



Centre for Forensic Science Newsletter December 2018

From the Director's Desk:

Dear Centre's Members, Associates, Colleagues and Friends,

We reached 'that time of the year' and it seems a surprise again. This is a sign that we had a busy and successful year in 2018. Despite the challenges, we continue to excel in all areas of research teaching and outreach. While the newsletter focuses on individual achievements, it is obvious that the centre strength is greater than the sum of its parts.

We implemented the second year of our revamped Bachelor of Forensic Science and planned for our new Master of Forensic Science set to start in 2019. Students and industry feedback has been very positive. Our improved transversal approach in teaching will go a long way to educate tomorrow's scientists our discipline needs. This is recognised by future students: in terms of recent school leavers' demand, our Bachelor is the eighth most popular degree across the whole University (out of 514 programs with 45,930 students in total).

With more than 70 peer-reviewed publications in 2018, our research output is more productive than ever and our research earnings remain strong. CFS members made significant contributions to a number of international conferences and expert working groups in Australia and overseas, including winning the Award for Best Poster at the European Academy of Forensic Sciences meeting in August in Lyon and many more awards at the Australian & New Zealand Forensic Science Society symposium in September in Perth.

Our CFS+ Strategic Plan presents a clear forensic science philosophy and inform our directions for 2017-2020. An example of implementation in 2018 was the event organised in collaboration with the Advanced Analytics Institute (AAI) and entitled "Sherlock Holmes in Smart Society Summit – Challenges and Opportunities of Digital Transformation for Forensic Investigations and Intelligence". The day was a great success, for the first time combining researchers with operational leaders, public policy experts, police, laboratory and field scientists, data and computer scientists. More broadly,

ANZPAA National Institute of Forensic Science Australia and New Zealand recently published their Research and Innovation Roadmap, including their priority projects for 2019. Many of our themes align well with these priorities and CFS is well equipped to address many of the research priorities of the Australian and New Zealand forensic science community.

2018 also saw the organisation of IAFS 2020, the 22nd Triennial Meeting of the International Association of Forensic Sciences held in conjunction with the 25th Symposium of the Australian & New Zealand Forensic Science Society gearing up. This makes our region the centre of gravity for forensic science and medicine until 2020. This also allows unique collaborations from around the world and grow our capacity to build opportunities for the Asia-Pacific region and beyond.

I look forward to coming back in 2019 for another busy year ahead, as we will continue to expand, providing even more opportunities to collaborate and work with us. Next year, we will have a strong presence at many conferences and meetings around the world, including at the meeting of the American Academy of Forensic Sciences, The International Association of Forensic Toxicologists (TIAFT) meeting - UK, the International Fingerprint Research Group meeting (IFRG) - UK, interFORENSICS 2019 – Brazil and the 10th International Conference on Forensic Medicine and Sciences (AUFT 2019 – Egypt).

It has been a privilege to lead such a talented and committed team in 2018. Everyone went above and beyond in a challenging year that was punctuated by change. Congratulations on all your achievements! I also thank all our partners and collaborators in Australia and overseas. Finally I wish everyone a safe and happy festive season and a healthy and successful year in 2019.

Distinguished Professor Claude Roux

Research Spotlight: Dilan Seckiner – Forensic gait analysis: morphometric body assessment with associated CCTV image quantification



The worldwide presence of surveillance cameras has become an important tool, often referred to as ‘the silent witness’, allowing continuous monitoring of an area where footage can be obtained for later use, if a criminal or other act of interest

PhD candidate Dilan Seckiner occurs. Subsequently, a forensic practitioner, or expert can be required to analyse the footage, providing a photo-comparative analysis of persons of interest (POI). The examination contains both activity and source level assessments to evaluate the strength of evidence. Therefore, it is suggested that camera artefacts/distortions are assessed first, followed by the POI in gait - as facial analysis is not always possible (i.e. obstruction of the face).

The aim of this research was to produce a standardised method for morphometric body and gait analysis that incorporates the quantification of image distortion and to determine distinct features of the body during gait (stance, walk, run). As a result of this research, a standardised protocol was developed, and population databases established from which frequency statistics were obtained. Furthermore, features were observed as either common or distinct once compared to all age, race and sex categories for correlation determination. Additionally, influences that impact upon gait, such as footwear and load carriage was also analysed in the form of case studies.

