ForSci Requirements Gathering

Forensic Science student research and data repository

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**Executive summary**

In 2017 Jisc commissioned a process to assess the need for, and feasibility of, a subject-based repository for research and data. The subject was initially formulated as forensic science, though the repository could also include other research or data related to the criminal justice system. The repository was planned to hold research and data produced by undergraduate and postgraduate university students, much of which, in this field, is good quality. The name chosen for the repository was ForSci.

The process was overseen by a steering group made up of forensic science experts and Jisc staff, and supported by an independent researcher. The group decided to employ an iterative process of research and discussion. To this end, they set up an online survey and a discussion workshop.

The online survey attracted 100 responses, with a good spread between males and females, academics and forensic scientists, those who teach and those who don't. Two-thirds of responses came from England, with a surprising one-quarter from around the world. Over 90% of respondents said they would value the proposed repository. Full details of the survey findings are in appendix 2.

Analysis of the survey data revealed six unanswered questions about how the repository should be designed and managed. A workshop was held in Manchester to resolve these questions. It was attended by 18 forensic science experts from academia, the criminal justice system, and the private sector, as well as staff from Jisc and the independent researcher. The full list is in appendix 4.

The workshop discussions resolved most points, though there are still a number of key decisions to be made during the design process. These are recorded in the 'Next Steps' section of this report.

One key problem identified during the workshop is that forensic science doesn't fall within the remit of any particular research funding council or HEFCE Unit of Assessment in the forthcoming Research Excellence Framework (REF). It would be worth lobbying RCUK to make funding contingent on sharing findings and data, and continuing discussions with HEFCE for future assessments of research.

This project has identified both a mandate and an initial road map for the creation of the ForSci research and data repository.

**Introduction**

A large amount of good quality forensic science research, and other research related to the criminal justice system, is done by students in universities. Over 35 universities in the UK offer over 80 accredited courses between them, of which 22 are accredited at Masters' level. Each student, on every course, has to do at least one research project. There are a number of very active areas, in which individual universities or groups of universities work in partnership with local police forces. In many cases undergraduate students are doing valuable research on topical questions set by local criminal justice professionals.

For example, the recently formed FIT-IN network in Portsmouth links Portsmouth University with the local police force, fire investigators, army, military police, Royal Navy and air force, as well as other universities and police forces elsewhere. While representatives of all those groups will not exist in every area, this is a model now being replicated in some areas up and down the country; other areas may like to follow suit. FIT-IN develop a research plan and have a Research & Innovation Board, made up of senior academics from various faculties and senior practitioners from the agencies involved, who evaluate the research plan and allocate projects to undergraduate, postgraduate or doctoral students as appropriate. When research has been undertaken, it is fed back into the Board and so back into practice. This research model, linking industry and academia, has proved more fruitful than operating singly.

However, forensic science in the UK was only recognised as an academic subject in its own right in 2012, and still has no central co-ordination. Also, only a small amount of the forensic science research done in universities at undergraduate or Masters' level goes on to be formally published. This means research is not available to others who might benefit from its findings beyond the local institution or industry partner, and not even then if they don't have a close relationship with their local university. Also, research is undoubtedly being duplicated unnecessarily; duplication can have benefits, but only when properly coordinated.

Forensic science practitioners, too, conduct research and hold casework data that is not published or shared. In some cases this will be because of commercial or other sensitivities, while in others it will be because there is nowhere to publish or share such research and data.

Forensic science, however, is not the only sector of the criminal justice system where valuable research largely remains inaccessible, unpublished and isolated. For example, research conducted by students, academics and practitioners working in policing, crime scene investigation, defence and security, criminology, psychology and law would have a significant impact on society and practice if it was made available.

