

Project Description

To be submitted with a human research ethics application (HREA)

IMPORTANT

You must e-mail your complete ethics application to humanethics@westernsydney.edu.au after uploading it to the HREA website.

The Project Description is a mandatory component of an ethics submission using the HREA. Western Sydney University researchers should use this template to develop their Project Description, unless the project is a clinical trial. Clinical trial proposals may complete this form including Section 11, or may provide an alternate protocol template and associated documents.

The Project Description will be the first document read by the reviewers and should provide a succinct overview of the project. Its purpose is to provide the scientific and academic background and context of the project. It should be written in language that is comprehensible for a non-technical reviewer and for most applications should be no more than 6 pages in length.

A [guidance document](#) has been developed to assist in completing this form.

Please contact the Human Research Ethics Officers if you are unsure about your requirements humanethics@westernsydney.edu.au

If you are unable to use the tick boxes on this template, please delete the option/s which do not apply.

Section 1: Overview

- 1.1.** Project Title: *The chemistry of latent fingerprints and their detection*
- 1.2.** Project Acronym or short title (if applicable):
- 1.3.** Version Number: 1

Section 2: Western Sydney University School or Institute approval

- 2.1.** Which Institute/School/Centre/Group will be administering this project? School of Science and Health
(*Note: School of Science from 1 January 2020*)
- 2.2.** Does your School or Institute have a requirement that human research projects are agreed to before an ethics application comes to the ethics committee? ☐ Yes ☒ No
See [Guidance sheet](#) for more information.

Section 3: Project Team Named in the HREA

(Provide names only. Additional details should be included in HREA Q1.9)

- 3.1.** Chief Investigator / Principal Supervisor: Professor Chris Lennard
- 3.2.** Chief Student (if applicable): N/A
- 3.3.** Other Investigators/Supervisors: Dr Val Spikmans, Dr Rob Ebeyan, Dr Brenden Riley
- 3.4.** Other Students: N/A
- 3.5.** Role/s yet to be assigned (e.g. future RA; as yet unknown students): future Masters and PhD students

Section 4: Background (Limit to 4,000 characters for all of section 4)

4.1. Literature Review (include citation details):

Latent fingerprints are the deposits that are left on smooth surfaces when they are touched with bare hands. Such deposits consist of natural secretions plus contaminants picked up from the environment. The forensic significance of these deposits is that they can be revealed, recorded, and potentially identified – i.e., they can be used to identify the individual responsible for their deposition. This is done through a comparison of the ridge detail in a questioned fingerprint with the ridge detail in a reference fingerprint – a print collected from a known person (Champod et al., 2016).

The chemical composition of latent fingerprints can vary significantly depending on various factors including the age, gender, health, diet and metabolism of the fingerprint donor, as well as recent activities – such as exercise, manual labour, hand washing, touching the face, etc. – the nature of the substrate, and environmental factors. Fingerprint deposits have been the subject of chemical analysis by different research groups around the world (Croxtton et al., 2010; Girod et al. 2012). However, only limited research in this area has been undertaken in Australia.

Latent fingerprint deposits are generally invisible (hence the term “latent”) and require some form of optical, physical or chemical treatment for their detection and recording. Such detection methods exploit the physical and chemical properties of fingerprint deposits. The goal from a forensic investigation perspective is to capture the detail contained within the ridge patterns in these deposits so that this can be used for the potential identification of the donor. This latter forensic identification process requires the comparison of a recorded latent fingerprint with reference fingerprints from known individuals. (Note, however, that fingerprint identification is not the focus of the proposed study.)

There is ongoing research worldwide looking at aspects of fingerprint chemistry and the development of more sensitive fingerprint detection methods. The evidence for this includes current literature and presentations delivered at biennial meetings of the International Fingerprint Research Group (IFRG; <https://ips-labs.unil.ch/ifrg/>), of which the named Chief Investigator is an active contributor and former Steering Committee member (Lennard, 2018). Due to the complex nature of latent fingerprints and the need for more effective detection methods, further studies are required if operational success rates are to be improved.

