

# THE FORENSIC EXHIBIT.

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Shining a spotlight on the work of the Australia New Zealand forensic science community

## Welcome to 2020



Dr Linzi Wilson-Wilde OAM  
Director, ANZPAA NIFS

We are only four months into the New Year, but 2020 will be a year we will never forget.

### Team Changes

In February, we said goodbye to Dr Kaye Ballantyne. I would like to take this opportunity to thank Kaye for her significant work across a range of ANZPAA NIFS ongoing and project activities, specifically Forensic Fundamentals; Double Blind System Testing and AFSAB Enhancement. Kaye has moved on to an exciting and rewarding role as Chief Forensic Scientist of Victoria Police. Congratulations!

In April, we welcomed Hannah Jarman to the ANZPAA NIFS team as a Senior Forensic Project Officer. Hannah brings a wealth of forensic science and project management experience to ANZPAA NIFS and we are delighted to have her join our team. More information about Hannah can be found later in this newsletter.

### NIFS Work Program

ANZFEC met on 20 February 2020 and at that meeting approved our exciting new Business Plan for 2020-21. Projects include AFSAB Enhancement, Forensic Fundamentals, Workflow Mapping Drugs (and later Toxicology), After the Fact Commercialisation, IT Infrastructure

Redevelopment and Future Forecasting. Another exciting project will be the development of a Diversity and Inclusion Leadership Strategy; more news to come regarding that in future newsletters.

### COVID-19

COVID-19 has impacted the forensic science communities in Australia and New Zealand and internationally; an impact we will see for many months to come. As our forensic stakeholders move to adjusting their work patterns and locations, so are ANZPAA NIFS. We will be moving to a work from home program but will still continue to deliver our work program and facilitate the progression of the ANZPAA NIFS group activities. We will look to innovative virtual systems to assist in this. We can be contacted through normal office numbers and email. Our office relocation scheduled for mid-year will likely be delayed, however, we will continue to update you as news comes to hand. If we can do anything to assist, or provide information in this difficult time, please do not hesitate to contact myself or a member of the NIFS team.

In the meantime, whilst we go through these unprecedented times, I urge you and your families to please stay safe.

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## News from the forensic community

### The Big Move – 311 Spencer Street, Melbourne

ANZPAA NIFS are currently preparing for a move to a new state-of-the-art police precinct in Melbourne's CBD. Connected to the neighbouring City West Police complex, the multi-storey police headquarters will form part of a new CBD policing hub.

The new police precinct will enable ANZPAA NIFS to host a greater range of meetings and workshops for our Specialist Advisory Groups and other project working groups in Melbourne.

As part of the move, ANZPAA NIFS are currently undertaking an extensive digitisation program of all of our historical paper-based records.

### Congratulations – Australia Day Awards

We would like to congratulate Professor Stephen Cordner AM and Dr James Pearson on being awarded a Public Service Medal (PSM) at the recent Australia Day 2020 Awards.

Professor Cordner was recognised for his outstanding public service to forensic medical and scientific services, training and research in Victoria. As inaugural Director of the Victorian Institute of Forensic Medicine (VIFM), Professor Cordner has been instrumental in the establishment and development of the Institute's form and functions.

Dr Pearson was recognised for his outstanding public service to forensic science, particularly to chemistry, in Victoria. Dr Pearson has been a role model and mentor to emerging forensic scientists at the Victoria Police Forensic Services Department (VPFSD) and has dedicated his skills and experience to a range of professional organisations, including the Chemical Warfare Agent Laboratory Network (CWALN) and the Australian and New Zealand Forensic Science Society (ANZFSS).

### Research and Innovation

We are within the remaining few months of the highly successful ANZPAA NIFS Research and Innovation Roadmap 2017-20. The inaugural Roadmap outlines the research priorities determined by the heads of the key government forensic laboratories through the Australia New Zealand Forensic Executive Committee (ANZFEC), in consultation with senior forensic researchers and academics through the ANZPAA NIFS Research and Innovation Advisory Committee (RIAC). The Roadmap is supported by the ANZPAA NIFS Research and Innovation Strategy 2017-20, which outlines a process for applying for ANZPAA NIFS support for research projects.