Academics and practitioners from both forensic science and policing arenas have come together, with Jisc, to create a solution to these problems. This report outlines the basis for a searchable repository of postgraduate and undergraduate student research and data from around the world. In due course this repository will also be able to hold practitioner research and data. The repository has been named "ForSci". It could be relevant for a wide variety of people such as forensic scientists, students of forensic science, academics, police (scene, laboratory and investigative), fire brigade and fire investigators, solicitors, barristers, judges, Home Office and other government departments, in the UK and beyond.

**Methods**

The work was overseen by a steering group:

* Brian Rankin – Chairperson, Special Interest Group for Forensic Science
* John Cassella – Professor of Forensic Science, Staffordshire University
* Rachel Bolton-King – Associate Professor of Forensic Science, Staffordshire University
* Ruth Morgan – Reader in Crime and Forensic Science, University College London
* John Kaye – Head of Change, Research – Jisc Digital Futures

The steering group was supported by Siobhan Burke from Jisc, and Dr Helen Kara, an independent researcher.

This group met in March 2017 to plan the project, and decided to conduct an online survey, followed by a requirements gathering workshop in June to discuss the remaining questions. Discussions at this meeting generated the name ForSci, which was ratified at the requirements gathering workshop.

The survey questions are in appendix 1. The online survey was formulated using SurveyMonkey and the link was circulated via:

* The Chartered Society of Forensic Sciences – events page, also universities with accredited courses.
* The Special Interest Group for Forensic Science.
* Twitter broadcast, including mentions of key UK organisations including College of Policing, Law Society, Chartered Society of Forensic Sciences, National Crime Agency, Key Forensic, LGC, NABIS, and various local police forces; also key international organisations including Interpol HQ, NFI, FBI, NIJ, Baltimore Crime Lab, Washington DC Lab.
* Emails and direct tweets to relevant academics and practitioners via steering group personal and professional contacts.

The link will also have been circulated more widely, e.g. by SIG members and through retweets.

The survey received 100 responses. These were analysed, and the findings used to plan the requirements gathering workshop which took place on 29 June 2017 in Manchester. The workshop was advertised via email, Eventbrite, Twitter, and a post on the Jisc blog written by Helen Kara.

**Survey findings**

Full details of the survey findings are in appendix 2. In brief, there was a good spread between males and females, academics and forensic scientists, those who teach and those who don't. Respondents included police and other criminal justice professionals. Two-thirds of responses came from England (n=67), with a surprising one-quarter (n=24) from around the world.

Over 90% of respondents said they would value a repository. The main reasons were: it would enable knowledge-sharing and staying up to date, increase accessibility of useful and current research, and be useful for students. Most people said they would use it to find out whether a topic has already been researched (87%) look for potential collaborators (66%), or in support of current casework (53%).

A majority (63%) favoured independent assessment of the quality of deposits.

The most popular options for type of Creative Commons licence included both the least and the most restrictive licences, as well as the third most restrictive.

The majority opted for a flexible embargo under certain conditions, at least one of which should be related to commercial and/or professional sensitivities. (No percentage given as this is an aggregate of more than one set of answers.)

The majority of respondents (65%) wanted either one or two tiers of registration for people to be able to access the repository.

Six key questions remained unanswered. These were:

* Which Creative Commons license should we use?
* How can we assure security for contributed material and for personal information collected from repository users?
* At what level should people be required to register to use the repository?
* Who should assess the quality of material intended for the repository?
* What should be the conditions for embargoes on material contributed to the repository?
* How should the repository be operated and managed?

We designed the requirements gathering workshop to help us answer these questions.

**Workshop findings**

The workshop programme is in appendix 3, and a list of attendees is in appendix 4.

An initial hour of brief context-setting presentations ensured that everyone present was fully informed about the background to the day and the plans for the repository. Then three consecutive pairs of concurrent discussion groups were held, each with a chair and a facilitator, to discuss the six unanswered questions (see below 1-6). After each pair of concurrent discussion groups, there was a full group session in which feedback from each discussion group was given to all attendees and a full group discussion held.