Ongoing research is required to develop methods that can (Champod et al., 2004):

- Offer increased sensitivity and signal-to-noise ratio;
- Be readily deployed at crime scenes;
- Be introduced in sequences of detection techniques or in sequence with other forensic investigation methods;
- Simplify the detection process by reducing the number of steps or allowing automation;
- Reduce the overall cost of fingerprint processing; and
- Avoid the use of hazardous chemicals.

One of the operational challenges for fingerprint detection is the ever-increasing range of proposed detection methods that can make method selection problematic. Arguably, applied research in this field should focus on more effective methods rather than on a greater selection of methods (Champod et al., 2016). As such, a reduced number of optimised and validated techniques – that can be readily applied in actual casework – is a priority.

References:

Champod, C., Lennard, C., Margot, P., & Stoilovic, M., *Fingerprints and Other Ridge Skin Impressions*, 2004, CRC Press (Boca Raton).

Champod, C., Lennard, C., Margot, P., & Stoilovic, M., *Fingerprints and Other Ridge Skin Impressions*, Second Edition, 2016, CRC Press (Boca Raton).

Croxtton, R.S., Baron, M.G., Butler, D., Kent, T., Sears, V.G. Variation in Amino Acid and Lipid Composition of Latent Fingerprints, *Forensic Science International*, 2010, 199, 93–102.

Girod, A., Ramotowski, R., Weyermann, C., Composition of Fingerprint Residue: A Qualitative and Quantitative Review, *Forensic Science International*, 2012, 223, 10–24.

Lennard, C., Fingerprint Detection and Identification: Current Research Efforts, *Australian Journal of Forensic Sciences*, 2018, DOI 10.1080/00450618.2018.1474948.

4.2. Rationale/Justification (i.e. how the research will fill any gaps, contribute to the field of research or contribute to existing or improved practice):

Despite significant progress over the last 20 years with respect to improved fingerprint detection methods, various studies have indicated that a large proportion of available fingerprints in any particular forensic investigation go undetected (Chadwick et al., 2018). In order to gain a better understanding of detection techniques, to better evaluate new methods, and to obtain more accurate estimates of detection rates, more research needs to be performed examining the fundamentals of fingerprint development. This can include the chemical analysis of fingerprint deposits, a consideration of how these deposits interact with different substrates, and how the deposits break down over time. To improve fingerprint detection success rates in operational forensic casework, there is an ongoing need to improve the sensitivity of existing methods and/or develop new approaches. The assessment of new or modified fingerprint detection methods must be done in accordance with relevant guidelines such as those published by the International Fingerprint Research Group (IFRG, 2014). These guidelines dictate that such evaluations need to be conducted on fingerprints collected from a broad range of donors and on operationally-relevant substrates. Prior to treatment, these fingerprints also need to be “aged” over different timeframes to simulate what is typically encountered in operational casework.

The proposed *program of research* will incorporate a number of discrete research student projects all focused on gaining a better understanding of latent fingerprints and their detection. This will require the collection of fingerprint samples from a broad range of donors, on various substrates, and over different timeframes.

All new projects proposed under this *program of research* will be the subject of an ethics amendment request that will be submitted to the HREC for consideration. Associated research students and collaborating organisations will also be named in each request. Only projects approved by the HREC under the umbrella of this ethics clearance will be undertaken.

References:

Chadwick, S., Moret, S., Jayashanka, N., Lennard, C., Spindler, X., & Roux, C., “Investigation of Some of the Factors Influencing Fingerprint Detection”, *Forensic Science International*, 2018, 289, 381-389.

International Fingerprint Research Group (IFRG), “Guidelines for the Assessment of Fingerprint Detection Techniques”, *Journal of Forensic Identification*, 2014, 64, 174-200.

4.3. Research questions/aims/objectives/hypothesis:

The overarching aim of this program of research is to improve the detection and recording of latent fingerprints in forensic casework to assist in increasing operational success rates.