Forensic gait analysis as a forensic tool is often poorly validated or subjective. However, this does not mean it

analysis that offers valuable information to the criminal justice system whilst being scientifically robust and highlighting its limitations.

Research Spotlight: Romain Steiner – Inkjet printing of artificial latent fingerprints for improved quality assurance and research efficiency



The aim of the project is to find a way to create artificial fingerprints with a known composition in a reproducible way. In current research regarding fingerprints, issues regarding variability are never

PhD candidate Romain Steiner tackled in their totality. Only a few variables are taken into account at the same time, regarding either the physical parameters or the chemical composition of fingerprints. My research will tackle the variability issue as a whole by taking into account physical parameters and chemical composition at the same time.

The first objective of this project is to design a synthetic fingerprint secretion formulation (or simulant) that mimics a real fingerprint residue. The ideal simulant would be the one that can be used to test the whole range of commonly used detection techniques while remaining realistic in its formulation complexity. It should also react in a comparable manner to a real fingerprint when exposed to similar conditions, this includes similar aging properties. If an ideal fingerprint simulant is to be found, its aging properties should be similar to those of a real fingerprint, thus it is important to know how latent ridge skin deposits age over time. Tests will be undertaken to find the simulant that fits the best all of those conditions.

The second objective of the work will be to study and optimise the best way to apply the synthetic secretion



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onto a substrate. Previous studies have demonstrated clear advantages to deposit the artificial material through inkjet printing. Further tests have to be undertaken to further compare different deposition methods, including some that have never been studied in the literature. A large sample set comprising different porous and nonporous substrates will be used to determine the deposition technique that works reproducibly on most of those surfaces and that is compatible with the simulant properties designed during the first step of the work.

Once the best combination of artificial fingerprint secretion and application technique is found, different applications can be explored. The first one is the design of test strips that can be printed and used to assess the efficiency of a fingerprint detection solution.

Another aspect to be investigated is the use of this simulant to produce proficiency tests. In this case, artificial fingerprints are deposited on a substrate in a random disposition and at different intensities based on the dilution of the simulant. These substrates are then sent to volunteer laboratories that must apply their traditional detection sequence on the substrate. Depending on the number of fingerprints detected, the designer of the test can evaluate the efficiency of the chosen reagent formulations as well as the detection sequence. For such tests to be implemented, the artificial solution must be deposited on the larger possible range of different substrates.

The final outcome of this research will lead to the evaluation of the benefits of artificial fingerprints in research. The purpose of this study is not to revolutionise the whole fingerprint detection process but to make research less time- and labour-intensive.

Congratulations Shanlin!

- Congratulations to Shanlin Fu on his well-deserved promotion to Professor! This promotion recognises Shanlin's strong achievements and contribution to UTS, CFS and forensic science. Well done Shanlin!...sorry, Prof. Fu!

More Congratulations

- Congratulations to Victoria Lau, Matthew Saunders and co-authors, who won Best poster at the EAFS Conference in Lyon for: *Revisiting the Fundamentals of Transfer and Persistence to Improve the Evaluation of Forensic Evidence*
- Congratulations to CFS winners Vitor Taranto, Dr Maiken Ueland, Natasha benson and Nicole Cattarossi for being awarded the best oral and/or best poster presentations at ANZFSS 2018 in Perth
- Dr Morgan Philp for her PhD degree conferral on 'The development of novel optical screening tests for the presumptive identification of New Psychoactive Substances (NPS) in seized illicit materials'
- Congratulations to Shanlin Fu on his successful Grant application on the 31 August 2018, for a portable system for detection of drugs of abuse in healthcare applications. Global Connections Fund Bridging Grant (\$50,000), Australian Academy of Technology and Engineering (ATSE)
- Shanlin Fu, Joshua Klingberg, Ronald Shimmon on their successful grant awarded on the 26 November 2018, for Rapid colour test method for screening illicit fentanyl analogues. UTS Innovation Commercialisation Seed Fund (iCSF, \$21,000).
- Congratulations to Harmonie Michelot and Mathieu Maitre who both submitted their PhD thesis for review
- Congratulations to Dr Rolanda Lam, Dr Morgan Phil and Dr LaTara Rust on completing their Doctoral degree and graduating
- Congratulations to Dr Scott Chadwick for receiving a Highly Commended Oral Presentation at the Faculty of Science Transdisciplinary ECR Retreat