A lot of requirements have been gathered from the workshop. These need to be prioritised to create the initial minimum viable product and backlog for further iterations.

1. Licensing

There are six Creative Commons licenses in varying degrees of restrictiveness. Survey respondents were split between the most restrictive, the least restrictive, and one in the middle. Discussions were wide-ranging, with decisive factors including:

* A more permissive licence will provide recognition for academics, enable practitioners to make good use of the most up-to-date research, and help to create a collaborative research culture in forensic science and policing.
* A small amount of confidential material will not be able to be uploaded, but this disadvantage will be outweighed by the benefits.
* Where universities work closely with local police forces, police involvement can include the validation and verification of contributions.
* Keep licensing simple and straightforward to avoid confusion and facilitate access.

It was decided that [Creative Commons 4.0 International](https://creativecommons.org/licenses/by/4.0/) would be the most appropriate license to use. There may be a need for some license awareness training. The logo should be prominent on the repository website, with a click-through to a helpful explanatory page.

1. Assessment

Workshop attendees agreed with survey respondents that, in principle, it would be great to set up some kind of independent assessment system. However, the workload would be high and nobody has the resources for this. Therefore, the decision was taken that universities should be responsible for simple assessment of the research or the data on a RAG scale, as follows:

Black: not fit for purpose

Red: quality not great, but content may be of some use

Amber: research or data of average/reasonable quality

Green: good quality data or innovative project

Then there should be an interactive free text comments section for people to add their comments on the research. These should not be anonymous, to reduce trolling; only logged-in people should be able to comment. There should be a thumbs-up/thumbs-down feature for the comments. There should also be a 'report' button to alert moderators to any offensive language or abusive comments, with options for people to say why they're reporting including a free text 'other, please specify' box.

In some 'red' cases, the university may choose to upload only the abstract, rather than the full text.

The repository will need to include a disclaimer explaining that the contributions have not been peer reviewed and that there may be spelling and other errors.

The FIT-IN network at Portsmouth has a system where police and academics review each project and decide together whether or not it should be uploaded. This is a model that universities and police in other areas may wish to consider.

ISO accreditation was discussed, and may be an option in the longer-term, but was regarded as too resource-intensive for the present. The risk is that it would be more of a barrier than an enabler, and that risk was felt to be too great right now.

1. Security

No specific survey question was asked about security, but some people raised it in the open questions.

Discussions at the workshop concluded that there is considerable potential for over-thinking the issue of security. If a user spots a problem, they will notify Jisc or the university concerned and it will be dealt with. Nobody is going to upload something so sensitive that it will jeopardise people's safety. It is often possible to redact the really sensitive parts of a project and still have a document that can be useful for others.

The option of a secure area within the repository for highly confidential material was considered. However, the decision was that such an area creates more problems than it solves, such as by requiring a much more complex tiered registration process.

There should be a single account, for uploading, per institution (though that account may be used by more than one person).

1. Embargo criteria

The survey found that scope to embargo material was desirable, and that a flexible approach would be best.

Discussions at the workshop concluded that self-regulation of embargo periods was the best approach because anything else would be too resource-intensive. Students, academics, and any collaborating organisations involved in the research should be able to state that they have done research on a specific topic, give a date when they intend to release their contribution, and have the option to state why it's embargoed. There could then be an automated email sent to the academic supervisor and student, say one month before that date, saying e.g. 'Your research will be released in one month unless you change the date'.

It would make sense to have a similar approach to that used by the College of Policing's Research Map.

1. Registration level

Title, abstract, author name and institution should be available to all.

The forensic science community would like to see registration for users for full text and author's contact details, however Jisc’s current policy is for open access unless there are specific reasons given e.g. embargoes, licensing etc. Users may choose to log in, and contributors can be required to log in.

At registration, users who choose to log in should be able to select topic areas they're interested in, then see the most recent uploads from those topic areas next time they log in.

Registration for contributors should require the completion of a profile page.