To date, the benefits of the Roadmap have included: provision of guidance to academia on the research priorities for operational forensic laboratories in Australia and New Zealand; it informs how ANZPAA NIFS invests in future research; and it provides an avenue to highlight gaps in our understanding of forensic science, which are identified through ANZPAA NIFS projects, such as the Forensic Fundamentals Project and through the ANZPAA NIFS Specialist Advisory Groups.

The success of the Roadmap was recognised at a recent meeting of the International Forensic Strategic Alliance (IFSA). As such, IFSA are currently finalising a Research and Innovation Roadmap at an international level. The focus for ANZPAA NIFS, ANZFEC and RIAC over the next few months will be to collaborate on the next ANZPAA NIFS Research and Innovation Roadmap 2021-24. This Roadmap will take into consideration the work undertaken by IFSA and the emerging priorities for operational forensic laboratories.

ANZPAA NIFS provided funding support for 11 research projects under the current Roadmap and Strategy 2017-20. In each edition of The Forensic Exhibit we provide the forensic science community with an update on a select few projects. We thank the lead researchers for sharing their project updates in the following section.

### ANZPAA NIFS Project Support

#### A unifying approach for evaluating transfer and persistence trace evidence – The importance of material science

**Associate Professor Jurian Hoogewerff**  
(Director, National Centre for Forensic Studies)

Since the time of Locard, and especially in the last 50 years, interest in providing the necessary 'toolkit' to aid the recovery and interpretation of transferred trace materials has increased significantly. Yet for the most part, these studies have remained heavily siloed within specific disciplines and/or trace evidence types (e.g. fibres, glass and soil). The very focused nature of these studies may have led to researchers being unaware of common processes and fundamental factors.

In this ANZPAA NIFS sponsored project at the University of Canberra (UC) PhD student Michael Aberle went back to basics to develop a general, discipline independent framework. In the last twelve months, Michael undertook a systematic literature review across the forensic trace evidence disciplines and dived into relevant aspects of material science. Especially 'tribology', the science of friction, wear and lubrication related to interacting surfaces in relative motion, describes many of the core principles needed to understand fundamental aspects of transfer and persistence.

In many discussions with the rest of the Canberra team; Prof James Robertson (UC), Dr Brenda Woods (AFP), Prof Hilton Kobus (UC) and myself, Michael wrote a thought-provoking report that outlines a possible universal approach to evaluate transfer and persistence evidence irrespective of material type. The report also mentions matters to consider when designing and performing case reconstruction studies, e.g. what parameters might be relevant for some materials but not for others.

While researching, discussing and writing this report, the whole research team became very appreciative of the challenging nature of

# The Forensic Exhibit.

## News from the forensic community

properly qualifying and quantifying transfer, persistence, prevalence and recovery. The good news is that the new fundamental insights provide a solid base and a huge potential for exciting experimental research which should lead to new valuable insights. Such spin-off studies have already been started at UC. A condensed version of the report findings will be published in the forensic literature in 2020.

### Touch DNA: Obtaining Phenotypic and Ancestry Predictions

**Professor Adrian Linacre**

*(Chair in Forensic Science, Flinders University)*

Trace DNA can be transferred by touch onto items of forensic interests. This research focused on wires, zip-lock bags, and fuses; as these are related to a range of criminal and terrorist activities. DNA typing of such trace material using standard processes, such as short tandem repeats, may gain little informative data if the person whose DNA was passed onto such substrates is not on a database. Knowing some aspects of what you look like (phenotypic traits) and where you might come from (ancestral markers) is possible using a range of single nucleotide polymorphisms (SNPs). Current processes using such genetic markers is normally applied to greater amounts of DNA than passed on by touch alone.

