Ministry of Justice

AFRICAN SOCIETY OF FORENSIC MEDECINE

The ASFM– a Pan African Society for Forensic Medicine & Science

10th African Society of Forensic Medicine International Conference

ABSTRACTS BOOKLET

"Harmonization of Evidence-Based Forensic Science Practice in Africa A Holistic Approach Towards a Safer Continent"

10th ASFM KIGALI 2023

7TH » 10TH MARCH 2023
KIGALI-RWANDA

Hosted by
RWANDA FORENSIC LABORATORY

General Information

Venue:
Marriot Hotel
Nyarugenge District. Kigali - Rwanda

Date:
March, 7th - 10th 2023

Organizing Institutions:

RFL

AFRICAN SOCIETY OF FORENSIC MEDECINE
The ASFM- a Pan African Society for Forensic Medicine & Science

Special appreciation to the following institutions/companies for supporting us:

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- PANAFRICAN NETWORK
- ICRC
- INGUFU GIN
- FORENSIC FOUNDATIONS INTERNATIONAL

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Words of Welcome

Dr Uwom Eze
ASFM President

It will be exactly twelve years after the African Network of Forensic Medicine (ANFM) in Windhoek, Namibia (2011) transmuted into the African Society of Forensic Medicine (ASFM) in Kampala, Uganda (2012), that African practitioners of forensic medicine and science, friends, partners, and other stakeholders from within Africa and the world will be gathering in the "land of a thousand hills", the beautiful country of Rwanda, for the 10th Annual International Forensic Conference of the Society tagged ASFM Kigali 2023.

Rwanda will be hosting Africa Forensics for the first time, and we are excited about the prospect of the theme: Harmonization of Evidence-Based Forensic Science Practice in Africa - A Holistic Approach Towards a Safer Continent.

The theme reflects the important role of forensic science in promoting justice, safety, peace, and freedom in Africa and beyond. It is an important occasion for Africa as it responds to the need for improvement in justice service delivery across countries on the continent. Evidence-based forensic modalities in a multidisciplinary approach across relevant sectors and institutions will anchor a transparent, trusted, and sustainable mechanism for addressing challenges in society that are amenable to appropriate forensic tools and practices.

We look forward to welcoming hundreds of forensic science practitioners, partners and stakeholders from Africa and around the world. Hence, I encourage you to register as soon as possible and book your place at a memorable assembly in the aftermath of the COVID-19 pandemic global lockdown.

Welcome to ASFM Kigali 2023.

Welcome to Rwanda!

Dr. Charles Karangwa
Lt Col
RFL Director General

Dear speakers, participants, partners and stakeholders,

I am honored to welcome you to the beautiful country of Rwanda.

RFL is excited to have you all in ASFM2023 International Conference, an important conference to the continent as it responds to the need to harmonize forensic science practice in Africa. The same rationale led to the creation of African Forensic Sciences Academy. We are happy to receive so many scientists and forensic science practitioners from Africa and around the worldthey are Forensic Pathologists, Anthropologists, Psychologists, Medical Doctors, Students, Crime Scene Investigators, Judicial Service Personnel, Disaster Management Officials, Humanitarian Organizations, Researchers and others.

Rwanda is one of the leading players in the MICE industry. You will experience hospitality. security, and affordable facilities that will be a memorable adventure.

Welcome to Kigali, Rwanda.

Welcome to ASFM2023.

Special Events

AFSA Launch: 7th March 2023, 12:00 – 13:00

African Forensic Sciences Academy (AFSA): an emerging movement for Africa

Antonel Olckers

DNAbiotec (Pty) Ltd

Mehdi Ben Khelil

University of Tunis El Manar

Forensic science services are offered across Africa, yet remain discrepant from country to country and across the fields. Several Societies and Associations exist but none covers all Forensic Science fields.

The African Forensic Sciences Academy (AFSA) was founded in December 2022 by representatives of different professional areas. Its primary purpose is to serve as the first network for forensic science practitioners, in all fields of forensic science across the African continent. At its core are the values of excellence, transparency, integrity & ethical practice, independence & impartiality, and Inclusion, diversity, and equality. These are not mere aspirational statements but form the foundation on which the entire structure and operations of AFSA rest.

AFSA strives to support practitioners in creating opportunities among the continent specific challenges encountered in Africa. It aims to build a culture of quality and excellence aiming in fine to enhance justice and humanitarian efforts in Africa. The absence of a collegial and united structure in place prior to AFSA that can be the voice of Forensic Sciences professionals and students, can easily be seen as something other than the opportunity it is.

The founding meeting benchmarked with previous experiences of national and international academies and the lessons they learned over time. Best practice and global practice guided the deliberations and decisions. To this end the Sydney Declaration was one of the reference documents adopted by AFSA. Contextualization was also key to dreaming big but remaining close to the context of Africa, with the expansion of the traditional OSAC classification for forensic science fields, being one of the examples.

An Interim Executive was elected to set up the structure of AFSA and will serve until the full formal Board of AFSA is elected by its members. AFSA developed constitutional documents, identified membership categories, and legally registered with its headquarters in, Rwanda and the Rwanda Forensic Laboratory as its hosting agency.

AFSA is now able to unite the efforts of Africans or those who support forensic sciences in Africa to start delivering its scientific programs. AFSA is envisaged to be a strong African forensic sciences network to enhance and continuously support Forensic Sciences in Africa and around the World.

Seminar with Prof Bruce Budowle: 8th March 2023, 09:00 – 10:00

Emerging Forensic Challenges: Human Identification and Informed Consent

Dr. Bruce Budowle received a PhD in Genetics in 1979 from Virginia Polytechnic Institute and State University. From 1979-1982, Dr. Budowle was a postdoctoral fellow at the University of Alabama at Birmingham.

Working under a National Cancer Institute fellowship, he carried out research predominately on genetic risk factors for such diseases as insulin dependent diabetes mellitus, melanoma, and acute lymphocytic leukemia.

In 1983, Dr. Budowle joined the research unit at the FBI Laboratory Division to carry out research, development, and validation of methods for forensic biological analyses. The positions he has held at the FBI include: research chemist, program manager for DNA research, Chief of the Forensic Science Research Unit, and the Senior Scientist for the Laboratory Division of the FBI. In 2009 Dr. Budowle became Executive Director of the Institute of Applied Genetics and Professor at the University of North Texas Health Science Center at Fort Worth, Texas. He currently directs the Center for Human Identification. His research efforts focus on the areas of human forensic identification, microbial forensics, emerging infectious disease, molecular biology technologies, and pharmacogenetics.

Source: https://www.biotechniques.com/expert-panel/bruce-budowle/

Symposium du centre universitaire romand de médecine légale (CURML): 8th March 2023, 14:00 – 16:00

Interactions entre la justice et la médecine légale. Exemple de la Suisse.

Moderator: Dr Ghislain Patrick Lessène

Avec les Interventions orales de:

- Professeure Silke Grabherr, Directrice du CURML:
  point de vue du médecin légiste
- Colonel Alain Bergonzoli, Directeur de l'Académie de police de Savatan:
  point de vue du policier
- M. Bernard Dénéréaz, 1er Procureur, Ministère public de l'Arrondissement de Lausanne:
  point de vue du Procureur
- Professeur Yvan Jeanneret, Avocat, Faculté de droit de l'Université de Genève:
  point de vue de l'Avocat

QIAGEN Presentation 9th March 2023, 14:20 – 14:45

From Crime Scene to Closure - QIAGEN's Comprehensive Sample to Insight workflow for HID and Forensics

Laurent Moncomble

Senior Market Development Manager HID & Forensics at QIAGEN

QIAGEN supports global customers who aim to make an impact in HID and Forensics.
Our comprehensive portfolio for sample collection, DNA extraction, quantification, STR assays and NGS is bolstered by a wide range of automation and service solutions, supporting our customers from crime scene to courtroom.

Lodox Mini Symposium
9th March 2023, 14:45 – 15:30

The objective of this symposium is to present the Lodox slit scanning radiology systems as a non-invasive examination for modern forensic practices. Lodox's high quality images can objectively complete a non-destructive gathering of findings from head to toe, providing intuitive and powerful forensic evidence to assist the pathologists in the cause of death determination.
Rapid and complete data acquisition and digital records assist in research and medico – legal cases.

Post Mortem Radiological Imaging (full body x-ray scanning) – The Pretoria Medico-Legal Laboratory (MLL) Experience.

Seduma Suzan Mabotja
Pretoria FPS, Gauteng Department of Health, Republic of South Africa
Email: susan.mabotja@up.ac.za - Tel: (012) 323 5298 / (012) 319 2122

Majority of 1st world countries have incorporated post mortem radiological imaging into their routine. In South Africa we are not as privileged as most medicolegal death investigation facilities in our country don't have post mortem radiological imaging with the exceptions of the academic / larger facilities. The Pretoria medicolegal laboratory (MLL) is privileged to be one of those facilities to have access to post mortem radiological imaging system.

The facility admits approximately 2500 cases per annum. The majority of the work consists of trauma cases, viz. RTA, firearm, burns, and assault related deaths and decomposed bodies. In such a busy facility, post mortem radiological imaging system serves as valuable adjunct to autopsy.

The system has become an invaluable resource that enhances the performing of autopsies, assisting in the determination of medical cause of death, body identification, and creating a database for research. The other benefits of the system is the low doses of radiation it emits which minimize occupational exposure.

The objective of the presentation is to share the experience of pathologists at Pretoria MLL post mortem radiological imaging using a full body x-ray scanning radiology systems.

Lodox: Endless Possibilities In The Management Of Firearm Related Cases

Robert G Ngude, Thandi Mahuluhulu
Johannesburg Forensic Pathology Service, Gauteng, South Africa. Division of Forensic Medicine and Pathology, University of Witwatersrand.

The Lodox® (Low dose Xray) imaging device is an invaluable resource that has revolutionized and improved case management in Forensic Pathology: Firearm related fatalities, blunt force injuries, sharp force injuries, Fire, explosions & blasts related fatalities, decomposed bodies, Victim identification, prostheses, Sudden Unexplained/unexpected Deaths (Natural pathology), Sudden Unexplained/unexpected Deaths in infancy, non-accidental injuries (Child abuse).

Fast, exceptionally high quality full-body images (anteroposterior view) can be produced in 13 seconds, useful in mass fatalities. The image is available immediately. The radiation dose is minimum, making the device safer (can be placed anywhere). The average digital radiation dose is only 6%, relative to the conventional dose.

Gun violence is the leading cause of murder in South Africa. Around 20,000 people are killed in South Africa every year out of a population of 60 million. According to Gun Free SA, in 2022, 30 people were murdered by gunshot in South Africa every day between 1 April and 30 June. On average nearly one person an hour is shot dead.

Additionally, in 2022 South Africa ranked 8 in the top 10 most dangerous countries in the world with the homicide rate of 36.4 per 100,000 population. The crime index ranking for 2022 also ranked South Africa the most dangerous country in Africa, followed by Angola, Somalia, and Cameroon.

The aim of the presentation is to illustrate the endless possibilities in the management of firearm related cases using the Lodox.

Lodox® images of all firearm-related cases were analyzed (2013 to date). Cases ranged from single to multiple gunshot wound cases, fresh to decomposed bodies.

There are endless possibilities in the management of firearm related cases using the Lodox®. Identification and location of projectiles (rapid identification of bullets in multiple gunshot wounds - GSWs), injuries (soft, skeletal) and complications thereof (haemorrhages, haemo/pneumothorax, air embolism, pneumonia etc.). Identification of the ammunition used (low or high velocity), direction of projectile / wound track. Victim Identification (odontology /dental, sinuses, surgical procedure / prostheses (pins/plates/screws).

Lodox® system is an invaluable in Forensic Pathology. Lodox® full-body images present a comprehensive clinical picture offering, and better guiding cause-of-death determination. In Medico-legal Laboratories with high caseloads or resource constraints, Lodox® system is time efficient compared to the traditional Xray. The turnaround or examination time is reduced and assists in fast-tracking religious and compassionate cases that require expedited burial. Additionally, in certain cases Lodox® obviates the need for an autopsy. Although the Lodox® may be pricey it is worth it.

The Application of Lodox Statscan Radiological Screening at the Johannesburg Forensic Pathology Services

Tracy Reindorp
University of the Witwatersrand, South Africa.
Presenting Author's Email address: Trixc6@gmail.com / Tracy.Reindorp@wits.ac.za

The use of Lodox Statscan radiological screening has proven useful in the forensic pathology postmortem setting. It allows us to better search for various features before, during and after the postmortem examination. These features include injuries, artifacts, evidence, and indications of age - relating to a decedent and an incidence of death.

Being able to see these features, can assist in the determination a possible cause or manner of death, the identification and retrieval of evidence, the identification of certain hazardous objects, and also, aid in the potential positive identification of unknown or unidentified decedents.

This presentation aims to briefly provide examples of how Lodox Statscan radiological screening has been applied at the Johannesburg Forensic Pathology Services, to visualize features of relevance during the post mortem examination process.

Thermo Fisher Scientific Mini Symposium 8th March 2023, 17:00 – 18:00

Identifying the Missing and the Deceased with DNA Technologies

A panel discussion is offered as part of a cocktail mini-symposium hosted by DNAforAFRICA and sponsored by Thermo Fisher Scientific, and will focus on several key topics:

- difficult cases where DNA has helped with identifying human remains;
- the high number of unidentified and unclaimed decedents in Africa and how we can reduce these numbers e.g. by taking DNA samples from UHR and submitting profiles to a shared database such as iFamilia
- the establishment of a regional DNA database.

Facilitator:

Professor Bruce Budowle

Panelists:

- Mr Stephen Fonseca, ICRC Missing Persons and Separated Families Centre Manager – African Centre for Medicolegal Systems, South Africa
- Dr Grace Midigo, Pathologist,Ministry of Health,Division of Forensic and Pathology Services
- Dr John Mungai, Forensic Scientist, Kenya

AGENDA

Tuesday
March 7th 2023

All oral presentations will be 10 min. Discussions will be at the end of each session.
Time discipline will be strictly observed by the sessions chairpersons.

Thank you very much.
Merci beaucoup.
Murakoze.

OPENING

08:00 - 09:00
Arrival and Registration
Protocol Team

09:00 - 09:10
Welcome note by Director General/RFL
Director General / RFL

09:10 - 09:15
Remarks by President of African Society of Forensic Medicine
ASFM President

09:15 - 09:20
Official launch of African Forensic Sciences Academy
AFSA/IE President and Hon. Minister of Justice / AG

09:20 - 09:35
Remarks by Minister of Justice/Attorney General
Hon. Minister of Justice / AG

09:35 - 09:45
Remarks by Guest of Honor
Guest of Honor

09:45 - 10:00
Group photo
Protocol Team

10:00 - 10:30 COFFEE BREAK

SESSION 1

Moderators: ***Remilekun Osunbayo & Adam Luchenga***

10:30 - 11:00
Current Trends and Perspectives for Forensic science – The Importance of a Strong Foundation and International Collaborations
Claude Roux

11:00 - 11:30
A Vision for Forensic Sciences in Africa
Antonel Olckers

11:30 - 11:40
Forensic science: Politics & practice in Africa
Peter O. Paul

11:40 - 11:50
The Science of Forensic Evidence: Practical Realities and the African Context
Uwom Eze

11:50 - 12:00
Challenge for Angolan professionals to participate in international and scientific activities of ASFM.
Domingos Vita

12:00 - 13:00
African Forensic Science Academy (AFSA) – Founding and Future
Interim Executive AFSA

13:00 - 14:00 LUNCH

SESSION 2

Moderators: ***Uwom Eze & Emeka Nwafor***

14:00 - 14:30
The Dawn of African Medicolegal Expertise
Stephen Fonseca

14:30 - 14:40
Never Forgotten: The Genocide Victims from Murambi, Rwanda
Klaus Püschel

14:40 - 14:50
INTERPOL and the Level of DVI Response in Africa
Serge Eko

14:50 - 15:00
Holistic approach towards a safer society – Identification of unknown deceased and supportive academic exchange in forensic sciences in Mexico
Antonia Fitzek

15:00 - 15:10
La problématique de l'identification médico – légale des victimes de catastrophes au Cameroun : cas du crash de l'Aéronef TJ TIM DHC-6-400 / The problem of forensic identification of disaster victims in Cameroon: Case of the aircraft crash TJ TIM DHC-6-400
GFO Ngongang

15:10 - 15:20
The Western Cape Cold Case Consortium (W4C): Improvements for identifying the unidentified
Kathryn Smith

15:20 - 15:30
The Prevalence of Tattoos in Unidentified Decedents in the Human Decedent Identification Unit, Johannesburg, South Africa
Tracy Reindorp

15:30 - 16:00 COFFEE BREAK

SESSION 3

Moderator: ***Prudent Ndayisaba***

16:00 - 16:30
Computer-aided Craniofacial Superimposition technique in Human Identification
Emilio Nuzzolese

16:30 - 16:40
"CrossFace" – AI-based personal identification and automated age estimation
Eilin Jopp-van Well

16:40 - 16:50
Facial Imaging for forensic Identification in a digital Age: Exploring new processes and platforms in unidentified and missing persons cases.
Pearl Mamathuba & Kathryn Smith

16:50-17:00
Use of Forensic Biometrics to Identify Unknown Dead bodies in Criminal Investigation in Rwanda
Fred Kagame

17:00 - 17:10
Improving the Identification of Human Remains Through Innovation (Digital Biometrics)
Wilhelm Diederick Fouche

17:10 - 17:20
Advanced Fingerprint Techniques for Identification of Deceased: An unusual application
Rudolf Van Der Berg

17:20 - 17:30
Disaster Victim Identification and Migration - The Value of Using Scarification and Tribal Markings as Secondary Identifiers in Mass Fatality Incidents and Determining Source of Origin
Tumisang Mbedzi

DAY TWO:

Wednesday
March 8th 2023

SESSION 4

Moderator: ***Antonel Olckers***

08:00 - 08:30
Forensic Capacity Development to support truth-seeking for Justice and Humanitarian Action: Implications for Africa
Michael S. Pollanen

08:30 - 08:40
Framework for Developing DNA Policies in Africa to Address Criminal Justice and Humanitarian Needs in the Region
Vanessa Lynch

08:40 - 08:50
Benefits of the use of DNA and Forensic Analysis for the Identification and return of Deceased Migrants to their Families
Ahmed Zanya Bugre

08:50 - 09:00
Forensic DNA Aids Track Down the Activities of a Top East African Al-Qaida Terrorist
John Kimani Mungai

09:00 - 10:00
Emerging Forensic Challenges: Human Identification and Informed Consent
Bruce Budowle

10:00 - 10:30 COFFEE BREAK

SESSION 5

Moderators: ***Olivier Ngongang & Victor Onyiaorah Igwebuike***

10:30 - 11:00
The Identification Process of Complex cases (Skeletal remains)
Luis Fondebrider

11:00 - 11:10
Border Project. Towards a multi-agency mechanism for the identification of missing migrants
Claudia Bisso

11:10 - 11:20
Fréquence et répartition topographique des os wormiens sur les crânes de squelettes africains exhumés à Abidjan (Côte d'Ivoire)
Zana Konaté

11:20 - 11:30
Profil épidémiologique et aspects médico-légaux des morts par noyade à Abidjan de 2002 à 2020.
Zana Konaté

11:30 - 11:40
Aspects médico-légaux des plaies par égorgements: expérience du service d'ORL et de chirurgie cervicofaciale de l'hôpital principal de Dakar
M R Ndiaye

11:40 - 11:50
Investigations de scènes de crimes au Cameroun : Questionnement sur la place et le rôle du médecin légiste dans l'écosystème judiciaire camerounais
Alphonse L'avenir Azegue Bihina

11:50 - 12:00
Droits des personnes vivant avec le VIH : enquête auprès des patients suivis à l'hôpital régional de Matam
M Ly

12:00 - 12:10
Forensic medicine in Slovakia
Jozef Šidlo

12:10 - 12:20
Evidence-Based Forensic Medicine in Saxony (Germany)
Jan Dressler

12:20 - 12:30
National autopsy network – the achievements, future plans and call for cooperation
Benjamin Ondruschka

12:30 - 13:30 LUNCH

SESSION 6

13:30 - 14:00
Combining Law and Science: The Value of an Integrated Approach to Complex International Criminal Investigations in Africa
Anjili Parrin

Symposium du Centre universitaire romand de médecine légale.