Log-in should be with username and password.

Registration will enable the collection of metrics/data about users and contributors. Exactly what ForSci should collect is still to be decided.

1. Workflow

A 'contribution' could be research, or data, or both – perhaps also including the relevant ethics form.

Students should prepare their contribution, supervisors should RAG-rate and upload – because if the intellectual property is owned by the university (which it usually is), then someone employed by the university needs to check the quality.

Metadata: include keywords (which should not be limited) and funder/grant ID, as well as title, author etc.

The forensic science community would like the repository to automatically watermark documents on every page with their RAG status, which also makes plagiarism more difficult. This should be possible, though it may not be in the initial version of the software.

The repository should be open to international contributors.

The website should have buttons for conversion into other languages; we still need to decide which languages. Again, this may not be in the initial software.

There is a need to set up good channels of digital communication between ForSci, the Innovation Database by KTN (i.e. Knowledge Transfer Network via Innovate UK), and the College of Policing's Research Map.

There was a suggestion for a ten-year retention system such that anything that has not been downloaded by anyone in 10 years is automatically deleted. A counter-suggestion pointed out that it can be useful to retain original work indefinitely to avoid misinformation spreading through errors in a 'Chinese whispers' effect. This issue was not resolved at the workshop.

A persistent digital identifier, such as a DOI, should be used for research and for data in the repository to facilitate location and citing of contributions.

Potentially a persistent personal identifier, such as ORCID, should also be used, to solve the problem of researchers being hard to find after they move from an institution.

The researcher needs to be named – if they're not happy to be named, their material shouldn't be uploaded.

Need to link ForSci with KTN's Innovation Database, so practitioners who have research they want done can also log that via the ForSci repository. This link will not be in the initial repository, but can be added later on.

Need to link ForSci with the College of Policing's Research Map so completed forensic science research being made public through that route can also be accessed via ForSci. This link will not be in the initial repository, but can be added later on.

Data should be uploaded in common, machine-readable, and reusable formats. If material needs to be scanned, it should use optical character recognition (OCR) methodology to make any text machine-readable.

Governance needs to be established, including lines of accountability, marketing of ForSci, and a moderation group.

ForSci needs to be marketed to potential users and contributors, and to overarching organisations such as the Home Office, Crown Prosecution Service, Bar Council, Defence Science and Technology Laboratory, Canadian Society of Forensic Science, and any other national or international bodies that would be interested.

The submission form could be based on the College of Policing's online one for their Research Map. Jisc to assess.

The repository needs to be fully indexed and searchable.

Users need to be able to set alerts for notification on particular authors or keywords.

A monthly update could be sent out automatically to say what's been uploaded, from where, on which topics.

There should be auto-reporting of data metrics for users and to show impact.

The repository needs social media sharing buttons.

There should be a feedback mechanism to show how information provided through ForSci has been used.

The site needs a recommendations algorithm (e.g. 'if you like X, then you will be interested in Y').

Contributors and users should be able to link research to other connected research.

**Next Steps**

This project has identified both a mandate and initial requirements for the creation of the ForSci research and data repository. However, there are still a number of key decisions to be made, to ensure that both contributors' and users' needs are met. These include:

* How to identify initial content and volunteers to test the system (tests will be run by Jisc).
* How the repository is to be resourced from April 2019, when the initial funding expires.
* How to keep track of ways in which information sourced from the repository is used, because if such information is successfully used in a court of law, or a tribunal, or a coroner's court, Jisc and the governance body need to know. This would require a qualitative impact assessment by the community.
* Which organisation can act as lead institution for the Jisc procurement process.
* When and how to review the operation of the repository.