This project enlisted five people of known ancestral and physical appearance to touch 4 substrates comprised of wires, fuses, zip-lock bags, and glass substrates. Three of each item was touched separately to test of reproducibility. Each item was touched for less than 30 seconds to mimic the activity of holding a wire or opening a zip-locked bag for instance. A fine micro-swab was used to collect the DNA. A total of 66 samples, including reference samples and controls, were processed by Massively Parallel DNA Sequencing; this work was performed in conjunction with Thermo Fisher Scientific. Highly informative genetic data leading to high levels of confidence in phenotypic and ancestry assignment was achieved in over 50% of these samples.

Touch DNA using MPS has never been reported previously and these data show that generating ancestry and geographic genetic data is possible from such trace amounts of DNA.

### The health and wellbeing of Disaster Victim Identification workers: A systematic literature review and recommendations for further action

**Adjunct Professor Peter Ellis**

*(Queensland University of Technology)*

The QUT research team undertook this work on behalf of the ANZPAA Disaster Victim Identification Committee (ADVIC), which NIFS manages.

Many individuals employed in health and law enforcement are exposed to deceased persons during the course of their normal work. However, occasionally other individuals, for whom this is not part of their usual work role, may also be called upon to undertake the identification of deceased people and this task may take place in the context of a multi-fatality incident. The aim of this project was to capture what literature is currently available concerning the mental health of people who undertake disaster victim identification. The research involved a systematic literature review and detailed thematic analysis of forty-five related research articles that have been identified. The research determined the risk of exposure to DVI situations, the mental health consequences and proposes strategies designed to minimise the risks.

The report has been distributed to ANZFEC agencies.

### ANZPAA NIFS Best Paper Awards

The ANZPAA NIFS Best Paper Awards encourage and recognise the contribution of members of the Australia New Zealand forensic science community in improving the forensic sciences and increasing the body of knowledge available to the forensic and wider communities. At ANZFEC Meeting 15, members reviewed

and revised the entry criteria and award categories for the Best Paper Awards to better reflect the current forensic science environment and to ensure the continued quality of submissions. The revised entry criteria and award categories are:

#### Entry Criteria

- Lead author(s) must be from Australia or New Zealand
- At least one of the authors must be a current forensic practitioner working in a government laboratory in Australia or New Zealand
- Entries must be available online as corrected proofs before the entry closure date, and have a publication date less than 12 months prior to the entry closure date
- Entries must be received by **31 August** each year.

#### Best Paper Award Categories

- **Best Paper: Forensic Fundamentals**  
*(New Award Category)*  
The purpose of this award is to recognise those who have contributed empirical studies on the underpinning science of forensic science disciplines.
- **Best Paper: Capability Enhancement and Innovation**  
*(New Award Category)*  
The purpose of this award is to recognise those who have supported the continuous improvement of the forensic sciences.
- **Best New Publisher in a Refereed Journal**  
*(New Award Category)*  
The purpose of this award is to encourage practitioners to publish research they have undertaken. The award focuses on first time publishers from government laboratories, whether they are new practitioners, or have been in the industry for some time and are new to publishing. The submitted article should be the first paper the practitioner has published as the lead author.



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## News from the forensic community

- **Best Technical Article or Note**  
(Revised Award Criteria)

The purpose of this award is to encourage practitioners to circulate technical information throughout their discipline groups and other groups who may have an interest.

- **Best Literature Review**  
(No changes to Award Criteria)

The purpose of this award is to recognise those who have collated information regarding a topic or discipline.

- **Best Case Study**  
(No changes to Award Criteria)

The purpose of this award is to encourage members of the forensic science community to share interesting case studies with the wider forensic community.

- **The Henry Delaforce Award**  
(No changes to Award Criteria)

The papers in this category should focus on the situation where a novel approach to a problem or the use of a new scientific technique has improved operational service delivery, assisted in the resolution of cases or promoted the use of forensic science. Papers should be based on sound scientific principles, informative and easily intelligible to the broader justice system reader. Papers from other categories may also fall into this category. To qualify for this category, the lead author must be a serving Australian or New Zealand police officer.

The Best Chapter in a Book Award category will be removed from 2020 onwards.