The 22nd Triennial Meeting of the International Association of Forensic Sciences, in conjunction with the 25th Symposium of the Australian & New Zealand Forensic Science Society is fast approaching on the 21-25 September 2020. The Organising Committee, along with the Advisory Committee and the forensic community in Australia, New Zealand and beyond are working hard to propose a memorable event including workshops, site visits, plenary, keynote, oral and poster presentations.

The theme of IAFS 2020 will be 'Forensic Science 2020 – Where to from here?' where the program will strategically cover the critical issues to identify possible solutions to stronger and more reliable forensic science and medicine in the future. International forensic capacity building and humanitarian forensic science and medicine will also be the focus of the conference. To stay informed about this once in a lifetime event, follow:

www.iafs2020.com.au; and

www.facebook.com/IAFS2020/



Organising Committee at work (left to right: Profs. Claude Roux, James Wallman, Chris Lennard, Adrian Linacre and Tony Raymond – Missing Prof. Rebecca Johnson, on the phone!)



IAFS Presidents at ANZFSS 2018 in Perth - Profs Heesun Chung (2011-2014) and Claude Roux (2017-2020)

Memorial Service

On 12th November, the Surgical and Anatomical Sciences Facility (SASF) and the Australian Facility for Taphonomic Experimental Research (AFTER) opened a memorial garden monument at Rookwood cemetery to honour and thank the families of those who had donated their body to science. The Dean of Science, Professor Bill Gladstone, Vice- Chancellor, Professor Attila Brungs, and Acting Director Dr Maiken Ueland thanked the families for the generosity and thoughtfulness of every donor at UTS and the tremendous impact they have on science and teaching our students.



Memorial Monument at Rookwood Cemetery Garden

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CFS Featured at the International Congress of Mathematicians (ICM)

By Dr Marie Morelato

The School of Mathematical and Physical Sciences was one of the 15 departments around the world that was selected by the ICM for a 6 minute video to be featured at the conference, and later on their web page. The video was recorded in July 2018 and featured Dr Simone Gittleson and Dr Marie Morelato from the Centre for Forensic Science. The video can be found here: <https://www.youtube.com/watch?v=yjQQQMkPKro&feature=youtu.be>.

In the News

The Crimes are Changin'...

Dr Marie Morelato, Dr. Xanthe Spindler and Prof. Claude Roux are featured in a UTS Newsroom article entitled "The crimes are a changin'", written by Hannah Jenkins which can be found at:

http://newsroom.uts.edu.au/news/2018/06/crimes-are-changin?utm_source=crimes_gk5&utm_medium=gk&utm_campaign=crimes_may18

Indigeneity and DNA ancestry tests

Prof Dennis McNevin and A/Prof Peter Gunn discuss their opinions on DNA ancestry tests where their interview appeared on the Saturday paper and ABC online:

- <https://www.thesaturdaypaper.com.au/news/indigenous-affairs/2018/10/20/indigeneity-and-dna-ancestry-tests/15399540007021>
- <https://www.abc.net.au/news/science/2018-10-12/genealogy-forensics-dna-long-range-familial-searches-identity/10363550>

FoSTER – 16th November 2018

By Dr Marie Morelato

FoSTER 2018, organised by the Science Post Doc Association was held on the 16th of November at UTS. The program included a diversity of talks from early and mid-career researchers from the faculty of science. Five early career researchers from CFS presented, namely Dr Fehmida Kanodarwala, Dr Scott Chadwick, Dr Ronnie Ng, Dr Marie Morelato and Dr Simone Gittleson. Dr Scott Chadwick received the highly commended award for best presentation.