Once the repository is ready to receive contributions, initial marketing should focus on three groups:

1. UK universities with accredited courses
2. UK universities that have partnerships with police forces (these can be identified through the Special Interest Group)
3. International universities with accredited courses
4. Criminal justice organisations including police

One problem for forensic science is that it hasn’t fallen within the remit of any particular research funding council or HEFCE Unit of Assessment in the forthcoming Research Excellence Framework (REF). Recently, proposals have been made to make it part of a unit of assessment in partnership with another subject. It would be worth the forensic science community lobbying RCUK to make funding contingent on sharing findings and data and continuing discussions with HEFCE for future assessments of research.

A minimum viable product will be ready for launch on 16 March 2018 at an external event of the Chartered Society.

**Appendix 1 – Survey Questions**

1. Do you identify as:

Male

Female

Other

2. In which country or region is your work primarily based?

Scotland

Northern Ireland

Wales

North West England

North East England

Yorkshire/Humber

West Midlands

East Midlands

East of England

London

South East England

South West England

Europe

North America

South America

Africa

Asia/Pacific

Australasia

3. What is your primary role?

Undergraduate student

Masters' student

Doctoral student

Student supervisor

Post-doc/early career academic

Lecturer

Senior lecturer,

Reader

Associate Professor

Professor

Honorary/ERASMUS Professor

Retired academic

Crime scene investigator

Crime scene manager

Police investigator (CID)

Fingerprint examiner

Forensic scientist

Government department researcher

User of forensic science information

Colleague of forensic scientists

Colleague of users of forensic science information

Other (please specify)

4. Do you study or teach on an accredited forensics course in the UK? Yes/No/Don't know/NA

5. Would you value a repository of good quality undergraduate and masters' level forensic science research? Yes/No

5(a) Why? ..............................................................................

6. Do you think the quality of deposits should be assessed through:

A set of written criteria signed by the depositor to confirm the deposit meets them

A set of written criteria signed by the depositor's supervisor to confirm the deposit meets them

Independent assessment by an external examiner

A set of written criteria signed by an independent person to confirm the deposit meets them

Independent assessment by an independent person

Other (please specify)

7. We intend to apply a [Creative Commons licence](https://creativecommons.org/licenses/) to deposits in this repository because that will make the deposits openly accessible to all. However, there are six licences with different conditions. Do you think we should choose:

Attribution: this is the most flexible and allows for work to be adapted and used in any context, even commercial, as long as the author is credited.

Attribution-ShareAlike: this is the second most flexible, with the same permissions as the previous option except that anyone using the work must assign that new work the same share-alike licence.

Attribution-NoDerivatives: this allows for commercial use as long as the work is unchanged and the author is credited.

Attribution-NonCommercial: this only permits non-commercial use, but it does allow for the work to be adapted; the author must be credited.

Attribution-NonCommercial-ShareAlike: this only permits non-commercial use; the work may be adapted, but the author must be credited and the user of the work must assign the same non-commercial share-alike licence.

Attribution-NonCommercial-NoDerivatives: this is the most restrictive licence, only allowing download and sharing of the work as long as the author is credited, but no changes may be made and no commercial use is permitted.

8. If your material, or your student's material, was deposited in this repository, would you want an embargo on the full text? Yes/No [if 'no', go to question 9]

8(a) Why would you want an embargo? [text box]

8(b) Under what circumstances would you want an embargo? [text box]

8(c) For how long would you want an embargo?

3 months

6 months

9 months

12 months

18 months

24 months

36 months

Flexible, to be specified depending on nature of project

Other (please specify) ....................................

9. What kind of access to the repository do you think would be best?

a) Open access with everything available to all

b) Open access following registration, to enable collection of information about users

c) Two-tier system such that part of the content is freely available to everyone including the public, while part of the content is restricted to people who have been approved to log in

d) Two-tier system as in (c) above, but with log-in requirements at each level

e) No preference

f) Other (please specify) ..............................................................