The sub-aims will include the following:

- collect latent fingerprints from a range of donors to obtain a representation of the variation in composition likely to be encountered in the general adult population;
- where relevant, analyse the chemical composition of these latent fingerprints using a range of analytical methods;
- also collect, from the same donors, reference fingerprints so that these can be used as a comparison point when the quality of recorded fingerprints is being assessed (i.e., the comparison is not for fingerprint identification purposes but to evaluate the quality of detected/enhanced fingerprints with respect to ridge clarity and the fidelity of ridge features);
- consider currently-available fingerprint detection methods (optical, physical and chemical) and optimise selected methods for application on various substrates;
- develop novel methods for fingerprint detection; and
- undertake a detailed evaluation of any proposed new methodologies to compare their performance against that of routine, conventional methods.

Any other aims will be specified in associated ethics amendment requests that will be submitted for each discrete project. Note that all projects within this *program of research* will be undertaken in accordance with the guidelines published by the IFRG in 2014. These guidelines represent “best practice” for research in this field.

Note that this ethics application is essentially the same as the one that was lodged and approved in 2014 (H10909, “The chemistry of latent fingermarks and their detection”; expires 2 February 2020). No issues were encountered over the course of this approval, and associated research projects resulted in a number of conference presentations and peer-reviewed journal articles that included the following:

- Attard, C., & Lennard, C., “Use of Gelatin Lifters and Episcopic Coaxial Illumination for the Recovery and Imaging of Latent Fingermarks from Various Surfaces”, *Journal of Forensic Identification*, 2018, 68, 171-185.
- Moret, S., Lee, P.L.T., de la Hunty, M., Spindler, X., Lennard, C., & Roux, R., “Single Metal Deposition Versus Physical Developer: A Comparison Between Two Advanced Fingermark Detection Techniques”, *Forensic Science International*, 2019, 294, 103-112.
- Lee, P.L.T., Kanodarwala, F.K., Lennard, C., Spindler, X., Spikmans, V., Roux, C., & Moret, S., “Latent Fingermark Detection Using Functionalised Silicon Oxide Nanoparticles: Method Optimisation and Evaluation”, *Forensic Science International*, 2019, DOI 10.1016/j.forsciint.2019.02.038.
- McCabe, R., Spikmans, V., Wuhrer, R., Spindler, X., & Lennard, C., “Evaluation of Indanedione Application Methods for Fingermark Detection on Paper: Conventional Treatment, Vacuum Development and Dry-Transfer”, *Journal of Forensic Identification*, 2019, in press.

This provides some insight into the types of projects that will be incorporated into the new program of research that is the subject of this application.

Reference:

International Fingerprint Research Group (IFRG), “Guidelines for the Assessment of Fingermark Detection Techniques”, *Journal of Forensic Identification*, 2014, 64, 174-200.

4.4. Expected Outcomes:

A better understanding of latent fingermarks, their composition and how they behave on various surfaces over time can inform research into more sensitive detection methods. Improved fingermark detection methods, in turn, will lead to higher success rates with respect to the detection of fingermarks in criminal investigations. As fingerprints are one of the best forms of forensic evidence, improved detection methods will generate better evidence leading to the earlier identification of potential offenders, shorter court proceedings (saving significant amounts of money and reducing backlogs), and higher crime clear-up rates. Higher crime clear-up rates are an increased deterrence for potential criminals, remove identified offenders from the general population, and improve safety, security and wellbeing across the general population.

Section 5: Sites and Methodology (Limit to 2000 characters for all of section 5)

5.1. List the *specific* sites based on your answers to HREA Q1.4. (e.g. *which* Universities, workplaces, schools or public places?):

The fingermarks required for this program of research will be collected from volunteer staff and students located at **WSU’s Hawkesbury Campus**. *The collection process itself will only occur on this campus*. However, the collected fingermarks will be examined, analysed and imaged at various locations – depending on the particular project – that will potentially include the following:

- Laboratories and examination areas located in buildings K12, K16 and H16 on WSU’s Hawkesbury Campus;
- In a mobile forensic laboratory parked on WSU’s Hawkesbury Campus and at off-campus locations (yet to be defined);
- At the Advanced Materials Characterisation Facility (AMCF) on WSU’s Parramatta South Campus; and
- In laboratories and examination areas located with partner organisations (with these locations to be specified in associated ethics amendment requests for each discrete project).