Left to right: Drs Marie Morelato, Scott Chadwick, Fehmida Kanodarwala and Simone Gittleson



Dr Scott Chadwick awarded the Highly Commended Oral Presentation

Sherlock Holmes in Smart Society Summit – 15th November 2018

By Dr Marie Morelato

The Centre for Forensic Science and the Advanced Analytics Institute (AAI) jointly organised a workshop entitled “Sherlock Holmes in Smart Society Summit – Challenges and Opportunities of Digital Transformation for Forensic Investigations and Intelligence”. Three keynote speakers were invited to present in the morning session. The day started with a keynote speech from Dr Simon Walsh (National Manager Specialist Operations, Australian Federal Police) who discussed the challenges and opportunities of globalisation, technological advancement and new encryption capabilities on the AFP environment. Dr Benjamin Turnbull (Senior Lecturer, Cyber Security, USNW Canberra Cyber), the second keynote speaker, discussed the challenges related to the acquisition, storage and use of the large volume of data that we currently face. He also discussed the opportunities to use artificial intelligence (in particular machine learning, modelling and simulation) to help and complement humans deal with this large quantity of data. Finally, Hon Terry Aulich (Head of Privacy Expert Group, Biometrics Institute) talked about the political, privacy and humanitarian challenges related to the proliferation of data. He also discussed the role of the biometrics institute in providing international expert committees, guidance and training to governments. A small group of people were invited to participate to the afternoon session. The aim was to work in groups of 5-6 and discuss possible research collaboration between CFS, AAI and industry partners (e.g. law enforcement agencies). The afternoon started with a presentation from Dr Marie Morelato (from CFS) and Dr Tomasz Maszczyk (from AAI). This presentation highlighted the opportunities of an inter-disciplinary approach to solve complex issues, such as the illicit drug problem.

A number of collaborative projects have been identified and it is hoped to repeat this summit in 2019.



From left to right: Prof Claude Roux, Hon Terry Aulich, Prof Bogdan Gabrys, Dr Benjamin Turnbull, and Dr Simon Walsh



Presentation by Dr Marie Morelato

In the News

ABC Radio - With a trace: how forensic science helps piece together the truth

Thrilling media depictions of forensic science like Trace or CSI give the impression it's an infallible and straightforward method of catching criminals. Just how true is that? UTS Centre for Forensic Science's founding director Professor Claude Roux, Professor of Forensic Science and Flinders University Chair in Forensic DNA Technology Professor Adrian Linacre put the history and application of forensic science under the microscope:

- <https://www.abc.net.au/radio/programs/nightlife/with-a-trace-how-forensic-science-helps-piece-together-the-truth/10587606>



Genetic Ancestry Lab

By Prof Dennis McNevin

DNA profiling has revolutionised forensic science to the point that it has been referred to as the “gold standard” of forensic evidence. Matching a full short tandem repeat (STR) profile generated from DNA recovered from a crime scene to a suspect or database record provides very strong evidence linking a person of interest to that crime. But what happens when there is no match? Until recently, the DNA in this situation would have no further utility until a suspect was identified by some other means. We can now obtain investigative information from that DNA including the donor’s biogeographical ancestry (BGA) and externally visible characteristics (EVCs). This can help to narrow a pool of suspects and/or focus valuable police resources in the form of investigative leads.

The Genetic Ancestry Lab (GAL) is a collaborative venture between the University of Canberra (UC: Faculty of Science & Technology) and the University of Technology Sydney (UTS: Centre for Forensic Science in the Faculty of Science and School of Biomedical Engineering in the Faculty of Engineering & Information Technology). It offers a boutique forensic genetic service to police and forensic investigators in Australia and the region. In the absence of a STR profile match, DNA can be sent to the GAL for BGA and EVC inference. The GAL employs massively parallel sequencing (MPS), otherwise known as next generation sequencing (NGS), to genotype genetic targets known to be informative for ancestry and pigmentation related traits including eye and hair colour. It draws upon the world-leading expertise of the forensic biology research program in the Centre for Forensic Science (see references below).