10. What terms would be useful to either search or filter on? Please tick all that apply:

Author

Author's supervisor

Author's email address (for more information, possible collaborations etc)

Organisation

Discipline(s)

Funding or project ID

Title

Keywords

When created

Description

Dataset type (Word document, spreadsheet, visual materials, scanned non-digital data etc)

File format (xlxs, doc, jpeg etc)

Who can access

Level (undergraduate or masters' level)

Location of access

Other (please specify)

11. If this repository already existed, what kinds of things would you use it to look for? Please tick all that apply:

a) whether a topic has already been researched

b) support for current casework

c) support for defence work

d) information for funding applications

e) potential collaborators

f) Other (please specify)

12. Is there anything else we need to consider about this repository that we haven't already mentioned?

[text box]

**Appendix 2 – Survey Findings**

Demographic data

**Gender:** 52 female, 46 male, 1 other.

**Location:** England 67, Scotland 8, Wales 1, Northern Ireland 0.

24 outside UK: Europe 7, Australasia 6, N America 5, Africa 3, Asia/Pacific 2, S America 1.

**Primary role:** 25 forensic scientists, 33 employed academics, 11 students (3 undergraduate, 4 masters, 4 doctoral).

No student supervisor, retired academic, police investigator (CID) or colleague of forensic scientists.

1-3 in each of the other categories.

17 'other, please specify' (8 of which have the word 'forensic(s)' in their title, and 1 of which appears to be an academic (Associate Dean)).

**Teaching:** 46 do, 41 don't.

Substantive questions

**Question 5.** Would you value a repository of good quality undergraduate and masters' level forensic science research?

90 answers.

Yes – 82, no – 8

**Question 6.** Please could you explain your reasons for the answers you gave to Q5?

64 answers.

Two of the people who said 'no' skipped this question. The others said:

* Because of lack sources
* This isn't always novel research and other the most interesting research is confidential. Putting this in a repository will also prevent work from being published in the future which is a great shame for the student.
* If it's good it should be published in peer review journal (or peer reviewed abstract)
* Undergraduate work is usually part of a bigger picture, and vehicles for publication already exist.
* Burble
* Research at this level, although of interest, is not robust enough to be useful in practice.

This shows some confusion between repositories and publication, as putting student research reports in a repository does not preclude formal publication of the method and/or findings, as long as they are suitably rewritten for an academic journal or other outlet.

24 of the people who said 'yes' skipped this question. The other answers broke down as follows (NB: N > 57 because some people gave more than one reason):

|  |  |
| --- | --- |
| **Response category** | **Number** |
| Enables knowledge- sharing and staying up to date | 16 |
| Increases accessibility of useful and current research | 12 |
| Useful for students | 10 |
| Facilitates collaboration | 8 |
| Helps to get research into practice and/or policy, which leads to operational improvements | 8 |
| Avoids duplication | 7 |
| Raises standards | 6 |
| Other (all positive, though rather vague) | 12 |
|  |  |

Three people responded with qualms:

1. How will this research be scientifically validated? Much undergraduate or even MSc research is scientifically not fit for purpose because the time allowed for such projects or the lack of available equipment or poor research methodology does not adequately allow for appropriate precision and accuracy validation to be undertaken. How will this be addressed for work being presented to the research repository?
2. this must not get in the way of publishing work in high quality journals
3. This is already planned under the FIT IN project with University of Portsmouth

**Question 7.** How do you think the quality of deposits should be assessed?

82 answers. Most people favoured some kind of independent assessment process. Only seven thought the depositor signing written criteria would suffice. Twenty thought the depositor's supervisor could sign off for quality. Fifty-four people thought it should be independently assessed, either by an external examiner (20), another independent person (30 – 13 for signed criteria, 17 for independent assessment), or through peer review (four, responding under 'other, please specify').