5.2. The HREA lists the following methodological approach(es). From the list below, delete the options which are not applicable, and explain why you selected the remaining approach(es). Refer HREA Q1.17:

Biospecimen Analysis

The latent fingerprints collected from volunteers will contain biological material, including skin cells and natural secretions. However, *no biological analyses will be conducted on these deposits*. While the deposits may be subjected to chemical analysis to determine general chemical composition, the main focus will be on optical, physical and chemical methods for revealing and recording the ridge detail in these fingerprints.

Section 6: Invasive Procedures

- 6.1.** Does the study or research require any invasive procedure (please note the definition below) to be undertaken by a registered medical practitioner or other registered qualified health service provider?

☐ Yes ☒ No

Definition of “invasive procedure”: any procedure involving ingestion, application (including application of laser therapy) or admission of any substance or material onto or into a human’s body.

Invasive procedure does not include:

- (i) ingestion of drinks, food or fluids which are commercially available in the market place at the time of the ingestion; or
- (ii) taking of blood samples.

Section 7: Active Participant Details (copy questions 7.2. to 7.11. for each participant group)

Delete this Section if you will not be collecting data from participants via active participation.

- 7.1.** How many participant groups will be in this project?

Two – (1) university staff and (2) university students based at WSU’s Hawkesbury Campus

Participant Group 1 – University staff based on WSU’s Hawkesbury Campus

Overview

- 7.2.** Name for this participant group: University staff based at WSU’s Hawkesbury Campus

- 7.3.** Describe the group and explain why these characteristics are relevant to the aims of the project.

The staff population at Hawkesbury will represent an age range from relatively young (mid- to late-twenties) through to retirement age. It is known that there is high variability in fingerprint quality and composition from donors across different age groups. A broad range of donors is required to assess this variability.

- 7.4.** Inclusion and exclusion criteria: N/A

- 7.5.** Expected number and age range of participants in this group: 10–50 participants, aged 24–60

- 7.6.** Sample size and statistical power issues (if appropriate to the research methodology): The expected number of participants in this group as indicated above is justified based on the research guidelines published by the International Fingerprint Research Group (IFRG, 2014).

The number of individual fingerprint donors employed for each discrete project – sufficient to answer the research question posed – will be in accordance with these research guidelines (IFRG, 2014) and specified in associated ethics amendment requests.

Participant Engagement

- 7.7.** Describe what these participants will be asked to do:

For the collection of latent fingerprints, participants will be asked to rub their hands together and then place their fingers on test substrates (which may be paper or plastic strips, for example) using a similar pressure to what would be applied to an object being handled in a normal manner (e.g., drinking glass). Full instructions will be provided to guide the participant. The purpose is to deposit latent fingerprints that can later be the subject of chemical analysis and/or the application of a specific fingerprint detection method.

The collection of reference fingerprints will be performed using inkless fingerprint pads and/or an optical scanner (“livescan” system). Inkless fingerprint pads can be used to record a reference fingerprint on plain white paper without

leaving any coloured residues on the finger. Fingers are placed on the pad then on a sheet of paper to record the impressions. An example of such pads is available on the following web site:

http://www.safariland.com/products/forensics/fingerprinting/fingerprint-pads/touch-signature-pads-1.5-inch-round-pack-of-6-F_185.html

These pads use non-toxic, pharmaceutical grade chemicals that are not corrosive and are not classified as a skin irritant. Donors will be asked to wash their hands with soap and water after using the pads to remove any residues that might remain on the skin surface.

The alternative collection method for reference fingerprints will be to ask the donor to place their fingers on an optical scanner. Both collection methods are quick and easy to perform, with no discomfort for the participant.