INTERACTIONS ENTRE LA JUSTICE ET LA MÉDECINE LÉGALE:

Exemple de la Suisse
14:00 - 16:00

JUSTICE ET MÉDECINE LÉGALE:

Point de vue du médecin légiste
Silke Grabherr & France Evain

Point de vue du policier
Colonel Alain Bergonzoli

Point de vue du Procureur
Bernard Dénéréaz

Point de vue de l'Avocat
Yvan Jeanneret

Discussions-table ronde

Le Certificate of Advances Studies (CAS) en Droit, médecine légale et science forensique en Afrique: outil de renforcement de l'interaction entre la justice et la médecine légale sur le continent
Ghislain Patrick Lessène

16:00 - 16:30 COFFEE BREAK

SESSION 7

Moderators: ***Mame Rouba Ndiaye & Domingos Vita***

16:30 - 16:40
Prise en charge des femmes victimes de mutilations génitales: organisation socio-médico-judiciaire en Maine-et-Loire (France).
Nathan Bergelin

16:40 - 16:50
Prévalence et profil des féminicides à Abidjan de 2013 à 2022.
Zana Konaté

16:50 - 17:00
Sexual violence against elderly and access to health care in Africa: challenges and opportunities in achieving the global 2030
Stela Ocuane Matsinhe

17:00 - 17:10
Characterization of cases of child abuse among women victims of domestic violence in Mozambique, 2007-2008.
Julieta Xavier Agy

17:10 - 17:20
Etude comparative des agressions sexuelles en milieu scolaire, entre quelques villes de notre continent et la ville de Sidi Bel Abbes.
Mohammed Djilali Merzough

17:20 - 17:30
Etude des agressions sexuelles dans la ville de Yaoundé au Cameroun
Alphonse L'avenir Azegue Bihina

17:30 - 17:40
La dépression masquée chez les filles victimes d'agressions sexuelles à Conakry: aspects épidemiologique, clinique et médico-légal.
Amadou Mouctar Diallo

DAY THREE:
Main conference & anti-GBV seminar side event

Thursday
March 9th 2023

SESSION 8
Moderators: ***Mohamed Soumah & Robert Ngude***

08:00 - 08:30
Medicolegal Death Investigation - International Community of Practice
Roger A. Mitchell

08:30 - 08:40
Prevalence of Retracted Published Articles in Forensic Pathology
Ken Obenson

08:40 - 08:50
Medical Malpractice
Abdelfttah Ahmed

08:50 - 09:00
Barriers to Increasing Death Notification and Registration in Lagos State, Nigeria
Nnamdi Orah

09:00 - 09:10
Increasing Death Notification and Registration in Lagos State, Nigeria
Samuel Keshinro

09:10 - 09:20
Épidémiologie des examens thanatologiques des populations migrantes de la région de Calais. Etude rétrospective sur 7 ans – de 2014 à 2020.
Philippe Morbidelli

09:20 - 09:30
Contribution à la connaissance des causes de décès enregistrés au niveau des morgues de la ville de Niamey.
Harouna Mahamadou Zaki

09:30 - 09:40
Bousculade mortelle au stade d'Olembé de Yaoundé: implication médico-légales/ Deadly Stampede at Yaoundé 's Olembe Stadium: Forensic Implications
G F O Ngongang

09:40 - 09:50
Postmortem Diagnosis of Bacterial Meningitis in a Young Child: a Case Report
Innocent Nkurunziza

09:50 - 10:00
Flax based armour backface signature injury against 9x19mm
Prudent Ndayisaba

10:00 - 10:30 COFFEE BREAK

SESSION 9
Moderator: ***Japhet Ashimirwe***

10:30 - 11:00
Preventive Forensics
Jyantkumar M. Vyas

11:00 - 11:10
Digital Forensics, Judicial integrity and Cyber Security: An analysis on the Impact of Corruption on Procedural Fairness
Tafadzwa Ngomah

11:10 - 11:20
Trace Evidence: Effective Skill in the harmonization of Forensic Science Practice in Africa
Acheampong L.K.

11:20 - 11:30
Detection of Commonly Abused Psychoactive Substances Among Inmates in Selected Prisons in Ghana Using Forensic Hair Analysis
Acheampong L.K.

11:30 - 11:40
Investigation of Aflatoxin B1 levels in food samples collected in 3 districts of Rwanda
Innocent Hahirwa

11:40 - 11:50
The Effect of Compressed Air Foam on the Detection of Ignitable Liquid Residues on Fire Debris Samples
Victor Omondi

11:50 : 12:00
L'expertise psychiatrique dans le système judiciaire Rwandais
Alfred Ngirababyeyi

12:00 - 12:10
Etude de la psychopathologie des auteurs d'agressions en Guinée : Aspects socio-démographique et médico-légal.
Namoudou Conde

12:10 - 1220
Les états de stress post-traumatique à Conakry : Aspects épidémiologique et médico-légal
Gabriel Raymond Marie Konate

12:20 - 1230
Epidemiological profile of suicide victims autopsied at Maputo Forensic Services-Maputo, 2016-2018.
Jacinta Silveira Langa

12:30 - 13:30 LUNCH

SESSION 10
Moderator***: Sylvester Onzivua***

13:30 - 14:00
Electropathology: Integrating Theory and Practice
Ryan Blumenthal

14:00 - 14:10
Crowd Control - Forensic Pathological Perspectives
Ryan Blumenthal

14:10 - 14:20
Genetic Polymorphism of 24 Autosomal STR in the Population of Rwanda
Paul Gasana

14:20 - 14:45
From Crime Scene to Closure - QIAGEN's Comprehensive Sample to Insight Workflow for HID and Forensics
Laurent Moncomble

LODOX SYMPOSIUM:
LODOX, FULL BODY, HIGH SPEED DIGITAL RADIOLOGY SOLUTION FOR FORENSIC PATHOLOGY

14:45 - 15:00
Lodox: Endless possibilities in the Management of Firearm Related Cases
Ngude & Mahuluhulu

15:00 - 15:15
The Application of Lodox Statscan Radiological Screening at the Johannesburg Forensic Pathology Services
Tracy Reindorp

15:15 - 15:30
Post mortem radiological imaging (full body x-ray scanning) - the Pretoria Medico Legal Laboratory (MLL) experience
SS Mabotja

15:30 - 16:00 COFFEE BREAK

16:00 - 18:00
ASFM General Assembly
ASFM/EXCO

CLOSING CEREMONY

18:00 - 18:10
Wrap up of the conference
Chair of ASFM 2023 Organizing Committee

18:10 - 18:25
Awards by President of African Society of Forensic Medicine
ASFM President

18:25 - 18:35
Remarks by Hon. Minister of Justice / Attorney General
Hon. Minister of Justice / AG

18:35 - 18:45
Remarks by Guest Honor
Guest of Honor

18:45– 20:00
Cocktail & Entertainment
Logistics team

ANTI-GBV SEMINAR

Thursday
March 9th 2023
at Serena Hotel

The role of forensic evidence, strategies and partnership to support GBV victims

OPENING CEREMONY

MC: ***Jacky LUMBASI***

09:00 - 10:00
Arrival and Registration and coffee
Protocol Team & Hotel

10:00 - 10:05
Remarks by Director of Rwanda Forensic Laboratory
Director General / RFL

10:05 - 10:10
Remarks by UN Resident Coordinator
UN Resident Coordinator

10:10 - 10:15
Remarks by Hon. Minister of Gender and Family Promotion
Minister / MIGEPROF

PANEL DISCUSSION

Role of forensic evidences to support GBV victims - Strategies and partnership
Facilitator: ***Vanessa Lynch***

10:30 - 11:30

Integrated Approach in the Fight against GBV in Africa
Anjli Parrin

Role of forensic evidences to support GBV victims
Zana Konaté

Continental partnership for enhancing the use of forensic evidences to support GBV victims
UN Women Regional Office Coordinator

The impact of Forensic Evidences on the Management of GBV cases - Experience of Rwanda
SG/RIB

11:30 - 12:00
Discussions
All

12:00
Closing remarks by Guest of Honor
Guest of Honor

12:30
Group photo
Protocol Team

13:00 - 14:00 LUNCH

14:00 - 16:00
Tour in Rwanda Forensic Laboratory & Isange One Stop Centre
PR&CO/RIB & RFL

EVENING EVENT

18:00 - 20:00
Closing Ceremony of ASFM 2023
Marriott Hotel

POSTER SESSION

presented by ***Godfrey Rwamurangwa***

Comparison of Three Commercial Autosomal STR Kits in a Black South African Population	***Irma Ferreira & Celmari Dorfling***
Motherless Paternity Testing in South Africa	***Annelize van der Merwe & Irma Ferreira***
La sarcoïdose, une atteinte cérébrale mortelle (à propos d'un cas d'un jeune étudiant)	***Mohammed DJILALI MERZOUG***
Use of Forensic Evidences in Investigation and Prosecution during International Criminal Proceedings. A Case Study of International Criminal Court (ICC)	***Fred Kagame***
Fire and arson scene investigation, technics and challenges	***Janvier Byukusenge & Fred Kagame***
Violences au Nord du Sénégal : bilan d'une consultation de victimologie	***M R Ndiaye***
Quantitative Analysis of Methanol in Locally made Alcoholic Beverages by Headspace Gas Chromatography: Acute Methanol Poisoning Case Study	***Eliphaz Niyonizera***
Identification of criminals using partial fingerprints lifted from crime scene	***Godfrey Rwamurangwa***

DAY FOUR:

Post-conference Excursions & Early Departures

Friday
March 10th 2023


DNA - Test

Invited Speakers

Electropathology: Integrating Theory and Practice

Ryan Blumenthal

Senior Specialist Forensic Pathologist, Department of Forensic Medicine, University of Pretoria Email: ryan.blumenthal@up.ac.za

Aimed at the trainee, or practicing forensic pathologist, a clinicopathological approach to electropathology will be provided. To integrate theory and practice. To show that it is possible to practice forensic excellence in a resource-limited and resource-depleted environment, especially with regards to electrothermal cases. Basic concepts will be explained, and updates in the field of 'electropathology' will be provided. The different types of electrothermal wounding will be explained, namely ohmic heating, Paschen's law (Paschen, 1889), and 'arc blast'. (Relatively new concepts such as 'arc blast' and 'Paschen's law' will be introduced). The 'typical' versus the 'atypical' electrocution event will be described. High voltage versus low voltage. Alternating current versus direct current.

The 'Let-go' versus the 'Hold-on' phenomenon. Startle reactions and reflex movements. Most electrocution cases are accidental in nature; however, a few are homicidal or suicidal in nature. This presentation will focus on the scene examination, the case history, the autopsy and the special investigations.

There will be a strong focus on the post-mortem examination and the electrical burn wounds. A multi-disciplinary, clinico-pathological approach to electrocution victims will be proposed. This presentation will focus on cost-effective diagnostics, and how to document these cases.

Case studies will be provided: Cable theft, electrocution in the bathtub, electric-iron injuries, electro-cautery injuries (diathermy injuries), microwave injuries, electrocution in water, electrical torture cases, injuries from electroconvulsive therapy, pediatric electrical injuries, electrocution during pregnancy, contact with overhead power line, arc-blast injuries, Taser contact (and other electronic control devices including conducted electrical weapons, electric shields & electroshock stun belts), defibrillation injuries, stun guns, cattle prods, electric fences, electric knife fish, electric eels, and contact with other electric devices, such as implantable cardioverter-defibrillators (used to treat tachyarrythmias, which can give an electric discharge of 25-to-40 Joules). Medicolegal perspectives surrounding these cases will be highlighted.

Understanding the difference between theory and practice. It is better to have a broad knowledge of both. A combination of both (theory and practice) is ideal. An appreciation of the public health importance of the field of electropathology. The value of a multi-disciplinary clinicopathological approach to these cases. The presentation will conclude by showing that it is possible to practice forensic excellence in a resource-limited and resource-depleted environment.

Benefits of the use of DNA and Forensic Analysis for the Identification and return of Deceased Migrants to their Families

Ahmed Zanya Bugre, MQR

Ahmed Zanya Bugre is the Senior Migrant Protection and Assistance Advisor in the Department of Health, Humanitarian Affairs and Social Development (HHS) where he is responsible for the dossiers on climate change and migration, missing migrants and the focal person for the Africa Climate Mobility Initiative (ACMI).

Prior to this position, Dr Bugre was Director of the Foundation for Shelter and Support to Migrants (FSM), a diaspora-led NGO that he co-founder that focused on providing temporary accommodation, psychosocial, mental health and educational support to asylum seekers and refugees in Malta.

He also served as a member of the Advisory Council and Member of the Board of Trustees of the Africa-Europe Diaspora Development Platform (ADEPT), where he worked on supporting the platform on legal and strategic planning issues. Dr Bugre has undertaken various consultancy work on migration and humanitarian issues and Africa-Europe Relations with the Government of Malta, US Embassy in Malta, European Union Commission, German Parliament, UN Agencies, and the African Union Commission.

Dr Bugre has contributed to a number of international fora and conferences on migration and development, protection of migrants and asylum seekers, and the integration of refugees in the EU. He represented the African diaspora in the EU on the Global Forum on Migration and Development (GFMD) dialogues leading to the adoption of the Global Compact on Safe, Orderly and Regular Migration. He is also an international conference speaker and mentor for final year law students on cross-cultural lawyering and advocacy.

Dr Bugre holds a Bachelor of Arts Honours (Magna cum Laude) from Continental Theological Seminary in Brussel, Belgium; a Bachelor of Laws (Magna cum Laude), Postgraduate Diploma in Notarial Law, and Doctor of Laws from the University of Malta. He recently obtained a Professional Certificate on Leading Strategic Projects from Oxford University.

He has authored and co-authored several articles on migrant protection and diaspora engagement, and contributed to academic work on migration, asylum, and forced displacement. Dr Bugre is a visiting lecturer at the University of Malta, Nehemiah Gateway University in Albania, and the Oldenburg IT and Business School in Germany.

He served as a Rector of the Nehemiah Gateway University and the Malta National Director of Studies for the Global-ICI University in Spring Missouri, USA. He is an adjunct professor of Business Ethics and Corporate Social Responsibility at the Nehemiah Gateway University and the Oldenburg IT and Business School focusing the impact of European Business footprint in Africa.

Dr Bugre was the first person of African descent to be awarded the national medal of honour, Midalja-Qadi tar Republikka (MQR) by the President of Malta for his distinguished work on the protection, assistance and integration of African migrants in Malta and for his service to the Republic of Malta. He is also received the Rotary Club of Malta Ferrucio Vigniola Prize (2018) for his contribution Peace in the Mediterranean.

Dr Bugre is an alumnus of the prestigious International Visitors Leaders Programme (IVLP) of the US State Department. He was nominated by the US Embassy in Malta for the 2019 IVLP Alumni Award for Social Innovation and Change for his distinguished work with the African diaspora in Malta and Europe, and was selected as one the 80 Faces of Exchange for the 80th Anniversary of the IVLP Program.

INTERPOL and the level of DVI response in Africa.

Serge Eko, M.D.

INTERPOL is globally acknowledged as a key international standards setter. The Organization also provides operational DVI support to its 195 member countries upon request. Furthermore, INTERPOL conducts several DVI trainings and workshops to make its member countries attain sufficient DVI domestic capacity and self-operationality. The purpose of the presentation is to disclose the global package of INTERPOL DVI assistance addressed to its member countries with a focus on the needs specifically expressed by the African member countries of the Organization.

The Identification Process of Complex Cases (Skeletal remains)

Dr Luis Fondebrider

Dr Luis Fondebrider is a forensic anthropologist, from Argentine, 58 years old, who in 1984 co funded the Argentine Forensic Anthropology Team (EAAF), an organization that had worked in 56 countries documenting and investigating cases of human rights violations using different forensic disciplines.

After 37 years of work at EAAF, and being his President for 20 years, he moved to Geneva, where he was hired by ICRC as Head of the Forensic Unit, where he remained until September 2022, to become an independent forensic expert.

Throughout his career, Dr Fondebrider worked had as expert witness and/or forensic adviser, in the following countries: Argentina, Uruguay, Chile, Brazil, Bolivia, Peru, Paraguay, Colombia, Venezuela, Guatemala, El Salvador, Haiti, Croatia, Bosnia, Kosovo, Romania, Ukraine, Iraq, Lebanon, the Philippines, Indonesia, Cyprus, Georgia, South Africa, Zimbabwe, Central African Republic, Ethiopia, Morocco, Libya, Vietnam, Thailand, Solomon Is., Sri Lanka, Sudan, Kenya, Nigeria and Namibia.