The front end of the GAL work flow is performed at UC where samples are received and DNA is quantified. At UTS, the GAL is located in the School of Biomedical

Engineering (Building 11, Level 8) which contains the two work horses of the process: The Ion Chef™ automated DNA library and template preparation system and Ion GeneStudio™ S5 sequencer (both Thermo Fisher Scientific). The genetic targets for ancestry inference are defined by the Precision ID Ancestry Panel (Thermo Fisher Scientific) consisting of 165 single nucleotide polymorphisms (SNPs) which differentiate between African, European, South West Asian, South Asian, East Asian, Oceanian and American ancestries. The targets for eye and hair colour are defined by the Ion Ampliseq™ DNA Phenotyping Panel (Thermo Fisher Scientific) consisting of 23 SNPs and one insertion/deletion (indel) from the HirisPlex system. A combination of vendor supplied software and bespoke algorithms developed by researchers at the Centre for Forensic Science are used to make the link from genotype to ancestry and phenotype.

The aim is to continually add to our panels of genetic targets in order to provide a dynamic service which is responsive to the latest research in forensic genetics, both within the Centre for Forensic Science and beyond. For example, current research in the Centre for Forensic Science on the genetic determinants of cranio-facial morphology may one day allow the GAL to produce facial metrics which can be used to identify people from CCTV. As such, the GAL will provide a pipeline for Honours and Higher Degree by Research (HDR) projects with close links to forensic practitioners and police investigators. It is an exciting venture that positions UTS at the forefront of forensic genetics internationally.

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- Cheung, Gahan & McNevin (2018) Predictive DNA analysis for biogeographical ancestry. *Australian Journal of Forensic Sciences* 50 (6): 651-658
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Al-Asfi, McNevin, Mehta, Power, Gahan & Daniel (2018) Assessment of the Precision ID Ancestry Panel. *International Journal of Legal Medicine* 132(6): 1581-1594.

7th Doctoral School of the École des Sciences Criminelles (ESC) 10 – 13th September, 2018

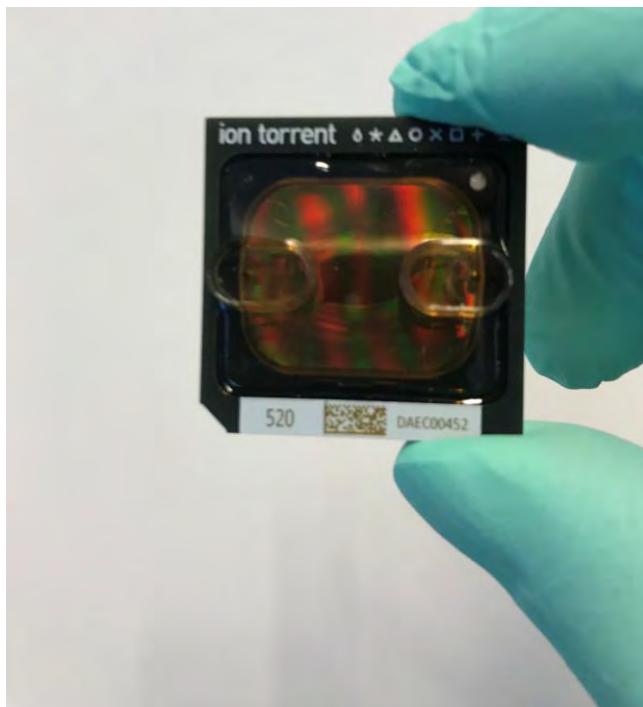
By Samara Garrett-Rickman

Every year CFS sends two students to a summer school organised by the Ecole de Sciences Criminelles, University of Lausanne. This year our two CFS representatives were Samara Garrett-Rickman and Victoria Lau, who travelled to Saignelegier, Switzerland from 9th September – 13th September.

The doctoral school covers both forensic science and criminology, with a range of guest speakers from institutions all over the world. This year’s speakers covered topics surrounding: the current landscape of digital forensics and the future of this field, understanding open access journals and copyright laws, and what true definition of forensic science is and what this entails for forensic science practitioners. Our students were also given the opportunity to present to all attendees on their respective PhD topics, as well as partaking in some fun activities, including a cheese factory, a brewery, and mushroom hunting.



The Ion Chef™ (right) and Ion GeneStudio™ S5 (left) instruments are the work horses of the GAL



DNA sequencing in the GAL is performed on this semiconductor chip. It can sequence from 3 to 6 million DNA fragments simultaneously.



UTS Students Victoria Lau (second from left) and Samara Garrett-Rickman (third from right) at the ESC Doctoral School.