The whole process is expected to take around 15 min for one set of fingermarks/fingerprints. However, the same donors may be approached on multiple occasions to collect additional sets of fingermarks, depending on the project. Each participant will be assigned a unique donor number and this number will be specified on the associated signed consent form. These consent forms will be securely stored by the Technical Team Leader, Applied and Analytical Sciences, Technical Support Services, Hawkesbury Campus, *not by one of the nominated researchers (or any associated research student)*. All collected samples will be labelled with the corresponding donor number.

7.8. Are there any plans to follow up with participants?

Some participants may be asked to deposit fingermarks on multiple occasions to assess variations in fingermark quality/composition over time. Where necessary, follow-up with a particular participant will be arranged by the Technical Team Leader, Applied and Analytical Sciences, Technical Support Services, Hawkesbury Campus (or any individual acting in this role).

Recruitment – relates to HREA Q2.1.1

7.9. Explain how you will identify and recruit participants for your research. Include whether screening takes place before or after consent; who will initially approach the participants; how participants will receive the recruitment documentation; how much time a potential participant will have to consider participation.

Information will be circulated via email to staff based at Hawkesbury by the Technical Team Leader, Applied and Analytical Sciences, Technical Support Services, Hawkesbury Campus (or any individual acting in this role). Anyone interested in participating will be asked to initially confirm this by return email. If an individual indicates a willingness to be involved, a face-to-face meeting will be arranged with the associated research student and hard-copy documents provided (participant information sheet and consent form). The individual can then take whatever time they require to consider this information and formally confirm their participation through completion of the consent form.

Consent – relates to HREA Q2.2.

7.10. What is the approach to consent for this group?

☒ Written ☐ Verbal ☐ Implied ☐ Assent ☐ Waiver ☐ Opt-out

7.11. Briefly summarise the consent process for this group including, where applicable, the processes for confirming or re-negotiating consent.

Participants will be provided with background information on the proposed program of research, the need for the collection of fingermark samples, and the procedure to be employed for the collection of these samples. It will be stressed that the fingermarks themselves will only be kept for the specified purpose; i.e., chemical analysis and/or assessment of fingermark detection methods, not for identification purposes. In most cases, collected fingermarks will be destroyed after analysis (however, associated analytical data and recorded fingermark/fingerprint images will be retained in a de-identified form). However, it will be made clear that some samples (all de-identified for analysis purposes; labelled with a donor number only) may be retained for future use to test the performance of fingermark detection methods on aged samples – for example, fingermarks aged for more than 5 years. Participants will be informed that they can withdraw their consent at any time and that, if consent is withdrawn, all collected fingermark/fingerprint samples – identified via their donor number – will be destroyed.

Participant Group 2 – University students based on WSU's Hawkesbury Campus

Overview

- 7.2.** Name for this participant group: University students based at WSU's Hawkesbury Campus
- 7.3.** Describe the group and explain why these characteristics are relevant to the aims of the project.

The student population at Hawkesbury will represent young adults in an age range from late teens to mid-twenties. It is known that there is high variability in fingermark quality and composition from donors across different age groups. A broad range of donors is required to assess this variability.

- 7.4.** Inclusion and exclusion criteria: N/A
- 7.5.** Expected number and age range of participants in this group: 10–50 participants, aged 18–24
- 7.6.** Sample size and statistical power issues (if appropriate to the research methodology): The expected number of participants in this group as indicated above is justified based on the research guidelines published by the International Fingerprint Research Group (IFRG, 2014).

The number of individual fingermark donors employed for each discrete project – sufficient to answer the research question posed – will be in accordance with these research guidelines (IFRG, 2014) and specified in associated ethics amendment requests.

Participant Engagement

- 7.7.** Describe what these participants will be asked to do:

For the collection of latent fingermarks, participants will be asked to rub their hands together and then place their fingers on test substrates (which may be paper or plastic strips, for example) using a similar pressure to what would be applied to an object being handled in a normal manner (e.g., drinking glass). Full instructions will be provided to guide the participant. The purpose is to deposit latent fingermarks that can later be the subject of chemical analysis and/or the application of a specific fingermark detection method.