Dr Fondebrider had worked as forensic expert for the following bodies:
Truth Commissions of Argentina, Brazil, El Salvador, Haiti, Uruguay, Peru, South Africa, and Solomon Islands. International Criminal Tribunal for the Former Yugoslavia. International Criminal Court. Committee of Missing Persons of Cyprus. OAS Forensic Team case of 11 MP from Colombia.

International Commission of Experts on the investigation of cause of death of President Salvador Allende, Chile. UN Secretary General Investigation Team for Democratic Republic of Congo. UN Commission of Inquiry on Darfur, Sudan. Presidential Commission for searching and identification of Che Guevara remains. Presidential Panel of Forensic Experts for Chile. Victorian Institute of Forensic Medicine, Australia, case Ned Kelly. Special Prosecutor Office of the Transitional Government of Ethiopia.

National Prosecuting Authority of South Africa. Prosecutors Office of Colombia. International Committee of the Red Cross (ICRC) for the project “The Missing”; consultant for Colombia, Sri Lanka, Iraq, Georgia, Cyprus, Libya, Ukraine. Medico Legal Institute of Colombia. Medico Legal Institute of Vietnam. Federación Latinoamericana de Asociaciones de Familiares de Detenidos-Desaparecidos (FEDEFAM). Asian Federation Against Involuntary Disappearances (AFAD).

Amnesty International. Human Rights Watch. International Center for Transitional Justice (ICTJ).

Dr Fondebrider was part of the Forensic International Team leading the Manual on Genetics and Human Rights, under the Government of Argentina and the ICRC.

Dr Fondebrider was member of the UN Forensic Working Group that reviewed the United Nations Manual on the Effective Prevention and Investigation of Extra-Legal, Arbitrary and Summary Executions (Minnesota Protocol). Dr Fondebrider is member of the Advisory Board of the Human Rights Centre of the American Academy of Forensic Sciences (AAFS). Dr Fondebrider is member of the International Forensic Advisory Board of the ICRC.

The Dawn of African Medicolegal Expertise

Stephen A Fonseca

Stephen Antonio Fonseca Manager – African Centre of Expertise on Missing Persons and Forensic Systems International Committee of the Red Cross.

My career in death investigation started in 1998 as a Coroner in the British Columbia Coroners Service. For 8 years I investigated routine sudden and unexpected death enquiries and presided over inquests.

In 2006, I developed the Identification and Disaster Response Unit. The primary responsibility was to promote a multi-disciplinary systematic approach to the resolution of missing persons cases through the identification human remains after mass fatality events, in complex investigations, and cold cases.

I joined the International Committee of the Red Cross (ICRC) in 2013 as a forensic coordinator, posted in Lebanon until early 2015. I worked primarily on the Missing and Dead from the Lebanese Civil War.

From 2015 to June 2022, I worked in Africa, primarily as the Regional Forensic Manager, where the focus was to empower authorities by enhancing justice and medicolegal systems and systematizing medicolegal processes. I provided oversight for strategic planning and operational support to ICRC forensic specialists who manage humanitarian forensic programs and activities across the African continent.

In June 2022, I transitioned to the role of Manager of the ICRC's newly created African Centre of Expertise on Missing Persons and Forensic Systems.

I remain a member of the ICRC's Forensic Unit Global Management Team.

Medicolegal Death Investigation - International Community of Practice

Dr Roger A. Mitchell

Professor and Chair of Pathology Department of Pathology, Howard University College of Medicine, Washington DC, USA

Roger A. Mitchell, Jr. MD FCAP – Dr. Mitchell is board certified in Anatomic and Forensic Pathology by the American Board of Pathology and serves as Professor and Chair of Pathology at Howard University College of Medicine.

He is the immediate past Chief Medical Examiner for Washington, DC where he served from 2014 to 2021. Just before his tenure ended as Chief Medical Examiner, Dr. Mitchell was the only forensic pathologist in history to also serve as Interim Deputy Mayor for Public Safety and Justice. He has performed approximately 1,500 forensic autopsy examinations and has testified as an expert witness in over 60 cases. Dr. Mitchell has been published in 13 peer review journals, provided nearly 100 lectures on a myriad of forensic topics, has written two book chapters and serves on the Editorial Board for the Journal of the Center for Policy Analysis & Research at the Congressional Black Caucus Foundation.

His recent academic research on gunshot wounds is highlighted in the Journal of Acute Care Surgery and the Journal of the American College of Surgeons.
Mitchell also serves as Chair of the Task Force on Gun Violence Prevention for the National Medical Association.

He co-authored the paper entitled The Violence Epidemic in the African American Community: A Call by the National Medical Association for Comprehensive Reform.
He recently led a national group of forensic pathologists in the paper entitled: National Association of Medical Examiners Position Paper: Recommendations for the Definition, Investigation, Postmortem Examination, and Reporting of Deaths in Custody.

Dr. Mitchell is the current Vice Speaker to the House of Delegates for the National Medical Association and sits on several additional Boards, including Mentoring in Medicine and the Hip Hop Caucus.
He has lectured all over the world including in Africa and Asia, including Egypt, Bangladesh, India, and Belize.
Dr. Mitchell currently works with the CDC Foundation supporting the Medicolegal Death Investigation International Community of Practice where he provides technical support to numerous international medical examiners and coroners.

Computer-aided Craniofacial Superimposition technique in Human Identification

Emilio Nuzzolese

Craniofacial Superimposition (CFS) involves the superimposition of an image of a skull with ante-mortem face images of an individual and the analysis of their morphological correspondence. Although CFS is considered a controversial technique within the scientific community, the fundamentals are based on the uniqueness of the skull. Recent outcomes in software with Artificial Intelligence (AI) based automatic approach, makes this technique a good candidate for human identification in various complex scenarios and missing unidentified human remains.
This presentation will cover the fundamentals of CFS technique to the state of the art in AI-driven approaches, summarizing the main reliability and validation studies, also showing a skeleton-based identification case through the use of the first dedicated software called SkeletonID ® and a 3D scanner.

Keywords: *human identification; artificial intelligence; craniofacial superimposition, craniofacial identification.*

A Vision for Forensic Sciences in Africa

Dr Antonel Olckers

Dr Antonel Olckers has practiced as an independent DNA expert in forensic science in South Africa since 1998 and has advised on forensic science cases from across Africa. She is a founding director and full member of the South African Academy of Forensic Sciences (SAAFS) in the field of Biology/DNA and served as Chair since its inception in 2018. She the current chair of the Forensic Science Specialist Technical Committee (FS-STC) of the South African National Accreditation System (SANAS) mandated in South Africa to e.g. accredit laboratories according to ISO standards.

Dr Olckers provides training on Good Laboratory Practice (GLP), ISO17025 and

accreditation to it, ethics, integrity, and other topics related to forensic science practice via the "Essential Short Course Series" of DNAbiotec. She has worked to empower professionals to handle DNA evidence in court (scientists, public prosecutors, public defenders as well as private sector attorneys and advocates). DNAbiotec has had an MOU in place with Legal Aid South Africa for pro bono work, and she was honoured with the Legal Aid Pro Bono award in 2016.

She is a member of the Academy of Science of South Africa (ASSAf), the American Academy of Forensic Sciences (AAFS), and the International Society for Forensic Genetics (ISFG), amongst others. She continues to publish actively in international peer reviewed academic journals in various fields e.g. forensic science, bioethics, and genomic privacy. Dr Olckers is a strong advocate for empowering the next generation of scientists and science leaders in Africa and has received awards for capacity building and Lifetime Achievement in biotechnology. She sees collaboration between the public sector, academia, and the private sector as essential to further science and research integrity goals in Africa and beyond. As evidenced from her publications in forensic science she believes in practicing with integrity for science to serve justice.

Integrated Approach in the Fight against GBV in Africa

Dr Anjli Parrin

Anjli Parrin is a Kenyan human rights advocate and lawyer. She is currently a visiting clinician at the University of Chicago Law School where she directs the Global Human Rights Clinic, which works alongside partners and communities to advance justice and address the inequalities and structural disparities that lead to human rights violations worldwide.

She is visiting from Columbia Law School in New York. Anjli conducts human rights fact finding, investigations, and advocacy around the world. Her practice focuses on international criminal law and transitional justice, and using forensic science tools to advance human rights.

She has worked alongside forensic scientists to carry out complex war crime investigations, including for the International Criminal Court; successfully proposed new law on exhumations for hybrid courts; and provided trainings to judges, lawyers, police, gendarmerie, NGOs and victims associations on the law and science of suspicious death investigations.

Anjli holds a Juris Doctor from Columbia Law School, a master's degree from Columbia's Graduate School of Journalism, and a bachelor's degree from the London School of Economics.

Forensic Capacity Development to support truth-seeking for Justice and Humanitarian Action: Implications for Africa

Prof. Michael S. Pollanen

Michael S. Pollanen is Professor and Vice-Chair (Innovation) of Laboratory Medicine and Pathobiology at the University of Toronto and the Chief Forensic Pathologist for Ontario, Canada.

He graduated from the University of Toronto with an MD (1999) and PhD (1995) and completed his residency in 2003.

Professor Pollanen's main academic focus the application of forensic medicine to Global Health by training forensic pathologists and strengthening forensic capacity in the Global South. He has been involved in case work or training missions in: Algeria, Bermuda, Cambodia, Central African Republic, East Timor, Egypt, Haiti, Iraq, Jamaica, Kazakhstan, Palestine, Thailand, Uganda and Uzbekistan.

His current research interest is nodding Syndrome in Uganda. He has published over 100 papers in peer-reviewed journals. Professor Pollanen is a member of the forensic advisory board of the International Committee of the Red Cross and is a Past President of the International Association of Forensic Science (2015–17).

He is a Founder of Forensic Pathology in the Royal College of Physicians and Surgeons of Canada. His professional duties include supervising and directing the Ontario Forensic Pathology Service (9000 autopsies/year), conducting autopsy (>4500

autopsies conducted to date), testifying in court (>250 court testimonies to date), and directing academic activities in forensic pathology at the University of Toronto. He is also a Deputy Chief Coroner in Ontario.

Current Trends and Perspectives for Forensic science – The Importance of a Strong Foundation and International Collaborations

Claude Roux

Centre for Forensic Science, University of Technology Sydney Australia
President, International Association of Forensic Sciences

We live in a rapidly ever-changing world where technology not only takes an increasingly important part in our lives but also drives societal changes. These changes have an impact on the criminal and security landscape itself. They also provide new ways to abate and even prevent crime. For example, the digital transformation of society facilitates the traceability of people and behaviors.

Further, technology, including field-portable instrumentation, enables quicker, remote and more connected exploitation of traces that take more diverse shapes and forms than ever.

This situation offers vast opportunities but also presents significant challenges, including data management and potential ethical issues. Further, today, there is an increased demand for formalized quality assurance and reliability from forensic science services. However, there is also an increased demand for forensic science's more proactive role in the investigation, intelligence and contribution to non-judicial pathways (e.g. harm minimization and prevention).

This situation is challenging forensic science's role and its traditional laboratory. It forces us to re-think the purpose of forensic science and better develop its fundamental underpinnings. These interrogations and this debate are crucial for forensic science, practitioners, and stakeholders. How can we be effective in our everyday work if we do not have a clear view of the purpose of what we are doing and if we poorly understand where we come from and where we are heading to?

In this context, this presentation will provide an overview and update of the Sydney Declaration [1], including the current feedback from the worldwide forensic science community. It is argued that the principles proposed in the Sydney Declaration should underpin the practice of forensic science and guide education and research directions by providing a solid foundation and improved shared understanding between all practitioners and stakeholders. It will also emphasize the need for international collaborations.

Preventive Forensics: A new facet to Forensic Science

Jyantkumar M. Vyas

National Forensic Sciences University (NFSU), Gandhinagar, India.

Preventive Forensics, also referred as Forensic Intelligence is an emerging field of proactive forensics. The main objective of it is to investigate the processes involved in gathering, organizing, interpreting and sharing Forensic case-related data to aid in criminal inquiry and counter-intelligence activities.

To help identify, prevent, investigate, and convict crimes and criminals, forensic intelligence encompasses gathering and interpreting data in the criminal investigation cycle and throughout cases, with a focus primarily on serial and violent crime.

The inclusion of forensic data in crime analysis can also aid in the identification of connections, trends, and patterns as well as the link of other data relevant to the criminal activity.

The resulting actionable intelligence can then be used for the prevention of violent and serial crimes. According to previous studies, employing forensics to proactively decrease, disrupt, and prevent crime as well as incorporating forensic data into intelligence and crime analysis processes could result in a fluctuation in areas where the criminal justice system is applied and how crime is prevented.

As a force multiplier, preventive forensics can be incorporated into policing based on intelligence techniques and other policing strategies to help identify those who commit crimes, illegal strategies, methods, and practices. ds.

This territorial of forensics will provide a concept of crime prevention against developmental crime, community crime and situational crime. To rationalize problem policing some technologies of choice would include surveillance, intelligence, monitoring and a database of forensic indices.

Crime laboratories can use this technique as reference feedback to help them categorize the investigation of specific evidence types as per relevance, which can produce lead to further investigation. By altering laboratory procedures in this manner, it is possible to increase productivity, free up labor and resources, and decrease backlogs.

This facet of prevention or intelligence eyeing Big Data analysis, CCTV surveillance, IoT, Social Media Monitoring, Psychological testing etc. will provide emerging dimensions in combating the crime and criminals.

Keywords: *Intelligence, Surveillance, CCTV, Big data, IoT*

Oral Presentations

Medical Malpractice

Abdelfttah Ahmed

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Medical malpractice and neglect it is not uncommon problem and cause of death that commonly attributed to underlining traumatic assault.

Descriptive case study of the deceased admitted to the kassala teaching hospital mortuary.

55 years old male involved in the gunshots firearm injury, admitted to the hospital, with an emergency measures at surgical department he became stable and even shifted to the internal medicine department but unfortunately he deteriorated and death occurs.

The postmortem examination has benefit for accused, complainant, inquiry, medical service and doctors and over all community.

Key words: neglect, mal practice, postmortem and mortuary.

Detection of Commonly Abused Psychoactive Substances among Inmates in Selected Prisons in Ghana Using Forensic Hair Analysis

L.K. Acheampong

CFIP, MB, ChB (Medicine & Surgery), MPhil (General Forensics), MBA (Health Mgt.), BSc (Human Biology), PhD candidate (Forensics, Chem. Path.). Medical Director/Postgraduate Forensic Researcher/Physician. Ghana Prisons Health Service/Kwame Nkrumah University of Science and Technology/African Society of Forensic Medicine. Nsawam-Ghana,West Africa.

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A cross sectional study was conducted in the following five prisons facilities: Nsawam Medium Security Prison-Male, Nsawam Female Prison, Ankaful Maximum Prison, Kumasi Central Prison- Male and Kumasi Female Prisons. A total sample size (n=120) of prisoners from the various Prisons were selected via simple randomization. A structured questionnaire and interviews were used to illicit responses for both qualitative and quantitative data.

The study aimed to detect commonly abused psychoactive substances among inmates in selected prisons in Ghana using forensic hair analysis techniques. Specific objectives included:

- To detect the commonly abused psychoactive substances among inmates using forensic hair and urine analysis.
- To correlate the detection of psychoactive substance abuse using forensic hair analysis with self-report evidence among incarcerated persons in Ghana.

Urine and hair samples were collected from the inmates. An immunochemical test was performed using the urine for the following substances: Benzodiazepines (BZO), Cocaine (COC), Methamphetamine (METH:), Opiates (OPI), Marijuana (THC), and Tramadol (TML). Gas Chromatography Mass Spectrometry(GC-MS) was used to analyze the hair (n=52) samples to confirm the presence of the commonly abused psychoactive substance (i.e. Cannabis metabolites-THC, CBN and CBD) following the immunochemical urine test.

The response rate was 95%. The male participants made up 84.6% of the study population, 41.2% had a JHS level education, 55.8% were unmarried/single, 50.9% had spent 1-3 years in prison, and 67.5% were convicts. A total of 84% of participants indicated that they frequently used cannabis. This was confirmed in the urine and hair test results where 76.2% and 55.8% of inmates tested positive for metabolites of cannabis, respectively. Regarding gender, none of the female inmates tested positive for THC in their urine, however 20.7% tested positive for cannabis metabolites. From the outcome, it can be concluded that in detecting the use and abuse of drugs among inmates, a policy should be implemented in using both urine and hair analysis as a principal focus.

Trace Evidence: Effective Skill in the Harmonization of Forensic Science Practice in Africa.

Acheampong L.K.

CFIP, MB, ChB (Medicine & Surgery), MPhil (General Forensics), MBA(Health Mgt.), BSc.(Human Biology), PhD candidate (Forensics, Chem. Path.). Medical Director/Postgraduate Forensic Researcher. Ghana Prisons Health Service/Kwame Nkrumah University of Science and Technology/African Society of Forensic Medicine. Nsawam-Ghana, West Africa.

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Although generally forensic refers to any inquiry that is aimed at gathering evidence for disciplinary action or court proceeding, however forensic investigation touches on many areas aside medicine. It is crucial for global forensic experts to acquire the skill of forensic trace evidence collection and preservation to improve outcome of investigation in a multidisciplinary approach.

Research in Forensic trace evidence has recently gained momentum due to increasing crimes in Africa and Forensic Medicine specialist need effective classroom strategies to prepare for the global forensic workplace.

One strategy for teaching effective forensic trace evidence collection is to equip experts to understand the importance and the various techniques used in this field. Trace Evidence in forensic investigations deals with minute evidence left on a crime scene/adhered to a perpetrator or the victim from a crime scene. Examples are: hair, latent fingerprints, Fibers, paint, soil, glass, dust, blood spatter, etc.

The right acquisition of knowledge in forensic trace evidence would be a strategy especially insightful for Forensic Medicine Specialist when dealing with increasing violence in Africa in a multifaceted approach. According to the Locard's Principle of Exchange, trace evidence is transferable from one person to another, and one object to another.

When experts are dealing with crimes they must not be in oblivion of the minute evidence that are not visible to the naked eye.

It is important to guide their knowledge in trace evidence to identify the unseen evidence with the right techniques. In my proposed oral presentation, I will discuss how increasing trends of violence in the African continent demands new skills from forensic experts in trace evidence identification, collection, preservation and analysis.