More information on the Best Paper Awards and the updated entry criteria and award categories can be found at:

► <https://www.anzpaa.org.au/nifs>

### ANZPAA NIFS Best Paper Awards



▲ **Kelsey Seyfang**  
Best Paper in a Refereed Journal –  
Highly Commended  
(NSW Forensic and Analytical Science Service)



▲ **Christopher Flight**  
The Henry Delaforce Award  
(Victoria Police)



▲ **Roland van Oorschot**  
Best Literature Review  
(Victoria Police)



▲ **Dr Bianca Szkuta**  
Best Literature Review  
(Victoria Police)



# The Forensic Exhibit.

## News from the forensic community



▲ Maarten Kruijver (L) and Jo-Ann Bright (R) receiving their awards for Best Technical Article or Note. SallyAnn Harbison (Centre) receiving a Certificate of Appreciation for her role as Biology Specialist Advisory Group Chair - (Institute of Environmental Science and Research)



▲ Dr Kaye Ballantyne  
The Henry Delaforce Award  
(Victoria Police)

### ANZFSS – Forensics Science: Into the Future



Professor Adrian Linacre  
(ANZFSS President)

I was asked by a member of the UK Research & Innovation (UKRI) panel to comment on the major challenges facing forensic science and our research priorities in the forensic sciences for the next 5 years.

The Research and Innovation Advisory Committee, chaired and organised by ANZPAA NIFS, is tasked with looking at our current capabilities, identifying gaps where they exist, and looking to innovate. Also, the theme of the ANZFSS/ IAFS meeting is 'where to from here?'. The UKRI is therefore not alone in contemplating what forensic science might look like in the future.

If we want to really think big, then to my mind there are some really amazing opportunities and I list just three.

In my past life in the UK, I attended scenes and looked at blood patterns. Skilled photographers were present to record the scene. But consider how Virtual Reality, which is improving constantly, could in the future take the jury through the scene showing items in situ. For example, bloodstains can be seen in their place and then the DNA profile appears. This could be the same for any trace evidence to link its location to the lab result making the context of the forensic data easier to understand.

This takes me to the other key area, and one where Australia takes a lead, the transfer and persistence of evidential material. Large-scale empirical data of all trace evidence can underpin activity level reporting, making this routine.

A third area is using machine-based learning to interpret data currently performed by humans. Anything where a human is involved is open to human-error. But train a machine correctly, and this subjectivity is removed.

It is worthwhile to look to the future and see what might be possible – making these a reality is our next hurdle.



▲ Nick Lucas  
Best Paper in a Refereed Journal – Highly Commended  
(Australian Federal Police)

# The Forensic Exhibit.

## News from the forensic community

### IAFS 2020 Update - Stay at home now so we can meet Downunder in May 2021



**Distinguished Professor Claude Roux**  
(President, International Association of Forensic Sciences, ANZFSS Immediate Past-President, University of Technology Sydney)

Following the extraordinary circumstances related to the Coronavirus (COVID -19) outbreak and after thorough evaluation of the emergency situation globally, it's with great regret that we must postpone the 22nd Meeting of the International Association of Forensic Sciences being held in conjunction with the 25th Symposium of the Australian & New Zealand Forensic Science Society. This is not a decision taken lightly. Although Australia has taken enhanced measures for the control of the spread of COVID -19, the Organising Committee are committed to ensuring that the health and safety of all of our speakers, sponsors, exhibitors, delegates and stakeholders is prioritised above all else.

The Meeting will be held at **the same** venue, the International Convention Centre Sydney, from **Monday 17 May through to Friday 21 May 2021** (with pre-Meeting workshops to be held from Saturday 15 May).



▲ IAFS 2020 promotion booth at the American Academy of Forensic Science Annual Meeting

### What if I already registered to attend IAFS 2020?

All current registrations will be rolled over to the new dates. Those who have already registered and can attend the new dates do not need to do anything to secure their attendance for the new dates. All IAFS 2020 registration elements including the social program will be transferred over to the new dates.