The collection of reference fingerprints will be performed using inkless fingerprint pads and/or an optical scanner ("livescan" system). Inkless fingerprint pads can be used to record a reference fingerprint on plain white paper without leaving any coloured residues on the finger. Fingers are placed on the pad then on a sheet of paper to record the impressions. An example of such pads is available on the following web site:

http://www.safariland.com/products/forensics/fingerprinting/fingerprint-pads/touch-signature-pads-1.5-inch-round-pack-of-6-F_185.html

These pads use non-toxic, pharmaceutical grade chemicals that are not corrosive and are not classified as a skin irritant. Donors will be asked to wash their hands with soap and water after using the pads to remove any residues that might remain on the skin surface.

The alternative collection method for reference fingerprints will be to ask the donor to place their fingers on an optical scanner. Both collection methods are quick and easy to perform, with no discomfort for the participant.

The whole process is expected to take around 15 min for one set of fingermarks/fingerprints. However, the same donors may be approached on multiple occasions to collect additional sets of fingermarks, depending on the project. Each participant will be assigned a unique donor number and this number will be specified on the associated signed consent form. These consent forms will be securely stored by the Technical Team Leader, Applied and Analytical Sciences, Technical Support Services, Hawkesbury Campus, *not by one of the nominated researchers (or any associated research student)*. All collected samples will be labelled with the corresponding donor number.

- 7.8.** Are there any plans to follow up with participants?

Some participants may be asked to deposit fingermarks on multiple occasions to assess variations in fingermark quality/composition over time. Where necessary, follow-up with a particular participant will be arranged by the Technical Team Leader, Applied and Analytical Sciences, Technical Support Services, Hawkesbury Campus (or any individual acting in this role).

Recruitment – relates to HREA Q2.1.1

- 7.9.** Explain how you will identify and recruit participants for your research. Include whether screening takes place before or after consent; who will initially approach the participants; how participants will receive the recruitment documentation; how much time a potential participant will have to consider participation.

Information will be circulated via email to students based at Hawkesbury by the Technical Team Leader, Applied and Analytical Sciences, Technical Support Services, Hawkesbury Campus (or any individual acting in this role). Anyone interested in participating will be asked to initially confirm this by return email. If an individual indicates a willingness to be involved, a face-to-face meeting will be arranged with the associated research student and hard-copy documents provided (participant information sheet and consent form). The individual can then take whatever time they require to consider this information and formally confirm their participation through completion of the consent form.

Consent – relates to HREA Q2.2.

- 7.10.** What is the approach to consent for this group?

☒ Written ☐ Verbal ☐ Implied ☐ Assent ☐ Waiver ☐ Opt-out

- 7.11.** Briefly summarise the consent process for this group including, where applicable, the processes for confirming or re-negotiating consent.

Participants will be provided with background information on the proposed program of research, the need for the collection of fingerprint samples, and the procedure to be employed for the collection of these samples. It will be stressed that the fingerprints themselves will only be kept for the specified purpose; i.e., chemical analysis and/or assessment of fingerprint detection methods, not for identification purposes. In most cases, collected fingerprints will be destroyed after analysis (however, associated analytical data and recorded fingerprint/fingerprint images will be retained in a de-identified form). However, it will be made clear that some samples (all de-identified for analysis purposes; labelled with a donor number only) may be retained for future use to test the performance of fingerprint detection methods on aged samples – for example, fingerprints aged for more than 5 years. Participants will be informed that they can withdraw their consent at any time and that, if consent is withdrawn, all collected fingerprint/fingerprint samples – identified via their donor number – will be destroyed.

Section 8: Use of Pre-existing Data

Delete this section if not applicable

This section is not relevant.

Section 9: Data

- 9.1.** For prospective data collection, what information are you going to collect/gather?

Aside from the collection of latent fingerprints and reference fingerprints, the only information that will be collected from each participant will be gender, age and occupation. No other information is required for the projects that will make up this program of research. Gender, age and occupation are parameters of interest as it is known that these can impact on the quality and composition of latent fingerprint deposits.