Etude des agressions sexuelles dans la ville de Yaoundé au Cameroun

Alphonse L'avenir A. BIHINA

Société Camerounaise de Médecine Légale, Cameroun

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Le code pénal camerounais punit comme viol, celui qui, à l'aide violences physiques ou morales, contraint une personne, même pubère à avoir avec lui des relations sexuelles. Dans ce contexte camerounais, la gestion des cas d'agressions sexuelles connait une grande variabilité allant de l'arrangement à l'amiable, à la condamnation de l'auteur, à condition que celui-ci soit identifié et dénoncé.

Il avait été question d'étudier les agressions sexuelles dans la ville de Yaoundé.
Cette étude des cas était qualitative et descriptive, elle avait été effectuée du 1er Janvier 2019 au 31 Mai 2020. Sur les 142 victimes contactées, seulement 30 avaient coopéré. Nous avions proposé un questionnaire aux victimes après leur consentement éclairé ainsi que celui des parents ou tuteurs pour les incapables juridiques.

La quasi-totalité des victimes étaient de sexe féminin avec un seul cas d'agression homosexuelle féminine. Les tranches d'âge de 71% des victimes allaient de 0 à 15 ans et puis de 21 à 30 ans. L'âge de 77% des auteurs variait entre 16 à 40 ans .70% des auteurs étaient sans emploi ni qualification professionnelle.57% des victimes étaient des mineures non encore sexuellement actives. 34% des auteurs identifiés, étaient des proches parents vivants dans la même maison que les victimes, 59 % de ces agressions sur des mineures étaient incestueux avec un caractère répétitif.

La voie de pénétration vaginale était retrouvée à 97%. 90% des victimes avaient eu une atteinte mentale et/ou génitale. 20% des victimes ayant bénéficié d'un examen médico-légal, avaient eu une ITT de plus de 30 jours.

Aucun des auteurs n'avait été évalué sur le plan psychopathologique. Moins de 4% de ceux-ci avaient eu des poursuites judiciaires.

Les agressions sexuelles dans la ville de Yaoundé sont perpétrées par des proches parents des victimes mineures, de façon répétitive en journée pendant que les géniteurs et tuteurs sont à leurs occupations quotidiennes. Ces agresseurs bénéficient souvent de la clémence familiale influencée par la délicatesse culturelle de la famille africaine. Empêchant ainsi des suites judiciaires qui aboutissent rarement à une sanction, au profit d'une gestion discrète et silencieuse du cas, sans réparation du dommage causé à la victime.

Investigations de scènes de crimes au Cameroun : questionnement sur la place et le rôle du médecin légiste dans l'écosystème judiciaire camerounais

Alphonse L'avenir A. BIHINA

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Ce travail avait pour but de montrer la place et le rôle important du médecin légiste dans l'écosystème judiciaire camerounais.
Il avait été question de décrire grâce à une observation non participante sur le terrain, les différentes phases de l'intervention sur une scène d'investigation, à savoir : pré-interventionnelle, interventionnelle et post-interventionnelle.

Il s'agissait d'une étude descriptive et comparative, qui s'était déroulé en 2 phases : d'abord en Suisse lors des stages à la Brigade de Police Technique et Scientifique de Genève, et au Centre Universitaire Romand de Médecine Légale, sur la période allant du 04 au 20 Octobre 2021. Puis, au Cameroun sur la période allant du 1er Décembre 2021 au 20 Janvier 2022.

La population d'étude avait été constituée des 21 scènes d'investigations auxquelles nous avions assisté au Cameroun. En se servant d'un questionnaire développé sous les logiciels Epi info 7 et Excel, la collecte des données avait été faite à partir de 21 fiches d'interviews accordées à 3 médecins légistes pour 15 fiches et à 2 criminalistes pour 6 fiches, puis avions comparé ces données aux observations faites en Suisse.

Le délai d'intervention moyen en Suisse était de 1h30 tandis qu'au Cameroun, il allait de 5h à 12h surtout quand il fallait intervenir hors de la circonscription judiciaire de Yaoundé. Le médecin légiste était sollicité en Suisse pour tous cas d'homicide, tandis qu'au Cameroun c'était seulement pour des cas de morts de suspectes. En Suisse criminalistes et médecins légistes étaient briefés sur le cas au téléphone lors de leurs réquisitions, tandis qu'au Cameroun c'était sur les lieux.

Les sites avaient été biens protégés en Suisse tandis qu'au Cameroun ils avaient été pollués par des acteurs non indispensables. Les prélèvements biologiques recommandés avaient toujours été effectués en Suisse tandis qu'au Cameroun, même ceux obligatoires n'avaient parfois pas été effectués. L'intervention avait été plus aisée en suisse grâce à des procédures harmonisées et une parfaite collaboration entre criminalistes et médecins légistes alors qu'au Cameroun on avait souvent rencontré des difficultés procédurales, de collaboration et même logistiques.

Le système d'intervention sur des scènes d'investigations en Suisse ancré dans une culture forensique de longue date est suffisamment avancé du point de vue organisationnel et technologique, par rapport à celui du Cameroun.

Prise en charge des femmes victimes de mutilations génitales: organisation socio-médico-judiciaire en Maine-et-Loire (France).

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Il est établi par la communauté scientifique internationale que les mutilations génitales féminines/excisions sont une pratique pourvoyeuse de comorbidités aigues ou chroniques.

Cependant, elles sont toujours pratiquées dans plusieurs zones du globe, leurs prévalences peuvent aller jusqu'à plus de 90% pour certaines populations africaines. Pour ces raisons, elles demeurent une problématique d'actualité qui reste largement débattue sur le plan international, notamment dans le domaine législatif, qui s'efforce de proposer et d'harmoniser des plans d'actions visant à abroger ces pratiques. La France accueille depuis des décennies un grand nombre de réfugiés et notamment de femmes provenant de régions de forte prévalence de mutilations sexuelles, de ce fait, elle est particulièrement concernée par ce sujet. C'est pourquoi, la législation française est en perpétuel remaniement dans un but d'amélioration des prises en charge médico-chirurgicales, sociales, psychologiques et obstétricales déjà existantes.
Dans ce contexte, nous présentons le cadre législatif français et la prise en charge pluridisciplinaire proposée aux personnes concernées par les mutilations génitales féminines ainsi que leurs mises en pratique sur le territoire de Maine-et-Loire (France).

Border Project. Towards a multi-agency mechanism for the identification of missing migrants

Claudia Bisso

EAAF

For the last 10 years EAAF has been working on the establishment of a mechanism for the identification of missing migrants that went missing on the Central America-Mexico-USA corridor with big success.

- The objective of the Border Project aims to create a regional forensic mechanism to exchange information on missing migrants and unidentified remains in the Africa/South West of Europe migrant corridor.
- The ultimate goal is to significantly improve the assistance to families of missing migrants in their search among unidentified remains, regarding their right to truth and justice.
- Work on the improvement and adoption of good forensic practices in the identification of remains for cases specific to missing migrants.

Crowd Control – Forensic Pathological Perspectives

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On the 16 August 2012, thirty-four (34) miners, who were apparently protesting employment and salary-related matters at the Lonmin platinum mine between Rustenburg and Brits in the North West Province of South Africa, were reportedly shot dead by police during a confrontation. Several other people were also wounded by gunshot injuries.

This incident became known as the Marikana Mining Massacre. In July 2021, violent unrest, anarchy and looting erupted in KwaZulu-Natal and Gauteng, which decimated businesses, hospitals and health services, it brought Covid-19 vaccination to a halt. Lives were endangered by violence as well as by lack of access to treatment, medicine, oxygen, food and essential supplies. Pharmacies were lost due to looting. Ambulances were attacked.

Services were suspended. There was large scale destruction and damage to properties and both the public and the private sector were hard-hit. There were also many protest-related injuries and deaths. By late Wednesday, 14 July 2021, high levels of unrest had begun to subside, after the South African National Defence Force (SANDF) fanned out across KZN and parts of Gauteng, and as law-abiding citizens worked with public and private security forces to guard areas.

Considering the potential for violent anarchy, hostile crowds and hordes of people, certain questions have repeatedly come to mind when dealing with mass disasters and tragedies: How to responsibly quell a swathe of angry humans? What options exist for maintaining crowd control and preventing further violence?

The concept of less-than-lethal weaponry comes to the fore. What are the forensic pathological perspectives when considering such measures?

The presentation will be in keeping with the theme and sub-themes of the conference, namely harmonization of evidence-based forensic science practice in Africa and a holistic approach towards a safer continent. Current state, challenges and opportunities for improvement.

A literature review on crowd control methods was conducted, with a focus on less-than-lethal weaponry.
Practical psychology; dogs and horses; rubber bullets; tear gas; sound and noise techniques; stun grenades; water cannons; mechanical methods; Tasers and Conducted Electrical Weapons; maloderants and miscellaneous techniques were researched. The pros and cons of the different methods are discussed, and the most forensically-responsible crowd control methods are proposed.

Etude de la psychopathologie des auteurs d'agressions en Guinée : aspects socio-démographique et médico-légal.

Namoudou CONDE, Gabriel Raymond Marie KONATE, Amadou Mouctar DIALLO, Hassane BAH.

Les études réalisées spécifiquement sur la psychopathologie des AAS dans le contexte africain sont rare. La prise en charge des AAS ne consiste pas seulement à un traitement thérapeutique, il faut associer une approche psychologique. Le but de ce travail a été de contribuer à l'étude des aspects épidémiologique, médico-légal et psychiatrique des auteurs d'AS sur les pré-pubères.

Il s'agit d'une étude prospective de type descriptif d'une durée de 3 mois allant du 1er janvier au 31 mars 2020, au CHU de Conakry. En Guinée?

Notre étude a inclus 121 présumés auteurs d'agressions sexuelles. La tranche d'âge de 20 à 29 ans était la plus représentée avec 45,54% ; 98% étaient de sexe masculin, célibataires dans la majorité des cas (72,28%). Les ouvriers représentent 50,50%, les élèves/étudiants sont 12,87 %. Dans 95,05% le lien extrafamilial était représenté avec une prédominance des voisins à 41,67%. Dans 51,49% l'état mental était indemne de tous troubles psychopathologiques, 14,85% souffrent de toxicomanie, 7,92% de manie et 7,92%d'un état de stress post-traumatique. Le viol était le principal type d'agression sexuelle rencontré dans notre étude soit 72,10%, suivi des attouchements 27,00%. Sur les 101 présumés auteurs d'agressions sexuelles, 8 ont été jugés et condamnés à des peines d'emprisonnement allant de 3 à 10 ans.

Les agressions sexuelles sont fréquentes à Conakry. Elles constituent un véritable drame dont la prévention passe par la sensibilisation des populations, la répression judiciaire des auteurs et surtout par le suivi psychologique de ces derniers.

Mots clés: - Auteurs - Agression sexuelles –Psychopathologie – Guinée.

La dépression masquée chez les filles victimes d'agressions sexuelles à Conakry : Aspects épidémiologique, clinique et médico-légal.

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La dépression masquée est un problème de santé publique récurrent chez les filles victimes d'agressions sexuelles. Notre étude avait pour objectif d'étudier la dépression masquée chez les filles victimes d'agressions sexuelles à Conakry.

Il s'agissait d'une étude prospective de type descriptif d'une durée de 6 mois allant du 1er Décembre 2021 au 31 Mai 2022. Nous avons inclus dans notre étude, toutes les filles victimes d'agressions sexuelles présentant une dépression masquée et qui ont accepté de participer à l'étude. Les variables d'étude ont été quantitatives et qualitatives.

Nous avons colligé 314 cas d'agressions sexuelles dont 64 ont présenté une dépression masquée soit une fréquence de 20,4%. L'âge moyen de nos victimes était de 14,5 ± 4,8 ans. Les célibataires étaient nombreuses soit 87,5%. Les élèves étaient majoritaires avec 54,7%. La peur était l'état psychologique à l'admission majoritaire avec 40,6%.

Les douleurs abdominales étaient le signe le plus représenté soit 87,5%. L'acte était commis entre 18h et 00h soit 54,7% et par un seul individu dans 87,5% cas.

Les types d'agressions sexuelles étaient génito-génitales soit 84,3%. La majorité des agresseurs était connu de la victime soit 62,5%, seulement 9,4% de nos victimes avaient réalisé une psychothérapie.

La dépression masquée serait une conséquence à haut risque dont les filles victimes d'agressions sexuelles souffrent. De prochaines études sur l'aspect psychologique et le devenir de ces victimes seraient contributives afin de favoriser une bonne insertion et intégration dans la société.

Mots clés: Dépression masquée, agression sexuelle, aspects épidémiologique et médico-légal, Conakry

Etude comparative des agressions sexuelles en milieu scolaire, entre quelques villes de notre continent et la ville de Sidi Bel Abbes.

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La violence en milieu scolaire prend plusieurs formes (verbale, physique, psychologique, atteinte aux biens, atteinte à la sécurité et violences sexuelles). Les conséquences de cette violence sont très importantes et variables, peut atteignant le syndrome de stress post traumatique.

Dans notre étude de ce phénomène mondial ; on a procédé à une étude prospective, transversale sur une population de différents niveau (primaire, collège et le secondaire). Cette étude est poursuivie d'une autre étude comparative avec la violence sexuelle des villes de différent pays et de différents continents.

On a eu comme résultats un ensemble de lésions physique, sexuelle et psychologique ; surtout au niveau des collèges dans notre ville de SIDI BEL ABBES. L'ensemble des lésions issues des agressions sexuelles observées sont défini comme des simples attouchements, ou bisouterie associé à d'autres lésions physique types ecchymoses, ou excoriations ou parfois isolées.

Néanmoins, les répercussions de ces violences en milieu scolaire étaient très graves en raison du bas âge des victimes. Le syndrome de stress post traumatique était observé dans ¾ des cas de violence sexuelle. L'ensemble de ces agressions sont considérés très graves, nécessitant une prise en charge psychologique à court et à long terme; un groupe de travail très bien formé et bien adapté aux cas de violence. Mais aussi, un recyclage à répétition envers les encadreurs (instituteurs, administrateurs et autres)

Mots clés: violence scolaire, violence physique, agression sexuelle, syndrome de stress post traumatique.

Evidence-Based Forensic Medicine in Saxony (Germany)

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Forensic medicine has a very long tradition in Germany. Well I am the director of the more than 120-years-old Institute for Forensic Medicine at the University of Leipzig. The scientific institution was founded by the Ministry of Education in the Kingdom of Saxony in 1900 at the insistence of Professor Richard Kockel. He helped forensic medicine gain a high reputation by integrating findings from criminalistics. Since then, scientific findings, especially in biology and toxicological chemistry, have been transferred to forensic practice by the senior professors and their assistants. In this way, spectacular crimes could always be better solved.

Today the institute is therefore divided into 3 departments. Forensic medicine, molecular genetics and toxicology. At the same time, more than 300 medical students are trained by us at the medical faculty every year. Passing the state examination in forensic medicine is a prerequisite for obtaining the license (so-called Approbation) to work as a doctor. This means that doctors can also start training to become a forensic specialist over a period of around 5 years, with the completion of a detailed curriculum.

All deceased must be examined by a doctor for a death certificate. In the case of a cremation, a forensic medical examination is also carried out. The execution of the autopsy is accompanied by computer tomographic examinations.

In addition, histological assessments and toxicological analyzes are regularly used to rule out intoxication and to assess possible alcoholic influence. Victims of physical violence are examined in the outpatient clinics of the forensic medicine institutes and the findings are documented with photographs. The quality of the routine work is continuously checked by a central institution, the German Accreditation Company (DAkkS). If errors and deviations occur, they must be remedied in a binding manner. This ensures the forensic security of findings.
The principles and rules of forensic diagnostics in Germany and Saxony have proven themselves over the centuries. Reports from the institutes of forensic medicine are an integral part of criminal proceedings in German courts. The practiced examination criteria, especially for the postmortem examination, could also be transferred to institutions in African countries. We would like to support you in the further implementation.

Post-mortem Interval Estimation in Southern Nigeria

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As a first step to decedent identification, post-mortem interval (PMI) estimation poses a challenge in Nigeria due to the high human remains burden from armed conflict, terrorism, and kidnapping for ransom, coupled with scarcity of forensic scientists. This is worsened by a lack of locally derived formulae for PMI estimation.

The aim of this study was to assess decomposition rates in southern Nigeria and to derive formulae for PMI estimation by using the quantitative variables Accumulated Degree Days (ADD) and total body score (TBS).

Using 20 domestic pig (Sus scrofa) carcasses divided into two groups (n=10) representing the wet and dry seasons, decomposition was observed over 14 months in Nibo, Anambra state, with the pigs locked in metal cages to avoid disturbance by large carnivores.

ADD was calculated by adding the daily averages of the maximum and minimum temperatures for each day starting from the date of death to the end of data collection for each individual pig. Scatter plots between TBS and PMI, and TBS and ADD were used to show decomposition patterns.

Decomposition generally progressed rapidly and was faster in the wet season when humidity was higher and more arthropod species were noted. Stalled or prolonged desiccation was a common experience. This was more common in the dry season with 90% (n=9) of the pig sample undergoing this change when compared to 60% (n=6) of the wet season sample. Linear regression formulae for ADD and PMI, and 95% confidence interval charts for TBS and ADD were derived.
The derived formulae could be used to estimate post-mortem interval for both when the season of deposition is known and unknown. They provide a working tool for forensic scientists when estimating PMI in southern Nigeria and other regions with similar climatic conditions.

The Science of Forensic Evidence: Practical Realities and the African Context

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How do we know the fact of forensic evidence? What science, with due processes, is applied?

Evidence has been at the core of forensic practice, medico-legal investigations and associated judicial mechanisms. The impact it has on the final determination or outcome of cases could be phenomenal and life-changing for the individuals involved and the larger community. Hence the science of forensic evidence becomes a critical consideration that should engage the attention of practitioners, policymakers and relevant authorities across the world as an ongoing process that is driven by contemporary knowledge and understanding of the intrinsic nature of forensic evidence and its relevance, in general, and in specific circumstances. The practical realities with evidence reference, especially in the African context with the peculiarities, require a closer look and

deeper contemplation to achieve a consistent safe forensic practice in various jurisdictions.

The objective consists to critically examine the operational factors and any supporting principles, policies or regulations that are generally prevalent in Africa on forensic evidence and the science that validates the fact of it as a reliable and safe component in forensic investigation, expert witnessing and dispensation of justice.