### The scientific program is coming soon

The Discipline Convenors have been working extremely hard on reviewing almost 1600 abstract submissions from 67 countries to develop a truly global engaging program. Submitting authors have been notified of the outcomes and the program will be available on our website soon.

The scientific program will be carried over to the new dates, with the fantastic line-up of international and national speakers, as well as immersive social opportunities. We recognise all the hard work that so many of you have put into preparing your presentations and hope that you will join us in May 2021.

### Early Bird Registration offer has been EXTENDED until Wednesday 17 February 2021

Please stay in touch with all the developments by visiting

► <https://iafs2020.com.au/>

We thank all our sponsors, exhibitors, speakers, delegates, suppliers and the Australian Government for their unwavering support.

For any queries please contact the IAFS 2020 Meeting Manager via

► [iafs2020@arinex.com.au](mailto:iafs2020@arinex.com.au)

Please look after yourself and those around you so that we can enjoy your company in Sydney for the most memorable forensic science conference in May 2021.

Join the conversations



[facebook.com/IAFS2020/](https://facebook.com/IAFS2020/)



[@iafs2020](https://twitter.com/iafs2020)

### Welcome Hannah Jarman



ANZPAA NIFS welcomes Hannah Jarman as the newest member of the team. Hannah brings a wealth of forensic science and project management experience to ANZPAA NIFS. Hannah has degrees in Forensic Science (Molecular Biology major) and Criminology and Criminal Justice.

She also has 10 years' professional experience, working in the Queensland Health Forensic DNA Analysis Unit, with the Queensland Police Service (QPS) being the primary client. Hannah is an experienced senior DNA reporting scientist and was recently involved in a project to validate an improved new forensic DNA profiling kit for Queensland Health. At ANZPAA NIFS Hannah will take on management of a number of groups including the Biology Specialist Advisory Group. She will also play a major role in the forensic fundamentals and future cross-jurisdictional workflow mapping projects.



# The Forensic Exhibit.

## News from the forensic community

### Creating Perceptual Expertise Research Summit

**Matthew Thompson** (Murdoch University);  
**Chloe Smith** (Murdoch University);  
**Madeleine Graham** (Murdoch University);  
**Amy Cramb** (Murdoch University)

The Creating Perceptual Experts 3<sup>rd</sup> Annual Research Summit was hosted by the Australian Federal Police in Canberra. Summit attendees included representatives from Queensland, New South Wales, Victoria, Western Australia, and Australian Federal Police agencies; National Institute of Forensic Science; Department of Home Affairs; Defence Science and Technology; and the research Chief Investigators and students.

#### Research

We presented the xQ measure of fingerprint expertise, comprised of experimental tasks and trials that best discriminate experts from high performing novices. This measure was developed through extensive experimental testing and statistical analyses that enabled a four-hour test on

fingerprint tasks to be narrowed down to a 15-minute test, whilst still effectively differentiating experts and novices. We gained feedback from fingerprint experts on the potential applications of this test in the fingerprint field.

PhD students working on the Creating Perceptual Experts project received feedback from fingerprint experts on ideas for translating experimental tasks into training tools, and directions for further investigations. Research students also presented the results of a survey that asked fingerprint examiners to identify those who they thought were exceptional fingerprint examiners and describe what made them exceptional. Additionally, operational and research updates from summit attendees from their respective police and forensic agencies were shared.

#### Training Packages

Research leaders introduced the idea of a Cognitive Forensics Masterclass: a training package presented as an online course comprising independent modules covering topics relevant to forensics such as “how the mind works”, “creating expertise”, and

“contemporary issues in forensic science”. We discussed options and considerations for training content, delivery, accessibility, logistics, and so on.

The ideas and suggestions from the summit have also provided scope for initial designs of a practical training package aimed at developing perceptual skills for fingerprint examination, including hosting workshops with trainers to fine-tune the integration of training packages into existing training programs, and share knowledge from the science of learning.

