study@ornl.gov) to inform them of your decision. After withdrawal within the first two weeks, all images and identifying data will be deleted and not included in our analysis or held for record keeping. If the withdrawal is more than two weeks after participation, there are some videos and images that may have already been distributed, and the data may be retained

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as a permanent part of the study, datasets, or reports. **ORNL will retain a record of your withdrawal for a period of 3 years after completion of the study as required by the IRB board. Data may be retained in computer backups and archives even if it is removed from the final study participation but will no longer be permitted for research or analysis activities.**

**Is there any way being in this study could be bad for me? (Detailed Risks)**

The risks of participating in this study are minimal. The primary minimal risk is privacy concerns due to the usage of photos, videos, and demographic information of participants. However, the dataset will be stored on secure, access-controlled computers in accordance with Federal, DOE, and ORNL-specific requirements for the protection of personally identifiable information (PII).

Additional minimal risks are potential exposure to COVID-19; however, we have developed strict procedures to minimize this risk including sanitizing.

Other risks are typical with being outdoors in a natural area including sun exposure, cold exposure, bugs, etc. Sunscreen, insect repellent, indoor staging area, limited outdoor exposure, water, and refreshments will be provided if needed. All precautions are taken to reduce risk. If you choose to participate, you can tell the researcher of any concerns and ask any questions.

**What happens to the information collected for the research?**

Data will be collected in the form of images, videos, and your demographic information such as age, sex, weight, height, race, and whether you are Hispanic or not. Data is being collected so that it can be included in a dataset used in research to develop technologies for the U.S. Government and its partners. The dataset will be retained indefinitely on secure, access-controlled computers. The retained data will not include your name or contact information, which will be deleted after participation is completed (approximately 90 days after participation) unless box is checked to allow contact for future research projects.

Efforts will be made to protect the data and to limit the use and disclosure of your personal information, during this research study, to the research team and others who have a need to review this information. Other organizations expected to have access to information from this study include but are not limited to: the Institutional Review Board, Federal Bureau of Investigation, National Institute of Standards and Technology, Department of Energy, Department of Defense, Department of Homeland Security, Department of Justice, US Army C5ISR Center Research and Technology Integration Directorate team, Intelligence Advanced Research Projects Activities, and universities, organizations, or contractors working on behalf of IARPA or the Federal government.

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Future use will follow IRB/research ethics committee (REC) review, and data will be distributed for future research in accordance with the following data sharing restrictions:

- All research will be conducted within the terms of their respective Federal wide Assurances and only following IRB approval.
- The receiving organization will not, under any circumstances, request or accept name or contact information for individuals whose data is used.
- The receiving organization will not attempt to determine the identity of the individuals associated with the data.
- The receiving organization retains the right to use participant data with facial images/photos, and videos in future studies.

You will not be informed of the details of any specific future research studies that might be conducted using your data.

You can check the box at the end of this form to opt-in to be contacted for future research projects. You also can opt-in to share your photos/videos in public reports/settings (scientific journals, scientific conference publications and presentations, government reports, government presentation materials) prepared during the conduct of this project and indefinitely for related research following this project.

**Can I be removed from the research without my, OK?**

The person in charge of the research study or the sponsor can remove you from the research study without your approval. This is not expected but possible reasons for removal include non-useable images or videos. This will have no effect on you, and you can keep any incentives provided.

**What else do I need to know?**

You will be provided a signed copy of your consent form.

A signed copy of this consent document will also be maintained by the Collections Lead, who may be contacted at 865-415-7867 or [biometrics.study@ornl.gov](mailto:biometrics.study@ornl.gov).

If you agree to take part in this research study, you will be monetarily compensated for your time. Payment in the amount of \$100 to \$200 will be provided to you at the completion of your participation.

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There is no compensation plan for research related injury, as the research does not involve more than a minimal risk. However, onsite medical/first aid care will be available at no cost to the participant.

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Attachment 1: Signature Page of the Consent Document

**Title of research study:**

*Biometrics Recognition and Identification at Altitude and Range Testing and Evaluation*

**Who can I talk to?**

If you have questions, concerns, complaints, or think the research has hurt you, talk to the research team PI, David Cornett III, at 865-241-2425 or [biometrics.study@ornl.gov](mailto:biometrics.study@ornl.gov).

A signed copy of this consent form will be maintained by the Collections Lead, who may be contacted at 865-415-7867 or [biometrics.study@ornl.gov](mailto:biometrics.study@ornl.gov).

If you decide to withdraw after completing your participation, please contact the Collections Lead at 865-415-7867 or [biometrics.study@ornl.gov](mailto:biometrics.study@ornl.gov).

If you call our phone and we are unable to respond, please leave a voicemail with your name, and contact information. We will respond to voicemails and emails as soon as possible. During business hours that is usually within 2 to 3 hours. Voicemails and emails received close to the end of business, afterhours, holidays, and weekends will be answered during the next business day.

This research has been reviewed and approved by an Institutional Review Board (“IRB”). You may talk to them at [DL-DOEIRB-C@NNSA.DOE.gov](mailto:DL-DOEIRB-C@NNSA.DOE.gov) (301) 903-7693 or [elizabeth.white@doe.ic.gov](mailto:elizabeth.white@doe.ic.gov) or 202-586-1444, or [cheri.hautala-bateman@doe.ic.gov](mailto:cheri.hautala-bateman@doe.ic.gov) if:

- Your questions, concerns, or complaints are not being answered by the research team.
- You cannot reach the research team.
- You want to talk to someone besides the research team.
- You have questions about your rights as a research subject.
- You want to get information or provide input about this research.
- Or for any reason you wish to talk to the IRB.

If you want to know more about the program, visit the DOE Human Subjects Protection Program website, at: <https://science.osti.gov/ber/human-subjects>.

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**Signature Block for Capable Adult**

In summary, if you participate in this research study, your data will be collected so that it can be included in a dataset used to develop technologies for the U.S. Government and its partners. The dataset will include your photos and videos and your demographic data such as age, sex, weight, height, race, and whether you are Hispanic or not. Your name and contact information, which was needed at the beginning of the study for scheduling purposes, will be deleted in order to reduce the likelihood of your data being associated with you, should there be an unexpected data breach or other data compromise. The dataset will be retained indefinitely on secure, access-controlled computers.

Future use will follow IRB review, and data will be distributed for research and development projects for the U.S. Government and its partners accordance with the data sharing restrictions in the section of the consent form entitled, "What happens to the information collected for this research?"

- Check the box to give consent to allow photos/videos including your likeness to be used in public settings (scientific journals, scientific conference publications and presentations, government reports, government presentation materials) during the conduct of this project and indefinitely for future projects conducted for the US government and its partners.
  
- ORNL may conduct future data collection events related to this study and other similar studies. Check the box to opt-in for your contact information to be retained separately from this dataset to be contacted for future research projects. Email address: \_\_\_\_\_

Your signature documents your permission to take part in this research.

\_\_\_\_\_  
Signature of subject

\_\_\_\_\_  
Date

\_\_\_\_\_  
Printed name of subject

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\_\_\_\_\_  
Signature of person obtaining consent

\_\_\_\_\_  
Date

\_\_\_\_\_  
Printed name of person obtaining consent

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