Forensic field operations and case management modalities are highlighted to demonstrate the dynamics of forensic evidence handling (identification, collection, documentation, packaging, transportation, storage, the chain of custody, laboratory analysis, reporting, interpretation, and presentation) and related processes from the scene to the court.

There are assumptions about the rigour of forensic evidence that have been predicated on the fact and science of it. Interrogating these presumptions in routine and special forensic caseloads vis-à-vis the understanding and application of standards, critical evaluation of existing and emerging knowledge and modalities and the integrity of the process chain, results in a healthy scepticism that is context specific and firmly anchored on the "beyond reasonable doubt" frame.

Forensic evidence is only the tip of the iceberg. Practitioners and other stakeholders in the forensic field will need to dive below the surface and appraise what is not usually apparent when evidence is on display. If a dogmatic approach prevails, a tragic miscarriage of justice, loss of public confidence in the forensic professions, and damage to civil order, law enforcement and security are potential risks with dire consequences, especially in the African context. Therefore, the science of forensic evidence must be evident in practice and application.

Keywords: Forensic evidence, Science, Justice, African context.

Holistic approach towards a safer society – Identification of unknown deceased and supportive academic exchange in forensic sciences in Mexico

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More than 60,000 people are currently considered officially disappeared in Mexico, and even a higher number of unreported cases can be assumed. In addition, there are over 37,000 unknown deceased whose bodies are either stored in forensic medical institutes in the federal states, were buried in public cemeteries or lay still in mass graves.

In addition, Mexico records nearly 100 homicides per day (vs. Germany: 0.7 in 2019 / vs. Rwanda: 0.8 in 2015). Due to a low clearance rate of such capital crimes in Mexico, many individuals remain unidentified and people are considered as disappeared. The consequences of these high numbers are pervasive and deep for the social integrity and a safe society in Mexico.

Increase the level of identification of unknown deceased in Mexico by establishing and implementing a software (mergeable ante-mortem and post-mortem database for professionals and relatives) and hardware (mobile fingerprint scanner) solution for a safer Mexican society.

Development of an interdisciplinary German-Mexican cooperation of the forensic disciplines as well as assistance for the identification of missing persons and unknown deceased in Mexico using the most modern scientific and technical approaches and associated companies such as DERMALOG (Hamburg, Germany). To this end, with the help of a German IT team, a uniform ante-mortem (application-based) and post-mortem (web-based) database is being created, which will merge previously existing databases and enable digital fingerprinting and matching for relatives and professionals.

➤➤A unified ante-mortem and post-mortem database is developed
The ante-mortem database is easily accessible for relatives, using an application on their mobile devices or a website.
The post-mortem database for forensic specialists is an access authorization regulated database.

➤➤A tailor-made fingerprint scanner software is developed and applied on scanner devices Mobile fingerprint scanners have been handed out to various regional authorities and will be used to compare fingerprints of deceased with the available databases for identification purposes.

➤➤New country-wide process for identification of unknown deceased
New hardware-enabled digital process for country-wide identification of unknown deceased securing higher success rate and faster turnaround for identification and subsequently increased information for legal authorities.

The oral presentation will highlight the interdisciplinary teamwork implemented to achieve the objectives and will explain the database and fingerprint software in detail.

Improving the Identification of Human Remains Through Innovation (Digital Biometrics)

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The day-to-day identification of the deceased in all cases of death is often not seen as priority. Considering the fact that most offenders that commit acts of violence that may lead to the death of the victims are people close to them, this becomes an important part of the investigation. If these victims are not identified, the perpetrators are unlikely to be prosecuted. Also, where visual identification can't be performed, for example, in cases where bodies are mutilated or charred, families are traumatised by the delay in burial.

There has been a rise in unidentified and unclaimed bodies at medico-legal facilities and fraudulent insurance claims as a result of inadequate identification methods.

Many people working with human remains are not well trained and struggle to take simple biometrics like fingerprints or photos to assist with identifying the deceased.

The use of electronic biometric fingerprint scanners, accredited for the living, is one of the innovations that will enhance the quality of fingerprints collected from the dead and significantly impact the identification and verification of human remains. It is also important to focus on secondary identifiers such as cell phones or SIM cards which will provide leads to a presumptive identity and could assist with primary or visual identification.

It was proved through research that ordinary biometric scanners are able to produce a good-quality print taken from the deceased that can be matched to a database for comparison. These prints can be captured, and sent manually to linked directly to the National Population Register or Police fingerprint database. This improves the likelihood of obtaining a positive result, and the deceased's identity can be verified within 5 minutes. In one hundred cases biometric fingerprints were captured, searched and verified, showing significant results.

Secondary identifiers such as cell phones, memory cards, and SIM cards has also proven to be beneficial in the identification process. Through the presumptive identity it allows authorities to connect with possible family members. This is especially relevant when the deceased is not registered on the population register or criminal record database.
The method described above improves the scientific identification of the deceased, reduces the turnaround time in identification and provides closure to the family. This will also assist in restoring trust in the Forensic system by "giving a voice to the voiceless."

Investigation of Aflatoxin B1 levels in food samples collected in 3 districts of Rwanda

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The environmental conditions of the tropics and subtropics have always been the main justification for the unavoidable presence of fungal toxins in crops.

Fortunately, due to a strong awareness of the economic impact of these toxins on crops and livestock, pre-harvest prevention measures have been adopted to mitigate fungal growth and mycotoxins production in many African countries. However, evidence shows that mycotoxins contamination in foodstuffs on local markets exceed legal limits and puts local people at risk especially infants and young children.

The purpose of this study was to determine the level of aflatoxin B1 in different food samples collected on the Rwandan market. In this study, Aflatoxin B1 (AFB1) was analyzed in 90 porridge flours samples including maize, peanuts and mixed ingredients; and 90 grain samples including maize and peanuts collected in the main open markets of Kigali city (Nyarugenge district), the Northern (Burera district) and the Southern (Huye district) Provinces of Rwanda.

Sample collections was carried out between June and August 2021. Enzyme-Linked Immuno-sorbent Assay (ELISA) and Ultra-high Performance Liquid Chromatography (UPLC) were used to analyze samples.

Location and processing were significant factors for aflatoxin contamination level. The overall mean AFB1 in samples from the Northern Province is 17.80 µg/kg (SD=70.25); the mean AFB1 in samples from the southern Province is 36.36 µg/kg (SD=85.59), and the mean of AFB1 in samples from Kigali city is 7.68 µg/kg (SD=18.49). The 90 flour samples has a greater mean (M=37.61, SD=89.13) compared to the 90 grain samples (M=3.19, SD=5.53). However, no significance effect was found for packaging.

The percentage range above each limit considered vary between 63 and 100%, 15 - 86% and 0 - 75% for EU MLs in baby and young children's foods (0.1 µg/kg), EU MLs in processed cereal and nuts (2µg/kg) and EAC (5 µg/kg) limits, respectively. For grain samples, 53% (peanut) and 5% (maize) had >5 µg/kg AFB1, the EU and EAC limit.

The suggestions of this study for the health of the Rwandan population in general and of children in particular call for further investigation to study the influence of the processing of cereal products and the packaging of finished products on the accumulation of aflatoxins. Pre-harvest preventive measures to mitigate and monitor the growth of toxigenic fungi are encouraged to reduce aflatoxins contamination.

"CrossFace" – AI-based personal identification and automated age estimation

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Identifying individuals is one of the most important issues in forensic disciplines. While video surveillance in general is increasing in parts of the world and individual identification can be done automatically, the verification must be performed against reference images in the same image domain to achieve greatest accuracy and forensic evidence.

Since different recording technologies adapted to the respective situation are used for different applications of security cameras, there are no approaches yet to identify persons independently of the recording technologies used.

In addition, facial aging reduces the accuracy of facial recognition software. So far, the commercially available age modeling software is still too imprecise for the forensic context.

For facial recognition of unknown deceased with putrefactive changes, computer-based facial reconstructions could help to identify them.

As part of the project "CrossFace" for improved computer-aided personal identification, the Institute of Legal Medicine Hamburg is cooperating with DERMALOG, a Hamburg company for biometric IT systems, and the Bucerius Law School Hamburg.

The aim of this project is to link different recording technologies for automatic face recognition and to improve an AI-based interpretation-neutral method for modeling post mortem facial changes for reconstruction to increase the identification rate of unknown deceased.

In order to improve face recognition and a plausible simulation of the age variability of faces for automatic age determination, technologies for image domain transfer and cross-domain-matching are to be developed

by the project partner DERMALOG (methods for style transfer between NIR and RGB, between 3D and RGB and for the implementation of super resolution).

Therefore, at least 200 living adults of both sexes are to be photographed at five different times using all available recording technologies / camera systems. Each subject's face is recorded from 5 different standardized perspectives several times. Further, 200 deceased of both sexes are to be photographed from two perspectives. One camera takes pictures of the face as frontal as possible. With another camera, both sides of the face are photographed in order to capture as many facial features as possible.

Additionally, a post mortem CT scan is taken of each deceased and relatives are asked to provide recent images of the deceased to compare changes per age decades stoichiometrically.

First results for the improvement of the face recognition method over the image domains show a good increase in accuracy compared to standard models.

Results for age simulation and automated age determination are not yet available. Preliminary analysis shows a positive correlation of the age-related changes (number of wrinkles and distribution pattern) with different age groups.

The oral presentation should highlight interdisciplinary teamwork in modern visual identification and will present unknown difficulties in study roll-out during the pandemic periods.

Use of Forensic Biometrics to Identify Unknown Dead bodies in Criminal Investigation in Rwanda

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Forensic biometrics refers to the identification of individuals based on peoples' unique physical and behavioral characteristics to administer justice.

In modern world, the technology is used for identification and access control of an individual via fingerprints, DNA, or iris (facial recognition) and also to profile criminals escaped.

Interpol established "Biometrics for frontline Policing" to secure and automated identification of criminals to enable officials at borders to carry out biometric checks against Interpol watch lists to detect and stop more criminals. In Rwanda, Criminal procedure allows application of all techniques of investigation including forensic biometrics, such as; DNA technology, Fingerprint identification and facial recognition.
The research focused on the challenges pertaining to the practical use of forensic biometrics during identify unknown cadaver as humanitarian act to return victim to loved ones and criminal proceedings in Rwanda. Documentary technique was used to attain the objectives of study, whereby data will be collected, interpreted and analyzed from legal texts, books, journal articles, annual reports, newspapers.

»Rwandan Civil and Criminal procedure Law

The preliminary investigation is made by RIB while Military related offences referred to the military auditoria. RIB submit cases to the NPPA to conduct further investigation and later submit the indictment to the courts.

»Scientific applied forensic biometrics practices

Fingerprint technology: is a successful tool in suspect tracing, investigation, prosecution of offenders as well as identification of unknown dead body hence returning missing individual to the loved ones.

DNA Technology: this is very important to identifying the suspect in crime like; murder, homicides, abortion and other cases.

Facial and voice recognition techniques: Currently are used in verification and security purpose but limited in investigation of crimes.

»Rwandan Legal Framework
Rwanda established laws and institutions on use of biometric data in criminal proceedings, like:

- Law N° 60/2018 of 22/8/2018 On prevention and punishment of cyber crimes
- Law N° 058/2021 of 13/10/2021 relating to the protection of personal data and privacy

- Law N°24/2016 of 18/06/2016 governing information and communication technologies

- Law No 26/2017 of 31/05/2017 establishing the national cyber security authority and determining its mission, organisation and functioning

- Law N°02/2017 of 18/02/2017 establishing Rwanda information society authority and determining its mission, organisation and functioning.

- Field practice

Currently, RIB (CSI) use fingerprint taking tool KIT to identify recovered unknown corpse with precondition of having National ID, Passport or Refugees ID (Use NIDA database); In addition to the above, there is a progress in use of forensic biometrics in Rwanda criminal investigation; DNA profiling is performed by RFL. Lack of enough infrastructure, no data base (DNA and facial) can lead to unnecessary complications of proceedings hence breach of fair trial principle.

Research proposed to harmonize forensic biometrics regulations, establish biometric center to manage biometric data. The legislators and enforcers have to be familiar with forensic biometrics to administer justice in Rwandan jurisdiction. To establish regional forensic biometric center for DNA and Fingerprint.

Key Words: Forensics - Biometrics – Investigation and Prosecution

Increasing Death Notification and Registration in Lagos State, Nigeria

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Death registration is part of the civil registration and vital statistics (CRVS), and the United Nations defines it as *"the continuous, permanent, compulsory and universal recording of the occurrence and characteristics of vital events pertaining to the population in accordance with the legal requirements of each country"*. The National Population Commission (NPC) is the agency in charge of recording of these statistics which include births and deaths in the Federal Capital Territory (FCT) and all the 36 States of Nigeria.

According to NPC, death registration is abysmally low at less than 10%. The low death registration rate will hamper achievement of several of the Sustainable Development Goals (SDGs) adopted by the United Nations which has set targets of 80% death registration by 2030. Lagos State is one the 36 states in Nigeria and most metropolitan with an estimated population of 13,393,701 as of 2021 (projected from 2006 census at a growth rate of 2.6%).

To increase the death notification and registration in Lagos State Nigeria in 2022 by 75% of baseline of 2021.

The following interventions were carried out with outcomes that should enhance overall increase in death notification and registration in Lagos State:

- Identification of challenges mitigating against death notification and registration by use of business process mapping

- Introduction of awareness programmes and death notification portal to ease data reporting.

- 2021 data on death events were retrieved from the NPC and goals set to increase the notification and registration by 75% of the previous year.

There are 2 aspects to the project, notification and registration. In 2021, 3092 deaths were recorded as registered while notification was zero as there was no formal process in place before the commencement of the project. As at December 31st 2022, the NPC was formally notified of 6120 death events while 2370 were recorded as registered i.e. a death certificate issued by NPC.

The formal death notification process was successful to an extent due to interventions that focused on health facility reporting directly to NPC via the portal. Unlike the notifications, the death events registered by NPC in 2022 was even less than that of 2021. This may be attributed to inadequate penetration of awareness intervention, lack of incentives to register deaths and, religious and cultural background of the citizens. Also, registration is sometimes delayed for many months by family members and overall figures may increase into 2023.

Framework for Developing DNA Policies in Africa to Address Criminal Justice and Humanitarian Needs in the Region

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Despite the obvious benefits, the use of DNA profiling and the establishment of offender and humanitarian DNA Databases remains limited in Africa. A lack of political will, funding, resources, and expertise are among some of the reasons for this phenomenon. The establishment and implementation of effective DNA policies however can both support and promote the development of forensic infrastructures throughout Africa.

To this end the newly established Forensic DNA POLICY BOARD for Africa has been convened to draft a framework for DNA policies to be adopted in African countries which are looking to enhance the use of forensic DNA profiling in their respective criminal justice systems and for humanitarian purposes. This presentation will unpack the reasons behind the scarcity of DNA policies in Africa, recommend ways in which effective DNA policies can be established and propose a "good to have" list of what is required to engage with the Process towards a DNA regulatory framework.

Dr Vanessa Lynch sits on the Forensic DNA POLICY BOARD for Africa

Les états de stress post-traumatique à Conakry : Aspects épidémiologique et médico-légal

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L'état de stress post-traumatique (ESPT) ou syndrome stress post-traumatique (SSPT) est un trouble d'adaptation survenant après exposition à un événement Traumatique.

Le but de ce travail était de décrire les états de stress post-traumatique à Conakry dans le cadre médico-légale.

Il s'agissait d'une étude transversale de type prospectif d'une durée de six (6) mois, allant du 1er Décembre 2019 au 30 Mai 2020.

Durant notre étude, nous avons enregistré 1610 consultations dont 51 ont présenté un état de stress post-traumatique soit une fréquence de 3,17%. La tranche d'âge de 20 à 29 ans prédominait avec une fréquence de 68,8%. Le sexe féminin était le plus retrouvé avec 60,8%. Concernant la situation matrimoniale, 56,9% des patients étaient célibataires. 47% étaient des Commercants /Marchands. Les motifs de consultation étaient dominés par les agressions physiques,86,2%. 27 patients ont développé un stress post traumatique aigu. La majorité de nos patients soit 58,8% a été confrontée à un évènement traumatisant se traduisant par la peur dans 51% des cas.

La reviviscence par la pensée prédominait dans notre étude avec 66,7%. L'évitement des activités, des endroits et des personnes étaient retrouvés dans 86,3% des cas. Les activations neuro-végétative étaient dominées par le sommeil interrompu soit 54,9%. Le stress post traumatique était plus significatif dans le domaine professionnel avec 58,8% des cas. L'état de stress post traumatique est une pathologie courante mais encore insuffisamment dépistée. Une bonne prise en charge permettra d'améliorer la qualité de vie des patients.

Mots clés : Etat de stress - post traumatique - Conakry

Profil épidémiologique et aspects médico-légaux des morts par noyade à Abidjan de 2002 à 2020.

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Décrire les caractéristiques épidémiologiques et les aspects médico-légaux des morts par noyade survenues à Abidjan.
Il s'agit d'une étude rétrospective à visée descriptive réalisée sur une période de 19 ans (2002- 2020) et portant sur les morts par noyade pris en charge par la Médecine Légale.

La noyade constitue l'étiologie la plus fréquente des asphyxies mécaniques (72 %). Les victimes sont généralement des jeunes hommes (89 %) d'âge moyen de 23,21 ± 14,16 ans, constituées majoritairement d'élèves/étudiants (41%). Les décès surviennent les mercredis (16,7%) notamment l'après-midi entre 12 et 18 heures (47,9%), correspondant au repos scolaire, donc propice aux activités de loisirs de type baignade. En ce qui concerne le milieu de survenue des noyades, la lagune représente 61% des cas contre 22% de noyades en mer. Le délai moyen de repêchage des corps est de 1,77 ± 1,035 jour et les circonstances de survenue de ces noyades sont généralement accidentelles (71,8 %), rarement suicidaires (7,1 %) et parfois indéterminées (21,1 %).
La noyade constitue un drame social en raison du caractère accidentel pendant les moments de loisirs.
La prévention repose sur la formation à la natation, le respect les consignes de sécurité et la surveillance des lieux de baignades.

Mots clés: Asphyxies mécaniques - Noyade - Médecine Légale - Abidjan

Prévalence et profil des féminicides à Abidjan de 2013 à 2022.