**"The ideas and suggestions from the summit have also provided scope for initial designs of a practical training package aimed at developing perceptual skills for fingerprint examination..."**



▲ Brooklyn Corbett (University of Queensland) discussed expert performance on print memory tasks, examining what underlying skill is enhanced through memory training, and how we can better work with experts to train this skill.



▲ Rachel Searston (University of Adelaide) described results from the suite of tasks completed by expert fingerprint examiners and novices. Differentiating between expert and novice skills contributes to the development of the xQ measure of fingerprint expertise.



▲ Sam Robson (University of Queensland) discussed how experts and novices utilise different print features, and how we can pinpoint the most and least useful features of prints for future training.



▲ Matthew Thompson (Murdoch University) painted a broader picture of where we have been and where we are going in perceptual expertise research. He elaborated on the motivation and cognitive research behind the xQ tasks.

# The Forensic Exhibit.

## News from the forensic community

### ANZFEC 15 – February 2020

The Australia New Zealand Forensic Executive Committee (ANZFEC) met on 20 February 2020 in Melbourne. A range of strategic issues were discussed by ANZFEC members including:

- the development of a Diversity and Inclusion Leadership Strategy and Statement of Intent to be made available for sign-up by all leaders in forensic science
- the outcomes of the Process Mapping – Fingerprint Analysis project
- the ANZPAA NIFS Business Plan 2020-21
- changes to the entry criteria and award categories for the ANZPAA NIFS Best Paper Awards
- changes to the Australian Forensic Science Assessment Body (AFSAB) assessor training requirements.

Dion Shepherd, Forensic Research & Development Programme Manager, presented on recent research and development undertaken by the Institute of Environmental Science Research (ESR) in the area of intelligent automation. This presentation assisted ANZFEC members with discussions regarding how intelligent

automation can be applied in the forensic science environment.

Brenton Searle, Manager Biometrics and Forensic Business Hub, provided members with an update on the Australian Criminal Intelligence Commission's (ACIC) creation of four new business hub functions: Biometric and Forensic; Frontline Policing; Intelligence and Corporate; and National Police Checking Service.

### Nominations Open for the John Harber Phillips Award



ANZPAA NIFS created the John Harber Phillips Award (JHP Award) in 2009 to recognise the Honourable Professor John Harber Phillips AC QC's contributions to Australian law and, in particular the field of forensic sciences.

The John Harber Phillips Award is a symbol of commitment, leadership, diligence, hard work and pioneering in

forensic science. The Award recognises an individual's innovative leadership and outstanding contributions to the advancement of knowledge in the field. It is the only award in Australia and New Zealand awarded to forensic scientists that consistently strive for excellence in the profession.

The Award is peer reviewed by expert judges across the industry and carries the weight of acknowledgment by colleagues and the profession.

If you know of an exceptional colleague in forensic science in Australia or New Zealand who deserves recognition, we encourage you to nominate them for this prestigious award via:

► <http://www.anzpaa.org.au/forensic-science/our-work/awards/john-harber-phillips-award>

- **Monday 2 March 2020** – Opening date for nominations
- **Friday 12 June 2020** – Closing date for nominations
- **Friday 25 September 2020** – Award recipient announced



▲ Dion Shepherd, ESR, presenting on intelligent automation at ANZFEC 15



# The Forensic Exhibit.

## Forensic project update

### In brief:

#### Workflow Mapping for Fingerprint and Drug Analysis



##### Fingerprint Analysis

The outcomes of the Fingerprint Analysis project were presented to ANZFEC on 20 February 2020. The project has:

- provided latent and tenprint workflow maps to each ANZFEC policing agency that have identified common bottleneck points and workflow variations across agencies
- highlighted issues in the fingerprint workflows for ANZFEC review and consideration
- collated cross-jurisdictional fingerprint themes for ANZFEC review and consideration
- provided recommendations that have the potential to identify workflow efficiencies resulting in better utilisation of resources and reduced cost
- delivered a framework for the future workflow mapping of other forensic disciplines.