There were two dissenters:

1. This doesn't make sense if it’s going to be reviewed that it would be better going into a peer reviewed publication. Setting down a set of criteria will either be too restrictive or be so open as to allow everything and not be of any benefit to anyone
2. Random chance

**Question 8:** Which Creative Commons licence should we use?

75 answers. There was almost a tie between Attribution (16), Attribution-No Derivatives (17) and Atrribution-NonCommercial-NoDerivatives (17). Then there was a similar level of agreement between Attribution-NonCommercial (10) and Attribution-ShareAlike (9), with Attribution-NonCommercial-ShareAlike coming in last (7).

The most popular options include both the least and the most restrictive licences, as well as the third most restrictive.

**Question 9:** Should there be an embargo on the full text?

76 answers. Sometimes – 37, No – 21, N/A – 10, Yes – 9.

**Question 10:** When and why would you want an embargo?

28 answers.

|  |  |
| --- | --- |
| **Response category** | **Number** |
| Commercial and/or professional sensitivities | 10 |
| Concerns about publication | 4 |
| It depends | 4 |
| Embargo would encourage depositors | 2 |
| Embargo would help to protect intellectual property | 2 |
| Other | 6 |

**Question 11.** For how long would you want an embargo?

45 answers. A clear lead here for 'flexible, to be specified depending on nature of project', with 36 responses. Each of the other categories attracted 0-2 responses.

**Question 12.** What kind of access to the repository do you think would be best?

74 answers. The favourite was open access following registration to enable collection of information (28), and in second place was a two-tier system such that part of the content is freely available and part restricted to approved people (20). Complete open access, and a two-tier system with log-in requirements at both levels, each attracted 11 votes. Only one person had no preference. One of the three 'other' responses suggested a three-tier system with abstracts for public open access, HEI automatic registration (e.g. using OpenAthens or Shibboleth) and additional registration for others.

**Question 13.** Which terms would be useful to search or filter on?

75 answers.

|  |  |
| --- | --- |
| **Response category** | **Number** |
| Keywords | 70 |
| Title of report | 65 |
| Discipline | 62 |
| Author | 59 |
| Organisation | 53 |
| Level (undergraduate or masters) | 43 |
| Description | 39 |
| When created | 39 |
| Author's supervisor | 38 |
| Author's email address | 22 |
| Dataset type (Word document, spreadsheet, visual image etc) | 16 |
| Location of access | 15 |
| Who can access | 14 |
| Funding or project ID | 10 |
| File format (xlxs, doc, jpeg etc.) | 8 |

**Question 14.** If this repository already existed, what kinds of things would you use it to look for?

743 answers.

|  |  |
| --- | --- |
| **Response category** | **Number** |
| Whether a topic has already been researched | 64 |
| Potential collaborators | 49 |
| Support for current casework | 39 |
| Information for funding applications | 24 |
| Support for defence work | 21 |

There were 12 'other' responses, five of which focused on teaching/students.

**Question 15.** Is there anything else we need to consider about the repository that we haven't already mentioned?

1. 17 people answered this question. Three said 'no', and one said 'Who are you?' The other 13 made a variety of comments which are included here in full.
   1. the sooner the better to support the justice system.
   2. (b) Have a clear comment the the information is based on UG and PG, non-peer reviewed publications.
2. whether it will prevent publication in the future and also how many forensic practitioners will access it
3. Make sure you link in with other established knowledge sharing endeavours
4. It requires a security gate keeper (I suggest speak to the NCA). it is not in the interest of the community to share information with those that may use it compromise techniques. Some techniques that may benefit from R and D may also be classed as sensitive by certain security agencies so different tiers of security vetting need to be part of the application process and level of access given. I suggest 3 levels. First open to forensic students and above, second to forensic science agencies, police, NCA, university head of forensic department. The third level only those vetting and approved to work in higher levels of security. This may be a specific researcher, or those working in areas of higher security. There also needs to be ability for some people to have their details restricted (everyone with the level 3 access) as they will not want their details being searchable. Without this many will not engage.
5. Whether it is needed at all. I search published work using a University system; I would not want to have to go to another search tool and would not want to access unvalidated and unpublished work. Undergraduate work is of variable quality; we publish that which is good, and would not want to release the rest.
6. Classification of research methods involved could be useful
7. Ensure there is good communication between practitioners undertaking the work for the cjs and the students undertaking work- maybe a buddy system, discussions to be had about design of the project to ensure useable data will be produced
8. I think that full thesis should be included as a PDF for those who have access and not just the abstract. Also that exportable metrics for numbers of downloads, country of download etc should be included for authors and supervisors. Additionally tell us when embargos will be lifted if applicable. Ability to share links to the research through a variety of social media/email to enhance research dissemination further.
9. What about the legality of articles available that are copyrighted to journals?
10. Stewardship
11. The format of documents - would there be a standard format or could any format be used?
12. The fact that many Universities internal IPR policy may prohibit their inclusion in such an open database.
13. Peer/expert feedback - a PI could be advised on how to go forward or even improve the existing work with knowledge from others viewing the repository?