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Déterminer la prévalence et décrire le profil des féminicides survenus à Abidjan.
Il s'agit d'une étude rétrospective à visée descriptive portant sur les féminicides survenus à Abidjan sur une période de 10 ans allant de 2013 à 2022.

Durant la période d'étude, 357 homicides volontaires étaient recensés dont 25 féminicides représentant une prévalence de 7 %. L'âge moyen des victimes était de 36,3 ± 15,4 ans et l'auteur de ces féminicides était le plus souvent le partenaire (68 %). Les victimes étaient constituées de 24 femmes et d'un homme relevant de violence conjugale entre partenaires homosexuels. Les moyens les plus utilisés étaient les armes blanches notamment les instruments tranchants et piquants (52 %). Le contexte de survenue de ces homicides était dominé par la jalousie (64 %) ou le refus de la séparation par le partenaire-auteur (16 %). Les féminicides constituent un drame familial en raison du caractère le plus souvent intentionnel et prémédité.

Ces crimes est sont commis au moment où la victime s'y attend le moins par un partenaire qu'elle est censée aimer.

La connaissance de ces aspects médico-légaux pourrait être utile pour la mise en place des mesures de prévention.

Mots clés : Médecine Légale - Féminicides - Armes blanches - Jalousie - Abidjan

Fréquence et répartition topographique des os wormiens sur les crânes de squelettes africains exhumés à Abidjan (Côte d'Ivoire)

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Les os wormiens sont des os accessoires présents sur les sutures et fontanelles des crânes. Cette étude a pour but de déterminer la fréquence et la répartition topographique des os wormiens retrouvés sur des crânes de sujets africains exhumés à Abidjan.

Nous avons réalisé une étude observationnelle portant sur 235 crânes des squelettes humains ayant fait l'objet d'exhumations médico-légales dans la ville d'Abidjan (Côte d'Ivoire).

Des os wormiens ont été observés sur 44 crânes des 235 examinés soit une fréquence de 19 % (44 sur 235). Nous avons constaté que sur ces 44 crânes, 22 crânes (9,36 %) présentaient un seul os wormien et 5 crânes (2,12 %) avaient 3 os wormiens ce qui représentait le nombre maximum d'os wormiens.

Au total 81 os wormiens ont été observés sur les sutures et les fontanelles des 44 crânes. Concernant les sutures, les os wormiens étaient localisés majoritairement sur les sutures lambdoïdes (48 %) dont 34,5 % sur la lambdoïde gauche et 13,5 % sur la lambdoïde droite. Sur les fontanelles, les os wormiens étaient situés sur la fontanelle lambdatique dans 27 % des cas dont 17 % sur l'apicis et 10 % constituant l'os des Incas.

La connaissance de la fréquence et de la répartition topographique des os wormiens pourrait être utile aux praticiens notamment les chirurgiens, radiologues et anthropologues médico-légaux pour différencier une fracture du crâne d'une suture normale avec des os wormiens ou pour ne pas confondre un orifice de sortie d'une blessure par balle avec un petit os wormien fracturé.

Mots clés: Caractères discrets ; Os wormiens ; Crâne ; Côte d'Ivoire.

Droits des personnes vivant avec le VIH : enquête auprès des patients suivis à l'hôpital régional de Matam

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Le droit a pour but d'assurer le bon ordre social et de défendre les personnes vulnérables et parmi ces derniers, les personnes vivant avec le VIH (PVVIH). En effet, malgré les avancées considérables effectuées au niveau national et mondial, les PVVIH restent sujet à des pratiques discriminatoires. Or, un certain niveau de stigmatisation et de discrimination peut avoir un impact négatif sur cette population, et ce d'autant plus si elle n'est pas bien informée.

D'où la nécessite pour les PVVIH de connaitre leur droit dont l'un des principaux est le droit à la bonne information.
Le but de cette étude est d'évaluer les connaissances des PVVIH sur leur maladie et la législation qui l'entoure.
Il s'agit d'une étude knowledge, practive and coverage (KPC) transversale descriptive effectuée sur une période de 3 mois (octobre 2019 à décembre 2019), sur la cohorte de PVVIH pris en charge a l'Hôpital Régional de Matam.

Le dépistage était volontaire chez tous les patients. Le counseling prétest était fait dans 52,9% et le counseling post-test dans 97,1%. La confidentialité était respectée dans 76,5% des cas pendant les étapes du dépistage et du diagnostic. Moins de la moitié des patients (47,1%) avait partagé leur statut sérologique, avec le conjoint le plus souvent, sans intervention du responsable de prise en charge. Tous les patients avaient accès gratuitement aux traitement ARV.

Cependant 5,9% des patients signalaient avoir subi une discrimination par rapport à l'accès aux soins, au début et la confidentialité lors de la dispensation des médicaments n'étaient pas respectée dans 8,8%. Toutes les femmes sous traitement ARV, désirant une grossesse (52,6%), n'ont pas reçu de conseils en santé de la reproduction en rapport avec leur statut. Peu d'entre elles (11,8%) ont bénéficié d'un suivi PTME. Aucune procédure pour un recours légal n'a été entreprise.
Les PVVIH suivies à l'HRM, ne connaissaient pas, pour la plupart, la législation qui entoure leur maladie.
Mots clés : Droit - PVVIH- Matam

Facial Imaging for forensic Identification in a digital Age: Exploring new processes and platforms in unidentified and missing person's cases.

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Access to appropriate resources for forensic identification in the South African context are unevenly distributed across medico-legal services, which exacerbates the demands of a high caseload burden, especially when a large number (approximately 10%) of cases are unidentified or unknown.

The volume of unidentified cases in the medico-legal system is recognized as a crisis (Baliso 2019; Brits et al, 2020), and new approaches are required to address what is a significant public health, safety, and security problem (Keyes, Mahon and Gilbert 2022; Gibbon et al, 2022).

In most cultures it is considered unacceptable to publicly circulate unmediated images of the dead for various reasons of cultural, social, or religious affinity, and this has also been shown to be counter-productive for the purposes of identification for various reasons including post-mortem facial changes rendering a familiar face unrecognisable, and for the emotional burden associated with visual identification of the dead (Smith, 2020).

Technologically-enhanced methods of visual identification, including craniofacial reconstructions (CFR) and facial depictions from post-mortem photographs, which present a plausible image of a living appearance of an unknown decedent, are recognised practices internationally, and while some expertise exists in the South African context, such methods have not been adequately tested or implemented within the South African and African context for forensic identification investigations.

This paper describes the research design of the first doctoral research programme in the African context to focus on improving post-mortem identification protocols and practices through forensic facial imaging. A key objective is to increase the use of visual depiction methods to support complex identification cases in the South African context. Fostering productive academic exchange between key services in South Africa's medico-legal and forensic humanitarian systems and academic institutions who contribute expert consultation services to these organisations is essential to meet this objective.

The study blends practice-based (action-reflection) methods and theoretical analysis over three phases, to determine the efficacy of forensic facial depiction in complex identification cases internationally; understanding responses to different modes of presenting such depictions to the public; and understanding communication barriers regarding identification protocols, and the sharing of information between investigation organisations and with the public in the South African context.

Critical reflections on the affordances and challenges of the methodological approach, alongside anticipated findings from the first phase of the study will be reported.

Disaster Victim Identification and Migration - The Value of Using Scarification and Tribal Markings as Secondary Identifiers in Mass Fatality Incidents and Determining Source of Origin”

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Scarification has prevailed in Africa. The striking visibility and irreversible effects of keloids (enlarged raised scars) on dark skin has influenced the choice of this body modification. It has been performed for reasons such as beauty, religion, societal ranks, tribes and clans; and even perceived as wearing your identity card on your face in other African countries. The ultimate goal of the project is to create a database and application that will allow forensic practitioners and first responders to utilise it during victim identification process. It also aims to recognise the long-standing cultural practices of scarification and markings as a big part of identity in DVI; and establishing origins of unidentified individuals in mortuaries. The accessibility of this knowledge will aid in bridging issues surrounding fatality incidents and migration identification, and repatriating the deceased to their families.

Objective and methods consist of collecting, categorising and cataloguing cultural markings according to various regions in Africa. The synopsis of the research design will adopt a cataloguing system for the markings similar to the ANSI/NIST ITL 1-2000 standard used by law enforcement agencies to identify tattoo patterns.

Scarification and cultural markings have the cogency of symbolising identity both ante and post-mortem. In the context of migration, the top migrant departures and destinations is within the continent. Through scarification, we hope to show how these markings can define origin and how they can link deceased individuals to their families. Lastly, not only does this research aim to increase awareness of scarification as a marker of identity, but also increase accessibility and preservation of knowledge. Engaging communities at large will also be key in providing accurate data and information on these type of body modifications.

Épidémiologie des examens thanatologiques des populations migrantes de la région de Calais. Etude rétrospective sur 7 ans – de 2014 à 2020.

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L'évolution des flux migratoires mondiaux a fixé sur le territoire des Hauts de France, et en particulier sur le Calaisis, une population en espoir de franchir la Manche pour rejoindre le territoire de la Grande Bretagne. Les services de médecine légale (Unité médico- judiciaire du Centre Hospitalier de Boulogne-sur-Mer et Institut médico-légal de Lille) sont régulièrement sollicités dans le cadre des décès concernant cette population, par définition mal ou peu caractérisée.

Entre 2014 et 2020, 88 personnes identifiées comme « migrantes » par les services enquêteurs ont fait l'objet d'examens thanatologiques soit par l'UMJ de Boulogne sur Mer, soit par l'IML du CHU de Lille, soit par les deux services en complémentarité. Notre étude, rétrospective, s'est intéressée aux données épidémiologiques de ces cas (âge, sexe, pays d'origines), aux modalités et causes de décès (comparées aux données de mortalité en population générale en France), ainsi qu'aux problématiques d'identification des corps et de leur devenir.

Forensic DNA Aids Track Down the Activities of a Top East African Al-Qaida Terrorist

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International Terrorism has become a serious security threat to many countries of the world. Varying degrees of sophistications in the weapons used and targeted at masses have been recorded: Many countries of the world are using advanced methods to track down and suppress the actions of this terrorist acts. Lack of suitable mechanism in developing countries in the identification of terrorist has been a great challenge in the management of security in such jurisdictions.

Use of DNA profiling technology to link the international terrorist to scene of mass fatalities or other international crime scenes are some of the suitable methods used. This presentation gives a narration on how the Forensic DNA and intelligence information was used on tracking down and subsequent killing of one the most wanted Terrorist leader in recent times.

On 7th, August, 1998 there were twin bomb blasts in East Africa, one in Nairobi, Kenya, fifteen minutes later by a second one in Dar es Salaam, Tanzania. The Investigators zeroed on a suspect who was still on the run. The suspect was also thought to be the master planner of the car bomb that struck a hotel and missiles that were fired at an Israel airliner in year 2002 in Mombasa, Kenya. Three occupants of a motor vehicle disobeyed a military order to stop at a road block prompting the army to shot killing all the three in the outskirts of Mogadishu, Somalia.

DNA from wife, children, human remains from the suspect, electric shaver, a comb, manipulated passport, flash disc, news magazines, telephone calls
Chelex extraction method, quantified using the Real Time PCR, PCR and detection using 3130 xl genetic analyzer at a forensic laboratory, Kenya. DNA profiles were electronically stored in Genemapper IDX Version 1.0 software.

Tracking of telephone calls from service providers. Forensic document examinations The Forensic analysis carried from the reference samples from the wife, children, human remains, Shaver, Comb, telephone calls and document examinations was a perfect positive identification of the fugitive. This significantly proved that human identification through DNA profiling is one of the most valuable tools available for forensic work including the development of terrorism and counterterrorism measures globally. Third world countries would be best advised to invest in this technology which is relatively affordable even for low income countries.

Flax based armour backface signature injury against 9x19mm

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The overall concern of any armed force when it comes to field operations is the personnel wearing an efficient and effective body armour. The aim of this study was to prepare a flax-based body armour composite for personal protection, test them with ballistic impacts at level II and III threats according to NIJ standards and investigate their post backface signature injury against 9x19mm. To comply with NIJ Standard 0101.06 for Ballistic Resistance of Body Armour, the backface signature a projectile creates upon impact cannot exceed 44mm in depth. The objectives of this study were:

- To prepare a flax based composite body armour with flax as a base material.
- To test the efficiency of the made body armour according to NIJ standards 0101.06 level II and III threats and
- To investigate the armour panels backface signature injuries against 9x19mm. In this study it was found that the ballistic resistance test of standalone flax fabric laminated with the aid of Araldite epoxy resin against the bullet that has a mass of 7.7g with a velocity of 433.3m/s and kinetic energy of 657.1 resulted to the backface

signature value of 51.8 mm which is in excess of the accepted value and this shows that the dissipation of the energy and high velocity surpassed the capacity of the sample to absorb the kinetic energy. On the other hand, the ballistic resistance test conducted on the composite body armour where flax is hybridized with ballistic synthetic fibers of Kevlar and Dyneema bonded with Araldite epoxy resin in a soft armour body material and subjected to 9x19mm bullet impact that has a mass of 7.7g with a velocity of 432.8m/s and kinetic energy of 655.6 stopped the bullet and the backface signature measure was 20.2mm which is below a threshold standard according to NIJ standard 0101.06 where the minimum accepted backface value is 44 mm to credit a sample panel successful. Understanding the body armour backface signature is of paramount important in medical legal practice and investigation.

Keywords: Flax, Composite, Backface signature injury, Body armour

Aspects médico-légaux des plaies par égorgements: expérience du service d'ORL et de chirurgie cervico-faciale de l'hôpital principal de Dakar

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L'égorgement est une méthode d'homicide très connu, moins couramment utilisée dans les suicides et rarement accidentel. Ces implications médicolégales sont le plus souvent recherchées chez la personne décédée lors des autopsies médico-légales, en se basant, le plus souvent, sur les caractéristiques des lésions présentées. En effet, celles-ci peuvent donner une orientation quant aux causes et circonstances du décès. Toutefois, tous les égorgements ne se terminent pas par la mort et peuvent, même si telle est le cas, faire l'objet d'une évaluation médico-légale. Le but de ce travail est d'étudier les aspects médico-légaux des plaies par égorgement chez le vivant. Il s'agit d'une étude descriptive rétrospective au service ORL et de Chirurgie cervico-faciale de l'Hôpital Principal de Dakar, sur une période de onze ans (janvier 2010 à décembre 2021). Ont été inclus tous les cas d'égorgement reçus et pris en charge dans le service durant cette période. Le diagnostic médico-légal était fait en utilisant les photographies des lésions présentées par les victimes, ainsi que leurs dossiers médicaux.

Au total, 6 cas d'égorgement ont été pris en charge durant la période d'étude. Il s'agissait de 4 hommes et de 2 femmes. L'âge moyen était de 36 ans. L'arme blanche était utilisée dans tous les cas. Les tentatives d'autolyse étaient plus retrouvées (4), suivies des tentatives d'homicide. Aucun cas d'égorgement accidentel n'a été répertorié. Dans tous les cas, les blessures retrouvées concordaient avec le traumatisme évoqué. Les blessures par égorgement sont de plus en plus rencontrées dans notre pratique. Au-delà de la clinique et de la prise en charge, le diagnostic médicolégal revêt une importance capitale.

Mots Clés: plaies pénétrantes du cou – dommage corporel tête et cou

L'expertise psychiatrique dans le système judiciaire Rwandais

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En psychiatrie forensique l'expert psychiatrie applique la démarche scientifique au contexte juridique, englobant la justice pénale et civile, les questions correctionnelles ou législatives. Ceci implique donc l'évaluation et la prise en charge des personnes ayant des troubles mentaux et dont les comportements liés à ces troubles ont conduit celles-ci à commettre un crime ou un délit.

Au Rwanda, il existe une importante demande dans la conduite des expertises psychiatriques et la prise en charge des personnes qui présentent un risque important de dangerosité en lien avec le trouble mental sévère. L'objectif est d'identifier le profil des personnes poursuivies par la justice et adressées à l'hôpital neuropsychiatrique de Ndera pour expertise psychiatrique, d'analyser l'association

entre les infractions et des facteurs variés en vue d'améliorer le parcours de prise en charge adapté au contexte sanitaire et judiciaire rwandais.

Il s'agit d'une étude rétrospective, descriptive et analytique sur dossier des personnes qui ont commis des infractions pour lesquelles la justice a ordonné une expertise psychiatrique. Elle va s'intéresser des variables sociodémographiques, diagnostics, type d'infraction, type de prise en charge pour les personnes dont l'expertise psychiatrique a été ordonnée pendant la période de janvier 2017 à décembre 2022. Les données de l'analyse rétrospective seront complétées par l'analyse qualitative des données provenant des professionnels soignants et des professionnels de justice à travers des groupes de discussion.

114 expertises son analysées. L'âge moyen des personnes expertisées est de 40 ans. 100% sont de nationalité rwandaise et 82% (93) sont de sexe masculin. 79.1% (70) sont célibataires, 67 % sans logement et /81% (92) sans emploi alors que 91%(101) sont couverts par l'assurance mutuelle communautaire. 21 % (23) ont connu plus de 2 hospitalisations psychiatriques avant la commission d'infraction. Les données actuelles montrent que 79%(88) ne bénéficiaient d'aucun suivi ambulatoire avant la commission des infractions. Les troubles psychotiques sont les diagnostics les plus fréquemment rencontrés (30 %), les addictions et les troubles associés suivent avec 11% d'occurrence. 19% des expertisé ont commis les crimes d'homicides et parmi eux, 71 % ont commis des parricides.

18 % 20 ont commis des viols sexuels, essentiellement des viols sur enfants. Il y a une relation statistiquement significative entre les type d'infraction et les diagnostics psychiatriques (P=0.000), l'âge (P=0.000), le type d'assurance maladie (P= 0.000), le niveau de scolarisation (P=0.000) et le fait d'être occupé (P=0.0072).
Il existe un nombre important des cas de psychiatrie forensique dont la prise en charge spécialisé doit être planifiée pour assurer la réduction du risque de récidive. Les personnes avec peu de facteurs protecteurs (emploi, formation, logement, accès à la prise en charge) sont plus concernées.

Il faudrait mettre en place une planification continue pour ce qui concerne les considérations éthiques, les stratégies de continuité de prise en charge, la législation régissant les services de psychiatrie forensique, la formation du personnel dans ce domaine spécifique et le travail multidisciplinaire. Il faudrait mettre en place une collaboration entre les instances de justice et du secteur de la santé pour créer des unités de psychiatrie forensique.