As a result of the significant amount of data collated and recommendations provided, ANZFEC members agreed to close the Fingerprint Analysis project so that resources could be allocated to the commencement of other workflow mapping projects.

ANZPAA NIFS would like to take this opportunity to thank all the jurisdictional

contacts involved in this project for their significant contributions.

##### Drug Analysis

Data Collection (Phase 2) of the Drug Analysis project is scheduled to proceed over the next few months. This will involve the collection of a range of data across the metrics identified in Phase 1 of the project.

#### AFSAB Overview



Australasian Forensic Science Assessment Body

##### AFSAB Enhancement Project

The Australasian Forensic Science Assessment Body (AFSAB) Enhancement project was established at the time of closing of the AFSAB Review Implementation project and is the next phase of improvements to the AFSAB framework.

This project focuses on the administrative components of AFSAB, as well as the mechanisms for delivering information and data storage. The project will see the implementation of more formalised processes for records management and auditing of AFSAB records, including five yearly recertifications. Additional assessment material will be developed across all three disciplines to supplement the already existing material, and streamlined mechanisms to providing this material to candidates and assessors will be investigated.

Collaboration and communication with the forensic community is a critical aspect of this project. Your input, ideas and feedback are welcome and appreciated.

##### AFSAB Communication and Training Presentations

Members of the ANZPAA NIFS team have recently attended a number of jurisdictions and presented on the changes to AFSAB which stemmed from the AFSAB Review Implementation project. The remaining jurisdictions will be visited in due course.

A copy of the presentation has been left with a member of staff in each jurisdiction for those assessors, trainees, trainers or experts that were unavailable at the time the presentation was provided, or for those who would like a refresher. We would recommend taking some time out to review the presentation over the coming weeks. If you have any questions regarding the changes or impacts these changes may have on you or your jurisdiction, please don't hesitate to contact us at

► [secretariat.nifs@anzpaa.org.au](mailto:secretariat.nifs@anzpaa.org.au)

##### AFSAB Recertifications

The team have been busy processing AFSAB recertifications (annual and five-yearly) for all three disciplines. Thank you to those individuals and jurisdictions who have promptly submitted their documentation for processing. A friendly reminder that all recertification applications are now overdue and should be submitted to [secretariat.nifs@anzpaa.org.au](mailto:secretariat.nifs@anzpaa.org.au) as soon as possible. Notifications of non-compliance will be submitted to ANZFEC members next month.

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## Forensic project update

### In brief:

#### Forensic Fundamentals -Phase 2

##### Overview

The aim of the Forensic Fundamentals project is to identify the underpinning science and validation requirements for forensic science disciplines. This project involves conducting a gap analysis for multiple forensic science disciplines.

These gap analyses will inform ongoing updates to the Research and Innovation Roadmap Annual Projects document.

##### Claim Assessment & Gap Analysis

Working groups map the claims made within their discipline, including claims surrounding underpinning principles and expert knowledge and interpretative ability. Literature is then assessed for each claim to determine the level of empirical support that exists (assessed in accordance with the Empirical Study Guideline available on the NIFS website at:

► <http://www.anzpaa.org.au/forensic-science/our-work/products/publications>

The assessment of firearms, fingerprints and explosives has been completed with the assistance of expert practitioners across the three disciplines. The assessment of Bloodstain Pattern Analysis, Gun Shot Residue and Toxicology is in progress.

#### Forensic Standards Development

The following ISO TC272 standards are in development:

- ISO/CD 21043:3 – Forensic Sciences – Analysis
- ISO/CD 21043:4 – Forensic Sciences – Interpretation
- ISO/CD 21043:5 – Forensic Sciences – Reporting

ISO TC272 met in Singapore on 18–22 November 2019 and discussed the standards to resolve country member comments, including those from Australia. The updated documents are currently out for country member commenting. Standards Australia committee CH041, the Australian mirror committee to TC272, met on 6–7 September 2019 to discuss the standards and submitted a number of comments on each of the standards to ISO. All other country comments have been received, however due to COVID-19, the next TC272 meeting scheduled for the end of April in Denmark, has been cancelled. Therefore, all CH041 meetings have also been cancelled until the COVID-19 situation has been resolved. Therefore, this project is currently on hold.