**Appendix 3 – Workshop Programme**

10.00 Registration

10.30 Ten-minute presentations:

Brian Rankin – chair, overarching context

Felicity Carlysle-Davies – special interest group resource

Rachel Bolton-King – Jorum experience, repository as resource

John Kaye – Jisc's role and value, context for the rest of the day

Helen Kara – survey findings

Questions

11.30 Refreshment break

11.45 Licensing (chair: John Kaye, facilitator: John Cassella)

OR

Independent assessment (chair: Rachel Bolton-King, facilitator: Brian Rankin)

12.30 Feedback to whole group and discussion (facilitator: Dom Fripp)

1.00 Lunch

1.30 Security (chair: John Cassella, facilitator: Dom Fripp)

OR

Embargo criteria (chair: Brian Rankin, facilitator: Helen Kara)

2.15 Feedback to whole group and discussion (facilitator: John Kaye)

2.45 Tea

3.00 Registration level (chair: Siobhan Burke, facilitator: Rachel Bolton-King)

OR

Workflow (chair: John Kaye, facilitator: Dom Fripp)

3.45 Feedback to whole group and discussion (facilitator: Siobhan Burke)

4.15 Round-up and next steps – John Kaye

4.30 Finish

**Appendix 4 – Workshop Attendees**

Andrea Armstrong, Scientific Support Manager, Durham Constabulary

Rachel Bolton-King, Lecturer in Forensic Investigation, Staffordshire University

Siobhan Burke, Library Support Services Programme Manager, Jisc

Felicity Carlysle-Davies, Knowledge Transfer Manager Forensic Science, Knowledge Transfer Network

John Cassella, Professor of Forensic Science, Staffordshire University

Ruth Croxton, Senior Lecturer, University of Lincoln

Helen Earwaker, Lecturer in Forensic Studies, University of Portsmouth

James French, Research Fellow in Crime and Forensic Science, UCL

Dom Fripp, Senior Curation Metadata Developer, Jisc

Mark Hayward, Forensic Specialist, Greater Manchester Police Force

Helen Kara, Director, We Research It Ltd

John Kaye, Senior Co-Design Manager, Jisc

Roberto King, Forensic R&D Applications Specialist, Foster & Freeman Ltd

Nicky Miller, Research Evidence Partnerships Manager, College of Policing

James Nutt, Senior Lecturer in Forensic Sciences, University of South Wales

Anna-Marie O'Connor, Senior Lecturer and Forensic Co-ordinator, University of Portsmouth

Mark Outhwaite, Firearms Examiner and Weapons Maintainer, Cleveland & Durham Police

Brian Rankin, Chairperson, Special Interest Group for Forensic Science

Paul Smith, Principal Lecturer and Director of the Forensic Innovation Centre, University of Portsmouth

David Spreadborough, Forensic Video Analyst, forensicvideo.training

Rachel Upton, Forensic Quality Services Officer, Staffordshire Police

Jo Wilkinson, Practice Manager, College of Policing