Digital Forensics, Judicial integrity and Cyber Security: An analysis on the Impact of Corruption on Procedural Fairness

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Corruption is a pervasive problem that manifests itself in different forms. Advanced digital technology minimizes the risk in fact finding and the fight against corruption lacks an enforcement and capacity mechanism. This paper aims to review the effects of digital technology on procedural fairness in Zimbabwe.

Digital Forensic Investigations represent the science and legal process of investigating cybercrimes and digital media to gather evidence. Digital evidence must prove the commission of a crime, unauthorized access and a trace. Several indices of digitalization reveal that presenting digital evidence before a court or a tribunal can be very challenging. Yet following legal procedures in evidence gathering at a digital crime scene is crucial.

Exploiting exogeneous digital breadcrumbs in the Zimbabwean justice system, the paper provides the evidence of a negative impact on the use of the internet, social media and spy ware software on corruption. Yet the paper also shows that the dampening effect of digitalization on corruption manifests itself in investigations.

The study primarily involves a literature survey based on a desk study of multisource documents such as policy papers, legal statutes and academic literature from forensic science, artificial intelligence and the law. When used appropriately digital technology is an appropriate tool to combat corruption.

Keywords: Corruption, judicial integrity, digital forensics, digitalization

Environmental Forensics, Public Health and Armed Conflict: An analysis on the Importance of Forensics in Protecting the Environment.

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The environment does not fit into the law of peace or the law of war. While the environment transcends such barriers and is considered in a tripartite fashion jus in bellum, jus in bello and jus post bellum, it is present in all these phases, yet it is seldom considered through the armed conflict cycle. Environmental Harm committed during armed conflict cannot always be undone but the environment must nonetheless remain at the forefront of post conflict transitions because all human rights depend on supportive environments.

The prosecution of environmental crimes is rare and it is the aim of this paper to establish whether environmental forensics as an investigative technique, is a tool of establishing liability to ensure environmental protection. Environmental Forensics is a discipline aimed at conducting an investigation into pollution incidents to try to establish their cause. It also involves a study, an analysis and an evaluation of environmental issues in a legal dispute. As with any type of forensic investigation, environmental forensics is conducted for a court, with the aim of assisting it to come up with an appropriate decision. Yet there are some states that do not recognize the jurisdiction of the International Criminal Court. (ICC).

The paper will also reveal that the Geneva Convention and international legislation on environmental damage in armed conflict, are careful when it comes to the principle of proportionality and military necessity. Whilst this paper addresses maters of public concern in armed conflict, the dampening effects of enquiries on investigation are also evident. The study primarily involves a literature survey based on a desk study of multisource documents such as policy papers, legal statutes and academic literature from forensic science and international law.

Environmental forensics serves as both a gap filling function and a development function in international law, especially in issues that concern the protection of the environment and armed conflict.

If we use environmental forensics as a tool of establishing liability, we can address issues of environmental harm and human suffering.

Keywords: Environmental forensics, armed conflict, war crimes, investigative techniques

Bousculade mortelle au stade d'Olembé de Yaoundé: Implications médico-légales.

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Les manifestations sportives en général permettent un afflux massif de spectateurs. La 33ème édition de la Coupe d'Afrique des Nations de Football qui s'est déroulée au Cameroun du 09 janvier au 06 Février 2022 a été marquée d'un tragique évènement le 24 janvier 2022.

Décrire les aspects thanatologiques des victimes de la bousculade mortelle au stade Olembé de Yaoundé.

Sur réquisition de la gendarmerie nationale, un collège de 4 médecins légistes a été désigné aux fins de procéder aux autopsies médico-légales dans le but de déterminer les causes de la mort et d'établir la forme médico-légale.

8 victimes (5 hommes et 3 femmes) étaient recensées. Les lésions siégeaient pour la plupart aux étages céphalique et thoracoabdominal.

L'autopsie a retrouvé des hématomes extraduraux associés ou non à des fractures de voute ou de base du crane ; des signes d'asphyxie mécanique ; des contusions thoraciques avec ou non fractures uni ou pluri costales. La mort violente accidentelle était la forme médico-légale retenue.
Les décès liés à la bousculade sont relativement fréquents. Les victimes présentent une typologie lésionnelle variée. L'autopsie médico-légale est indispensable pour établir la forme médico-légale de la mort.

Mots clés: Bousculade – Mort – Autopsie médico-légale – Cameroun.

Deadly stampede at Yaoundé's Olembe Stadium: Forensic Implications.

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Sports events in general allow a massive influx of spectators. The 33rd edition of the African Cup of Nations football which took place in Cameroon from 09 January to 06 February 2022 was marked by a tragic event on 24 January 2022.

To describe the thanatological aspects of the victims of the fatal stampede at the Olembe stadium in Yaoundé.

At the request of the National Gendarmerie, a panel of 4 forensic doctors was appointed to conduct medico-legal autopsies in order to determine the causes of death and establish the medico-legal form.

8 victims (5 men and 3 women) were identified. The lesions were mostly located in the cephalic and thoracoabdominal stages. The autopsy found extradural hematomas associated or not with fractures of the arch or base of the skull; signs of mechanical asphyxiation, chest bruises with or without uni or pluricostal fractures. Accidental violent death was the preferred forensic form.

Deaths related to stampede are relatively common. The victims have a varied lesional typology. The medico-legal autopsy is essential to establish the medico-legal form of death.
Keywords: Stampede – Death – Forensic autopsy – Cameroon.

La problématique de l'identification médico – légale des victimes de catastrophes au Cameroun: cas du crash de l'Aéronef TJ TIM DHC-6-400

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Les auteurs rapportent l'identification médico-légale des victimes après le crash de l'Aéronef TJ TIM DHC-6-400 de la compagnie nigériane Caverton le 11 Mai 2022, dans la localité de Bibey (Arrondissement situé à 259 km de la capitale Yaoundé).

11 occupants étaient à bord, dont 2 membres d'équipage. Les restes humains acheminés à la morgue de l'Hôpital Central de Yaoundé ont été récupérés par les gendarmes avec l'aide des populations riveraines. Sur réquisition de la gendarmerie nationale, un collège de médecins légistes a été constitué aux fins de procéder aux opérations d'identification des restes humains dans le but de restituer les dépouilles aux familles. 9 victimes ont été identifiées par typage ADN.

Les 2 autres l'ont été à l'examen macroscopique et par les effets personnels.

Au terme des investigations, nous soulignons l'importance d'une gestion pluridisciplinaire pour l'identification des victimes de catastrophes et la mise place d'un cadre adéquat à la réalisation d'investigations médico-légales dans notre pays.

Mots clés: Identification médicolégale – Catastrophe – Victimes – Cameroun.

The problem of Forensic Identification of Disaster Victims in Cameroon: Case of the Aircraft Crash TJ TIM DHC-6-400

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The authors report the forensic identification of the victims after the crash of the aircraft TJ TIM DHC-6-400 of the Nigerian company Caverton on May 11, 2022, in the locality of Bibey (District located 259 km from the capital Yaoundé).

11 occupants were on board, including 2 crew members. The human remains brought to the morgue of the Central Hospital of Yaoundé were recovered by the gendarmes with the help of the local populations.
At the request of the National Gendarmerie, a college of forensic doctors was set up to carry out operations to identify human remains with a view to returning the remains to the families. 9 victims were identified by DNA typing. The other 2 were examined by macroscopic examination and by personal effects. At the end of the investigations, we put emphasis on the importance of multidisciplinary management for the identification of victims of disasters and the establishment of an adequate framework for the conduct of forensic investigations in our country.

Keywords: Forensic identification – Disaster – Victims – Cameroon.

Postmortem Diagnosis of Bacterial Meningitis in a Young Child: A Case Study

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Bacterial meningitis is an acute inflammation involving the leptomeninges (particularly the arachnoid / subarachnoid space) secondary to the presence of bacteria within cerebrospinal fluid. Currently, the most prevalent microorganisms responsible for acute bacterial meningitis are group B Streptococcus (in infants less than 2 months of age) and Streptococcus pneumonia in all other age groups, with the exception of 11 - 17 year olds, where Neisseria meningitides still prevails. Classic clinical features include fever, headache, stiff neck, to name a few, associated with increased intracranial pressure. The diagnosis is made through a combination of the clinical symptomatology and cerebrospinal fluid (CSF) findings and the treatment relies on early initiation of appropriate antibiotic therapy, accompanied by high dose corticosteroids.

This is a case study of postmortem diagnosis of bacterial meningitis in a young child. A 12-year-old boy brought to our department dead of unknown cause while at school. The symptomatology started with eye discomfort that worsened progressively for two days prior to death. On skull opening there was massive brain edema, congested leptomeninges, and disseminated bleeding with extensive pus formation and cloudy meninges (See the pictures A - C). And sample for culture was taken. Swab was collected from the brain and cultured on different media (i.e: Chocolate Agar, MacConkey Agar and Blood Agar). And gram stain to determine the presence of bacterial infection was performed and diplococci intracellular gram negative are identified. There was growth on Chocolate Agar where the Analytical Profile Index for Neisseria and Haemophilus (API-NH) performed and Neisseria meningitidis confirmed.

Even though death from bacterial meningitis is rarely attributed to the actual event causing

Even though death from bacterial meningitis is rarely attributed to the actual event causing death, in this particular case, the child did not have any other comorbidity and this has been confirmed as the cause of death.

Effectiveness of Forensic Medicine Practices: Rwanda Facing Shortage of Forensic Pathologists

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Forensic pathology has often been disregarded in western and nonwestern countries, including the African nations. In this review, we highlight the scarcity of forensic pathologists in Rwanda and make recommendations to encourage physicians to pursue the subspecialty of forensic pathology.

Critically, we analyze issues and challenges related to the inadequate supply of forensic pathologists in Rwandan health care sector and find out that the reasons for the shortage are: lack of exposure to forensic pathology, no direct path for forensic pathology training, and lack of funding for fellowships in forensic pathology. We have to scientific and legal literature from books, journals, national and international reports, and electronic sources on forensic pathology training and workforce.

A global shortage of forensic pathologists exists, and this makes forensic practice such as examinations and assessments of suicide, child deaths, maternity and domestic abuse deaths, work and product safety deaths, as well as natural disasters to be done poorly and hence affecting the administration of justice. Surely, Rwanda will influence other African nations in the field of forensic pathology during the next few years.

Keywords: Rwanda, Criminal Justice, Forensic Pathologist, Forensic Medicine, Health Facility, Forensic Practice

Forensic science: Politics & practice in Africa.

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Forensic science according to the Sydney declaration is defined as case based or (multi case based) research oriented endeavour using the principles of science to study and understand traces -Remnants of past activities (such as an individual's presence and actions) through their detection, recognition, examination and interpretation to understand anomalous events of public interest (e.g. crimes, litigations, security incidents). Forensic science all over the world has served humanity been a useful tool in the medicolegal system with a resultant stability in the political atmospheres in many nations of the world. However, In Africa, Forensic science practice have been marred with a myriad of cultural, administrative, religious and political issues which contend directly with its operations, structure, establishment and delivery towards the peace and eventual stability of the African continent.

Africa known for crimes such as banditry, cybercrime, fraud, Kidnapping & a political system which have taken more from the innocent than have given back to them have shown evidence culminating in total systemic corruption riddled by an unending violence. The practice of the traditional detective system without a solid institutional frame work in forensic over the years have proven not good enough in combating the emerging crimes in Africa.

Despite the improvement of forensic in other developed nations of the world, Africa on the other hand have lagged behind in the embrace of this emerging science despite abundant evidence of how forensic science have helped other nations of the world in resolving complicated issues of monumental national and international attention and significance.

The absences of a solid medicolegal system in the African continent have engendered injustice which opened up wounds of afflictions resulting in generational repercussions.

In this scientific narration, I intend to evaluate the challenges and prospects of the practice of forensic science in Africa with an utmost aim of proffering solutions ways towards a stable forensic practice in Africa. The presentation will dissect 4 African nations, review its existing criminal justice system in relation to its internal structures in areas of budgetary allocation to forensic programs, general awareness of forensic amongst its populace, parliamentary/ political commitments, application of forensic tools in criminal justice systems and compares it with a functional system elsewhere in the world with an established existing forensic structure.

The scientific narration will also x ray the potential benefits of forensics if applied in Africa as well give a scientific projection/ analysis of such application to specific areas of economic stability, politics, rule of law, democracy and its eventual peaceful outcome in the continent of Africa.

Prevalence of Retracted Published Articles in Forensic Pathology

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Thousands of academic articles have been retracted from publication including articles published in pathology. However, the prevalence and pattern of retractions in forensic pathology journals or on topics related to forensic pathology is unknown. To compare retraction rates of articles in forensic pathology (FP) to those in general pathology, the impact factor of the journals implicated, to determine the reasons for the retractions and when the retractions occurred.

Using the search terms “forensic pathology" and “pathology” the database of Retraction Watch an online database of retracted articles was interrogated for journal article retractions. With the addition of the term “retraction” to end of each initial search item, the database of the National Library of Medicine (PUBMED) was also interrogated for retracted articles.

The retracted articles in FP were subsequently grouped by journal name, number of authors, year of publication, journal impact factor (IF). time to retraction (TTR) and reason for retraction (RFR).

459 of 25000 pathology articles were listed as retracted on RW. Five (5) retracted articles (1%) on FP were found on PubMed, published between 2017 to 2013. Specific inquiry by article title on RW revealed the articles retracted and the RFRs. They are described as follows:

- Article 1 - 3 authors; 2012 -IF 1.41- TTR of 59 months – RFR is duplication and miscommunication by author/third party
- Article 2 - 4 authors; 2013 – IF of 1.302 - TTR of one month - RFR is plagiarism;
- Article 3 - 5 authors; 2013 -IF of 1.302 TTR of 28 months- RFR is plagiarism;
- Article 4 - 4 authors; 2007 – IF of 1.792 – TTR 20 months – RFR is lack of permission to use data;
- Article 5 - 1 author; 2009 – TTR of 11 months –IF and RFR are unknown.

The American Journal of Forensic Medicine and Pathology (AJFMP), (IF of 0.785) the official journal of the National Association of Medical Examiners, had no retractions.

Plagiarism accounts for 60% of retractions in FP. Retractions were discovered in leading forensic pathology journals, except the AJFMP which may be due to any of the following factors - article selection, rigorous peer review and the use of verification software. The miniscule retraction rate compared to the rest of pathology may be due to fear of reputational damage that a forensic pathologist may suffer if a retraction is brought to a courts attention.

Sexual violence against elderly and access to health care in Africa: challenges and opportunities in achieving the global 2030

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Sexual violence against elderly and access to health care are important and interrelated problems in Africa. The Older population in Africa face a number of challenges in accessing health care, including economic barriers, lack of availability of health care services, and discrimination.

As consequence, older people can also be victims of other forms of violence, including domestic violence, financial abuse, and neglect, that impact at their physical and mental health, and which hinder access to health care. However, the 2030 Agenda for Sustainable Development, provides an opportunity to address sexual violence against older people and ensure access to health care in Africa. Nonetheless, older adults who experience sexual violence may be afraid to seek medical help or report the abuse, which may affect their ability to receive adequate medical treatment.

This is a qualitative study based on a literature review of various social protection instruments for the elderly (Laws, decrees, articles, official documents from non-governmental organizations) available. Lack of resources, insufficient social support, absence of effective policies to protect the elderly, lack of awareness about the rights of the elderly and the importance of protecting them, and scarcity of resources to protect the elderly from violence are some of the main challenges faced in the fight against elderly violence in Africa.

To address these problems, the promotion of protecting measures and prevention of violence against older population are crucial, as well as to ensure access to suitable and quality health services. This comprises investing in geriatric health services and support programs for the elderly, as well as promoting awareness and sensitization on issues related to violence and access to health care for the elderly. On the other hand, immediate and collaborative actions are needed among governments, civil society organizations, and other institutions in Africa to create programs to protect the elderly, increasing access to health and social support services, implementation of laws and policies to protect the elderly.

Key words: Violence against elderly, Africa, SDGs

The Effect of Compressed Air Foam on the Detection of Ignitable Liquid Residues on Fire Debris Samples

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Compressed air foam is a substance that is used as an extinguisher delivery system for fire suppression in various fire scene case scenarios. It's due to its high fire extinguishing efficiency, use of less water hence suitable for areas with no water such as rural areas and its range of large fire suppression has made it receive considerable attention. Therefore, this technology is widely being accepted as an alternative source to water as a fire extinguishing agent which is commonly used because of its surface tension properties making it more efficient. Although both water and compressed air foam are being used, have certain advantages and also inherent limitations that should be considered.

Unfortunately, there is one study that has been done to investigate whether the introduction of foam to the seat of the fire created any problems in subsequent analyses of fire debris samples using gas chromatography-flame ionization detector. No significant interferences were found from the foam when the samples were analyzed using activated carbon strips. The only foam component found was limonene. To date there has been no research published as to whether the foam causes any interference on subsequent analyses of accelerant analyses making this study very unique.

This study's main objective is to prove that no interference is brought about by the introduction of foam during fire suppression and in the analysis of ignitable liquid residues from fire debris samples. This was achieved through the use of gas chromatography-mass spectrometry which is capable of carrying out extracted ion analysis hence able to prove that no significant interferences from the foam.

Keywords: Compressed air foam, water, fire suppression, gas chromatography-mass spectrometry, extracted ion analysis.

National autopsy network – the achievements, future plans and call for cooperation

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Autopsies are still a valuable tool for dissecting disease pathophysiology and causes of death, including COVID-19. A national autopsy network (NATON) is a German project, that brings together an unprecedented collaboration of nearly 150 researchers at more than 35 German university and non-university autopsy centers with pathology, neuropathology, and forensic pathology autopsy expertise. NATON uses an electronic registry, established in April 2020, as the technical backbone and central hub to interconnect the consortium's collaborative autopsy research and gather all autopsy data including data on biomaterials, NATON builds up structures allowing and facilitating multi-centric and interdisciplinary autopsy and tissue-based trials and methods development. It also serves as a pandemic preparedness structure.