# The Forensic Exhibit.

## Meetings and Workshops

### Workshop Report:

#### Progressing Trace Evidence to Activity Level Interpretation and Reporting Workshop

**Date:** 25 - 27 February 2020

**Location:** Forensic Science SA,  
South Australia

**Hayley Brown**

*Manager Chemistry, Forensic Science SA*

On the 25-27 February 2020, Forensic Science SA hosted a critical issues workshop on how to progress trace evidence disciplines to activity level interpretation and reporting.

The workshop brought together representatives from a wide range of fields in order to break down and scope a pathway for progressing this long-term project. Attendees included 4 trace evidence experts from several jurisdictions across Australia and New Zealand, a forensic academic from Flinders University, 2 statisticians from Adelaide University, an artificial intelligence expert from the Australian Institute for Machine Learning, a forensic statistician from Forensic Science SA and an explosives expert from Defence Science and Technology Group.

The first day was mainly comprised of presentations designed to give all attendees the appropriate level of

background information of the current forensic and chemical criminalistics landscape in order to inform robust discussions for the rest of the workshop. These included the background and evolution of Chemical Criminalistics, current state of play nationally and internationally, the evolution of STRMix, current process of activity level reporting for glass and DNA cases, current research, and the role statistics plays.

Day two included an interesting presentation on machine learning approaches, consideration for what the activity level questions are for each evidence type and the pros and cons of an all-encompassing model. The remainder of the workshop was spent identifying all requirements for an appropriate model and framework and developing a plan to progress over a number of years. It is hoped a statistics PhD student will be able to be identified at the beginning of 2021 and develop an all-encompassing model using Bayesian networks which can eventually be used to deliver activity level reporting for all evidence types. It is also hoped the outcomes of this workshop can be presented at the IAFS/ANZFSS Conference in Sydney 2021.

It is hoped a statistics PhD student will be able to be identified at the beginning of 2021 and develop an all-encompassing model using Bayesian networks.

# The Forensic Exhibit.

## Events Calendar

### 2020

#### SEPTEMBER

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##### **ISHI: International Symposium on Human Identification**

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14-17 September 2020  
San Antonio, Texas

► <https://www.ishinews.com/>

#### NOVEMBER

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##### **58th Annual Meeting of The International Association of Forensic Toxicologists (TIAFT) Meeting**

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1-6 November 2020  
Cape Town, South Africa

► <http://www.tiaft.org/tiaft-agenda.html>

### 2021

#### MAY

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##### **22nd Triennial Meeting of the International Association of Forensic Sciences (IAFS) in conjunction with the 25th Symposium of the Australian and New Zealand Forensic Science Society**

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17-21 May 2021  
Sydney, Australia

► <https://iafs2020.com.au/>

#### AUGUST

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##### **9th European Academy of Forensic Science Conference (EAFS)**

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20 August – 3 September 2021  
Stockholm, Sweden

##### **29th Congress of the International Society for Forensic Genetics (ISFG)**

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23-28 August 2021  
Washington, DC

► <http://www.isfg2021.org>



# The Forensic Exhibit.

## Next edition focus

### In the next issue:

- Updates from meetings of the ANZPAA NIFS Specialist Advisory Groups

### More information:

#### Newsletter contributions

If you would like any further information on ANZPAA NIFS or would like to contribute to the next edition of *The Forensic Exhibit* please contact Tracie Gould: [tracie.gould@anzpaa.org.au](mailto:tracie.gould@anzpaa.org.au)

#### Contact us

Level 6, Tower 3  
World Trade Centre  
637 Flinders Street,  
Docklands Victoria 3008

T: +61 3 9628 7211

F: +61 3 9628 7253

[secretariat.nifs@anzpaa.org.au](mailto:secretariat.nifs@anzpaa.org.au)

[www.nifs.org.au](http://www.nifs.org.au)



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