Collected fingerprints/fingerprints will be labelled with a donor number. The retained participant consent forms will associate a particular participant with their donor number. These consent forms will be securely stored by the Technical Team Leader, Applied and Analytical Sciences, Technical Support Services, Hawkesbury Campus, *not by one of the nominated researchers (or any associated research student)*. As such, while the collected samples do not directly identify the donor, the association can still be made by the Technical Team Leader by consulting the retained consent forms. Therefore, any required follow-up with a particular participant can be arranged by the Technical Team Leader (or, in their absence, the person acting in that role).

- 9.2.** If using an existing dataset, what are the variables you want to extract for this project? N/A

- 9.3.** How will you measure, manipulate and/or analyse the information that you collect/gather? When relevant include matching and sampling strategies; accounting for potential bias, confounding factors and missing information.

The information collected (gender, age and occupation) will be used to define the pool of donors used in each specific project. For example, when a fingerprint detection study is published, it is common practice to specify the age range, gender mix, and occupations represented in the fingerprint donor pool.

The collected latent fingerprints may be subjected to chemical analysis but, otherwise, will be examined and processed using fingerprint detection methods. Detected fingerprints will then be recorded as digital images. These recorded images will be compared to collected reference fingerprints as a means of assessing detection quality (e.g., relative detail and contrast in detected fingerprints compared to what is observed in the reference fingerprints).

9.4. Are any Data Linkages planned or anticipated? No

Section 10: Results, Outcomes and Future Plans

10.1. Will the results of the research be returned to participants?

☐ Yes - how?

☒ No – why not? The dissemination of project outcomes to participants is not feasible given that collected fingerprints/fingerprints may be employed across multiple projects and some samples may be retained for an extended period for potential future projects.

10.2. Has a data management plan been completed via the 'Manage your data' tab in [ResearchDirect](#) to comply with the University's [Policy](#)? This process will connect you to relevant services and data storage options.

☒ Yes ☐ No

<http://library.westernsydney.edu.au/main/researchers/data-management>

See [Guidance](#) sheet for more information.

10.3. Will the researchers be archiving the dataset in ResearchDirect on completion of the project?

☒ Yes ☐ No

See [Guidance](#) sheet for more information.

What are your plans for the following activities?

10.4. Dissemination and publication of project outcomes (e.g. thesis, journals, ResearchDirect)

This program of research will be undertaken by Masters and PhD students (yet to be recruited) under the direct supervision of the researchers identified on this application. As such, the primary means of dissemination of the outcomes will be via research student theses that will be lodged, by default, with ResearchDirect. Where possible and where appropriate, outcomes will also be disseminated via conference presentations and peer-reviewed journal articles.

10.5. Other potential uses of the data at the end of the project: N/A

10.6. Sharing and/or future use of data and/or follow up research

Some of the fingerprints collected for this program of study may be retained for an extended period (up to 10 years) so that they can be used in future projects where the assessment of detection method of significantly aged fingerprints may be required.

As indicated above, all collected samples will be identified via a donor number. The correlation between donor number and each participant will be via the signed consent forms that will be retained by the Technical Team Leader, Applied and Analytical Sciences, Technical Support Services, Hawkesbury Campus, *not by one of the nominated researchers (or any associated research student)*. As such, while the collected samples do not directly identify the donor, the association can still be made by the Technical Team Leader by consulting the retained consent forms. Therefore, any required follow-up with a particular participant can be arranged by the Technical Team Leader (or, in their absence, the person acting in that role).

10.7. Anticipated secondary use of data: N/A

Attachment Checklist

The Project Description must be sent with the HREA form. Your application package may also need:

- Participant information sheet(s) - Western Sydney template at <https://www.westernsydney.edu.au/research/forms>
- Participant consent form(s) - Western Sydney template at <https://www.westernsydney.edu.au/research/forms>
- Recruitment text/script/flyer
- An age appropriate dialogue text for children's assent
- Copies of the documents you will use to collect the data eg survey, interview questions
- An e-mail confirming you have completed the Confirmation of Candidature (MPhil, PhD) or Presentation of Proposal (MRes) process
- Permission to access participants or a site or an existing dataset

Submit this form as part of the HREA human research ethics application process.