Out and About

Australasian Society of Forensic Document Examiners Annual Scientific Meeting 22nd – 25th May, Canberra, Australia

Dr Simone Gittelson was an invited speaker at the Australasian Society of Forensic Document Examiners Annual Scientific Meeting and also delivered a plenary talk on ‘changing the mindset of evidence interpretation: How to move from worded posterior probabilities to worded likelihood ratios, how to understand it and how to explain it to others’.

EAFS 2018 Conference 27th-31st August, 2018, Lyon, France

Both poster and oral presentations were delivered by members of our CFS at the 8th European Academy of Forensic Sciences 2018 conference which was themed ‘The Forensic Odyssey’.



CFS at the EAFS conference 2018

Out and About

56th TIAFT meeting 26th – 30th August 2018, Ghent, Belgium

Poster presentations were presented by Daniel Pasin, Huey Sze Leong and Ahmad Y Mohd Yusop. Additionally, an Oral presentation was delivered by Shimpei Watanabe on ‘Elucidation of metabolite structures of synthetic cannabinoid UR-144 by nuclear magnetic resonance (NMR) spectroscopy after fungal metabolism by *Cunninghamella elegans*’. Shimpei also won the Young Scientist Award for Best Oral Presentation.

ANZFSS 2018 Symposium, 9-13 September 2018, Perth, Australia

The ANZFSS 24th International Symposium on the Forensic Sciences, themed ‘without borders’ was held in Perth, Western Australia from the 9th – 13th of September. There was a strong attendance from members of our CFS who delivered both oral and poster presentations. Congratulations to our CFS winners Vitor Taranto, Dr Maiken Ueland, Natasha benson and Nicole Cattarossi for being awarded the best oral and/or best poster presentations!



CFS winners Vitor Taranto, Dr Maiken Ueland, Natasha benson and Nicole Cattarossi with CFS Director Prof Claude Roux



Farewell to A/Prof. Peter Gunn and Dr Mackenzie de la Hunty

We are sad to see Peter and Mac leaving UTS.

Peter has been associated with UTS since 2005, first as Honorary and casual academic to assist with the development of forensic biology and then in a continuing full time position as Course Coordinator for the forensic biology program. Peter retired from his continuing position in January but continued in a part-time capacity in 2018 to see his research students through and also assist with the transition. Often known as “The DNA bloke”, Peter played a leading role in the development of forensic biology at UTS and inspired a large number of students and colleagues. His practical experience and his ability to communicate his passion for forensic biology in lay terms are second to none. We are grateful for Peter’s commitment to UTS and to forensic science. We wish him an active and exciting retirement for many years to come. The UTS door will always remain open should he wish to continue to share his forensic experience with future generations.

Mackenzie started in a continuing full time academic as a Scholarly Teaching Fellow in 2017 upon completion of her undergraduate and PhD studies in forensic science at UTS and after being a casual academic since 2013. In a very short period of time, she re-energised many areas of forensic science and chemistry, including first year large classes and the Chemistry Honours program. Mackenzie won a highly commended for Casual Teaching in 2015 at the UTS Teaching and Learning Awards. Her dynamism, positive outlook and legendary smile have impacted almost everyone in the School and beyond. We wish her all the best in her future career, which we are sure will keep a link with UTS.



Peter and Mackenzie’s farewell

Forensic Science Honours 2018

Congratulations to the 2018 Forensic Science Honours cohort who displayed fantastic work this past year. The presentations were held in October.

A wide range of topics were covered. We thank all our industry partners for their ongoing support.

Completed Honours Projects in 2018

Control point selection for analysis and height measurement from CCTV images <i>Bachelor of Forensic Science (Honours) in Applied Chemistry</i> Supervisors: Philip Maynard, Dilan Seckiner & Domenic Raneri Industry partner: Forensic Services Group, NSW Police	Angela Savva
Using postmortem computed tomography (PMCT) of individuals of known age to test the Suchey-Brooks method of ageing <i>Bachelor of Forensic Science (Honours) in Applied Chemistry</i> Supervisors: Shari Forbes & Soren Blau Industry partner: Victorian Institute of Forensic Medicine	Felicity Hall
How accurate are 3D-printed reconstructions of the pubic symphysis when determining the age of a deceased individual? <i>Master of Science (Honours) in Forensic Science</i> Supervisors: Maiken Ueland & Manisha Dayal Academic partner: Western Sydney University	Chloe Hagivassiliou
Profiling the seasonal variability of decomposition odour from human remains <i>Bachelor of Forensic Science (Honours) in Applied Chemistry</i> Supervisors: Shari Forbes & Maiken Ueland	Alisha Deo
Evaluation of Y chromosomal DNA and its ability to determine ancestry for means of forensic intelligence <i>Bachelor of Forensic Science (Honours) in Applied Chemistry</i> Supervisors: Peter Gunn, Dennis McNevin, Mark Barash & Samara Garrett-Rickmann	Aaron Beattie
In situ detection of drugs of abuse impregnated into plastic matrices for drug trafficking purposes <i>Bachelor of Forensic Science (Honours) in Applied Chemistry</i> Supervisors: Shanlin Fu, Linda Xiao & Mark Tahtouh Industry partner: Australian Federal Police	Jason Day
LC-HRMS profiling of equine plasma for improved anti-doping <i>Bachelor of Forensic Science (Honours) in Applied Chemistry</i> Supervisors: Shanlin Fu, Adam Cawley, James Pyke & Chris Fouracre Industry partners: Racing NSW & Agilent Technologies	Bethany Keen
Comparison and validation of extraction methods for screening and identification of synthetic cannabinoids in blood by UPLC-QTOF-MS <i>Bachelor of Forensic Science (Honours) in Applied Chemistry</i> Supervisors: Shanlin Fu & Sergei Bidney Industry partner: NSW Forensic & Analytical Science Service	Rebecca Vogel
Evaluation of activated carbon cloth as an extraction medium <i>Bachelor of Forensic Science (Honours) in Applied Chemistry</i> Supervisors: Mackenzie de la Hunty, Verena Taudte & Alexander Visotin Industry partner: GKA Investigations Group: Fire Investigation Services	Lisa Hocking

Degradation of duct tape under different environmental conditions
Bachelor of Forensic Science (Honours) in Applied Chemistry
Supervisors: Scott Chadwick & Joanna Bunford
Industry partner: NSW Forensic & Analytical Science Service

Anthony Do

The effect of fingerprint chemicals on the chemical analysis and comparison of duct and cloth tapes
Bachelor of Forensic Science (Honours) in Applied Chemistry
Supervisors: Scott Chadwick, Claude Roux & Joanna Bunford
Industry partner: NSW Forensic & Analytical Science Service

Mitchell Lo

Comparison of near-infrared powders for latent fingerprint detection
Bachelor of Forensic Science (Honours) in Applied Chemistry
Supervisors: Scott Chadwick & Sebastien Moret

Kim Futter

What is the best sequence for detecting latent fingerprints on body wrappings?
Bachelor of Forensic Science (Honours) in Applied Chemistry
Supervisors: Xanthe Spindler, Maiken Ueland & Sebastien Moret

Jessica Knight

Break

Modelling the persistence and transfer of trace evidence: glass fragments on damp clothing
Bachelor of Forensic Science (Honours) in Applied Chemistry
Supervisors: Claude Roux, Xanthe Spindler & Simone Gittelson

Matthew Saunders

Survey of the coatings on tools and implements available in the Sydney region, Australia as an aid to interpretation of forensic paint analyses
Master of Science (Honours) in Forensic Science
Supervisors: Philip Maynard, Claude Roux & Joanna Bunford
Industry partner: NSW Forensic & Analytical Science Service

Laisalyn Mua

Survey of graffiti paint in the Sydney region, Australia as an aid to interpretation of forensic paint analyses
Bachelor of Forensic Science (Honours) in Applied Chemistry
Supervisors: Claude Roux, Philip Maynard & Joanna Bunford
Industry partner: NSW Forensic & Analytical Science Service

Tien Tran



Forensic Science Honours Class of 2018

Twitter Page and CFS Website

Make sure you follow us on Twitter: **@CFS_UTS** for the latest updates about upcoming events and information!

Also make sure to check out our website: www.forensics.uts.edu.au that has been recently upgraded!

Publications

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