More than 150 publications have now emerged from our network, highlighting various basic science and clinical aspects of COVID-19, such as thromboembolic events, organ tropism, SARS-CoV-2 detection methods, and infectivity of SARS-CoV-2 at autopsy. This oral presentation should highlight i) how participating centers have demonstrated the high value of autopsy and autopsy-derived biomaterials to modern medicine, ii) illustrate the success of this collaborative model for making post-mortem data and biomaterials vital for patients benefit even beyond the COVID-19 pandemic and iii) how NATON supports reliable public discussion and political decision-making of the federal health authorities.

We want to present the plans for a long-term continuation and further development of NATON, as well as the open and participatory design, which will allow the involvement of further interested and even international partners.

Barriers to Increasing Death Notification and Registration in Lagos State, Nigeria

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A functional system of civil registration and vital statistics (CRVS) is widely recognized by the international community as a crucial component of development planning and good governance. Ultimately, CRVS systems can translate into better health of populations. However, in many low- and middle-income countries, progress has been limited and low completeness impairs the production of vital statistics. Death registration is particularly scarce in sub-Saharan Africa. Nigeria, a low to middle-income country in West Africa, is no exception with less than 10% of deaths registered nationwide (unpublished data from the National Population Commission (NPC)). Recently, there has been renewed interest in improving death registration. With grant funding from Bloomberg Philanthropies, the NPC and the Nigerian Police Force designed a pilot program aimed at increasing death registration in Lagos State, Nigeria.

To investigate the barriers to death notification and registration in Lagos State, Nigeria.

Business process mapping involving stakeholders in death notification and registration including government officials, religious leaders, healthcare workers, mortuary attendants and the public was done to identify bottlenecks in death notification and registration.

Following this, a death notification portal was introduced to ease death notification and registration by the public.

The barriers to death notification observed include low awareness and inadequate knowledge of registration procedures and death registration benefits, designation of death registration of lower importance than birth registration and administrative bottlenecks including scarcity of official death certificates, as well as few and poorly motivated CRVS staff.

These barriers are similar to those encountered in other Sub Saharan African countries including Senegal and Guinea Bissau. Strengthening CRVS systems includes addressing the specific barriers preventing death registration.

In Nigeria, interventions to improve knowledge about death registration are needed. Simplifying registration procedures, providing legislative backing, improved remuneration for CRVS staff as well as providing additional incentives to the public, might help improve the coverage of death registration.

Never Forgotten: The Genocide Victims from Murambi, Rwanda

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The Genocide against the Tutsi in Rwanda raged for 100 days in 1994, claiming the lives of over one million by rape and murder, but also displacing two million Rwandans.

The creation of genocide memorial centers began in 1995 throughout the country. Additionally, efforts were made to allow survivors to claim their family members, but most importantly, to give victims a decent burial. The Government of Rwanda created the CNLG (in the meantime merged into the new Ministry of National Unity and Civic Engagement / MINUBUMWE), specifically to prevent and fight against genocide.

The CNLG has formed a close and long-lasting partnership with the Institute of Legal Medicine at the University Medical Center Hamburg-Eppendorf and the Lower Saxony State Service for Cultural Heritage in undertaking preservation of the bodies at Murambi. This project was proposed not only to preserve this important national history, but also to train CNLG staff in practical preservation methods. Twenty bodies, including eleven adults and nine children were chosen for this project, based on several factors, like visible signs of trauma.
It was a great honor for our team from Hamburg and Hannover and we are grateful for working together with CNLG concerning (forensic) anthropology, archaeology, preservation, human remains and cultural heritage. This oral presentation should give an overview about our project work, perspectives and results.

From the viewpoint of very bad developments concerning genocide and war crimes even in the German history it has to be emphasized that ethnic-based violence should be eradicated all over the world and forever. The memorial in Murambi directly in the heart of Africa at the roots of all modern humans and the “cradle of humankind” is a symbol for days of darkness and the hope of people for a peaceful society and a better future!

The Prevalence of Tattoos in Unidentified Decedents in the Human Decedent Identification Unit, Johannesburg, South Africa

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The use of tattoos has been found to be very effective for the purpose of the identification of unidentified decedents at medico-legal post-mortem facilities, and in disaster victim identification (DVI) scenarios.

Tattoos can be unique to an individual, are visually recognisable to those who may have seen them while the decedent was still alive, and, become useful means of identification when other modes – such as DNA and fingerprints - are unavailable.

The study aimed to describe and assess the prevalence of tattoos in unidentified decedents processed by the Human Decedent

Identification Unit (ID Unit) at the Johannesburg FPS Medico-legal Laboratory, Gauteng, South Africa. Objectives included sample demographics, as well as the frequency, location, categories, and observability of tattoos.

Data was collected from ID Unit repositories and post-mortem photographic records from the years 2017 to 2021. Additional imaging techniques to locate and record tattoos – such as Infrared Photography screening – was investigated in 2022 and did not form part of the initial study.

Forensic medicine in Slovakia

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The aim of the work is to present forensic medicine in Slovakia from the point of view its history, concept, practice, education and expert witness activities.

Modern history of forensic medicine in Slovakia began with the foundation of Comenius University in Bratislava in 1919 with its Faculty of Medicine as the first and introducing the educational basis at the established Institute of Forensic Medicine within the Faculty. During the years network of workplaces developed accross the whole of Slovakia until the end of 2004.
Content and main objectives of the medical branch forensic medicine in Slovakia are assigned in the concept of the branch issued by the Ministry of Health.

In 1955, the position of chief expert for forensic medicine was created under the Health Commission, and the principles of the organization of the forensic service began to take shape. The first Slovak concept of forensic medicine was enacted in 1977. The branch is nowadays methodically governed by the chief expert of the Ministry of Health for forensic medicine, who is nominated by the committee of Slovak Society of Forensic Medicine of Slovak Medical Association.

The year 2004 was a turning point in development of forensic medicine in Slovakia. The Health Care Surveillance Authority was established as a legal entity which was vested with performing surveillance over provision of health care and public health care insurance in the field of public administration. Performance of all forensic and pathologico-anatomical autopsies has come under its competence within the framework of providing health care surveillance and quality control as well as performance of examination of the deceased at the scene of death or finding of a dead body.

Pregradual education in the subject Forensic Medicine for students of General Medicine and Dentistry is at four Faculties of Medicine. Systematic institutional postgraduate education of doctors and health workers started in Slovakia in Bratislava in 1953 and actually is executed at the two Faculties of Medicine.

Forensic doctors and toxicologists carry out expert activities for the bodies active in criminal proceedings, which come under the competence of the Ministry of the Interior and Ministry of Justice. Expert witnesses elaborate expert opinions on autopsies and additional laboratory examinations together with evaluating consequencies of causing violence in living persons.

Epidemiological profile of suicide victims autopsied at Maputo Forensic Services-Maputo, 2016-2018.

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Suicide is significant public health problem, considered a leading cause of death in young adults. Its consequences are considered at multilevel such as individual, community, and societal according to the public health framework.

According to the World Health Organization, Mozambique registered in 2012 the highest rate of suicide of Africa 27.4 / 100,000. For effective policies for prevention, little was known about the characteristics of the victims in Mozambique.

To describe the epidemiological profile of suicide victims autopsied at Legal Medicine Services of Maputo city and province.

Retrospective data were collected from reports on suicide cases autopsied at Maputo Central Hospital Forensic Service during a 3-year period, from 2016 to 2018, SPSS 24 version was used to descriptive analysis.

289 suicide cases were registered during the study period. The majority were men (75.8%), from ages range of 20-29 (31.8%). The majority of cases were from Maputo City (64.0%), with primary education completed (44.6%), were single (86.9%) and self-employed (56.1%). The most common methods of suicide were hanging and consumption chemicals with 249(86.2%) and 29 (10.0%) cases respectively.

Implementation of effective policies for prevention and Improvement of the referral of individuals at risk of suicide for psychiatric/psychological are key points for suicide prevention in Mozambique especially targeting young men.

Keywords: Suicide; Autopsies; Forensic service; Mozambique

The Western Cape Cold Case Consortium (W4C): Improvements for identifying the unidentified

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The Western Cape Cold Case Consortium (W4C) is an inter-institutional research initiative founded in 2021 committed to the application of scientific and visual analysis in cases of the unidentified deceased and identifying challenges hindering post-mortem forensic identification from the ground up.

In South Africa, forensic death investigation and the identification of unknown decedents is the joint responsibility of Forensic Pathology Services (FPS) and the South African Police Service (SAPS), yet communication and feedback between role-players, as well as public engagement, is poor. Thus, many individuals remain unidentified. The City of Cape Town has the highest case load in the Western Cape province with 3500-4000 cases of unnatural death admitted annually to the Salt River medico-legal facility, of which approximately 9% remain unidentified per year (Reid et al., 2019; 2020).

Visual identification by next of kin is standard practice, however this is not possible if a body is decomposed, skeletonised, or burnt. Primary scientific methods (of which fingerprinting is the most common) may not be available or are either not used consistently or are used in isolation from other methods. Further, no consolidated database of missing persons and unidentified deceased exists where cases may be easily compared. Additionally, significant obstacles exist in the existing partnerships, protocols and access to expertise which need to be better understood in order to improve service delivery in this area.

Successful identification of unknown decedents is a priority to increase social-criminal justice, aid the prosecution of wrongful death, and to restore the dignity of those who might otherwise have died in obscurity (Baliso et al., 2019). Our approach combines pracademic knowledge exchange (Posner, 2009) and operational collaboration with innovative and established multifactorial and interdisciplinary methodologies including osteobiography anthropological assessment, molecular profiling, stable isotope analyses, forensic contextual and case data information. Facial reconstruction is the key medium of integration and presentation of key data to elicit investigative leads via public appeals for information on unresolved cases.

A pilot project undertaken in 2021-2022 supported by the City of Cape Town and other stakeholders focused on five complex identification cases and incorporated knowledge-sharing and training sessions across the sector. Several critical themes emerged: The problem of post-mortem identification is not exclusive to non-natural deaths; and notwithstanding innovative scientific methods, basic procedures and 'minimum effort' tasks are not always carried out by those responsible. Further, forensic officers support the adoption of a forensic humanitarian action framework to drive legislative reform.

Advanced Fingerprint Techniques for Identification of Deceased: An unusual application

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Unknown deceased are received at mortuaries in various conditions or stages of decomposition. The bodies can be decomposed, burnt, mutilated, mummified or partially skeletonized. Obtaining fingerprints from deceased is one of the most effective ways to identify a body in South Africa since it provides immediate access to the name and address of an individual via HANIS or AFIS.

There are seven techniques used to obtain fingerprints from deceased: the ink method, powder and tape method, degloving (epidermal prints), boiling method (dermal prints), microsil, macrophotography and rehydration of mummified fingers. Each method is chosen according to the condition of the deceased's hands. The ink method can only be used on "fresh" bodies whereas powder and tape is the preferred method for obtaining fingerprints from more challenging cases.

To obtain fingerprints that are sufficient for identification of deceased or for solving crime scenes adequate fingerprint training needs to be done. Obtaining usable prints from deceased with advanced fingerprinting techniques are possible in cases that would otherwise not have been considered for fingerprinting.

This leads to a greater and faster identification rate which brings closure to loved ones and clues in solving criminal cases.

The powder and tape method is also used by the South African Police Forensic Unit to lift fingerprints from crime scenes. During 2007 and 2008 there were over 20 unsolved house breaking crime cases in three coastal regions in the Western Cape, South Africa. Various "possible criminal" fingerprints were lifted from these scenes. The "suspects" remained unidentified for some time, until a comparison was made against fingerprints collected from a troop of baboons active in the area. this proves that it is important to keep an open mind, since fingerprint identification can be obtained from sources that people might consider bananas.

Characterization of cases of child abuse among women victims of domestic violence in Mozambique, 2007-2008.

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Child abuse is a serious and complex issue leading into lasting and profound impact on victims. Any individual, regardless of gender, can be victim of child abuse, but unfortunately women are especially vulnerable to this form of violence. Is described that women suffering from domestic violence may have been forced to witness violence during their childhood, including threatening, physical or sexual harm and as consequence become lately a victim or perpetrator of violence.

The Objective isto characterize the cases of child abuse suffered by women victims of domestic violence seeking help in the Legal Medicine service of Maputo Central Hospital. Methods are Observational, quantitative and cross-sectional study of 718 women victims of domestic violence from April 1, 2007 to March 31, 2008.

The mean age of the victims was 28 years, they had an average of 2 children, were single (55%), had secondary education (54%) and lived in their own residence (64%).

226 (31%) were employees. The most frequent form of child abuse was physical violence (90%), perpetrated by individuals with whom they had a relationship of power and trust (58%). The place of occurrence of abuse was where the child usually lived, at home/other place of co-habitation (87%). The most frequent form of child abuse is physical violence, perpetrated by parents and educators, and occurred where children usually lived.

Keywords: child abuse, domestic violence, Mozambique.

Challenge for Angolan professionals to participate in international and scientific activities of ASFM.

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There is evidence of an increase in the number of professionals regularly participating in academic and scientific activities at an international level over the last 9 years. But Angola is excluded from this increase through the challenges that we will demonstrate in this study. This study aims to identify the challenges that Angolan professionals face in participating in international academic and scientific activities. Participating in international activities is an opportunity to get to know new academic and scientific cultures, new people, technologies, and languages. Among the most requested countries we have: England, USA and Canada.

The author carried out a qualitative study using semi-structured interviews with 24 participants from different sectors in Luanda-Angola. Data were analysed thematically using codes. The investigator used the following data bases search as Science Direct, Science Online, and Sage Premier, Sage research Online, Social Theory, PubMed, Medline and Google School.

24 professionals participated in the study, men predominated with 13 (54.2%) and women with 11 (45.8%). Sixteen (66.7%) were health professionals, 3 (12.5%) police offices, 2 (8.3%) Forensic psychologist, 2 (8.3%) Pastors and 1 (4.2%) Mechanical Engineer. The challenges identified in the study are: Lack of command of international languages such as English and French, lack of financial conditions, lack of interest, and lack of knowledge of the importance of participating in academic and scientific activities.

Participating in international activities is an opportunity to get to know new academic and scientific cultures, new people, technologies, and languages that will influence your professional path.

Keywords: Professionals, international, Angola, and scientific activity.

Contribution à la connaissance des causes de décès enregistrés au niveau des morgues de la ville de Niamey.

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Les causes de décès constituent des données essentielles pour monitorer la santé de la population. L'étude vise à apporter des informations chiffrées sur la mortalité et de définir des axes de prévention afin de réajuster les politiques de santé pour améliorer la santé de la population. L'objectif est de contribuer à la connaissance des causes de décès dans la ville de Niamey et intégrer progressivement des méthodes simples, informatisées et peu coûteuses des enregistrements à la morgue permettant de générer des statistiques indicatives pour les politiques de santé du pays. L'étude descriptive et rétrospective sur des données enregistrées dans les deux morgues de la ville qui a permis de revoir 28847 cas sur une durée de 5ans.

L'analyse des données ressort une moyenne annuelle de 5769 décès enregistrés. Avec une fréquence de 57%, les hommes étaient plus recensés que les femmes. L'âge moyen est de 34 ±27 ans avec des extrêmes allant de 0 à 130 ans. La tranche d'âge 0 à 4 ans était la plus touchée avec 27,07% du total des décès. Le groupe de signes, symptômes et examens anormaux représentait 20, 35% du décès total, puis viennent les maladies infectieuses et parasitaires et les maladies cardiovasculaires avec respectivement 16,95% et 13,12%.

La moitié des décès enregistrés est survenue la nuit.

Le décès de suite d'accident de la voie publique est l'obstacle médico-légal le plus fréquent.

Des études prospectives seront utiles pour apprécier la mortalité et les obstacles médico-légaux de la mort. L'exploitation des registres des morgues pourrait notablement aider à apprécier les prestations des différentes spécialités médicales au niveau des centres hospitaliers en vue d'améliorer la prise en charge des patients et réduire la mortalité dans un contexte urbain africain.

Mots-clés: Données, Causes de décès, Morgue, Obstacle médico-légal, Niamey

AFSA LAUNCH

African Forensic Sciences Academy (AFSA): an emerging movement for Africa

Antonel Olckers
DNAbiotec (Pty) Ltd

Mehdi Ben Khelil
University of Tunis El Manar

Forensic science services are offered across Africa, yet remain discrepant from country to country and across the fields. Several Societies and Associations exist but none covers all Forensic Science fields.

The African Forensic Sciences Academy (AFSA) was founded in December 2022 by representatives of different professional areas.

Its primary purpose is to serve as the first network for forensic science practitioners, in all fields of forensic science across the African continent. At its core are the values of excellence, transparency, integrity & ethical practice, independence & impartiality, and Inclusion, diversity, and equality. These are not mere aspirational statements but form the foundation on which the entire structure and operations of AFSA rest. AFSA strives to support practitioners in creating opportunities among the continent specific challenges encountered in Africa. It aims to build a culture of quality and excellence aiming in fine to enhance justice and humanitarian efforts in Africa. The absence of a collegial and united structure in place prior to AFSA that can be the voice of Forensic Sciences professionals and students, can easily be seen as something other than the opportunity it is.

The founding meeting benchmarked with previous experiences of national and international academies and the lessons they learned over time. Best practice and global practice guided the deliberations and decisions. To this end the Sydney Declaration was one of the reference documents adopted by AFSA. Contextualization was also key to dreaming big but remaining close to the context of Africa, with the expansion of the traditional OSAC classification for forensic science fields, being one of the examples. An Interim Executive was elected to set up the structure of AFSA and will serve until the full formal Board of AFSA is elected by its members. AFSA developed constitutional documents, identified membership categories, and legally registered with its headquarters in, Rwanda and the Rwanda Forensic Laboratory as its hosting agency.

AFSA is now able to unite the efforts of Africans or those who support forensic sciences in Africa to start delivering its scientific programs. AFSA is envisaged to be a strong African forensic sciences network to enhance and continuously support Forensic Sciences in Africa and around the World.

SEMINAR

Emerging Forensic Challenges: Human Identification and Informed Consent

SYMPOSIUM DU CENTRE UNIVERSITAIRE ROMAND DE MEDECINE LEGALE.

Interactions entre la justice et la médecine légale. Exemple de la Suisse.

Moderator:
Dr Ghislain Patrick Lessène

Avec les Interventions orales de:

- **Professeure Silke Grabherr**, Directrice du CURML: ***point de vue du médecin légiste***
- **Colonel Alain Bergonzoli**, Directeur de l'Académie de police de Savatan: ***point de vue du policier***
- **M. Bernard Dénéréaz**, 1er Procureur, Ministère public de l'Arrondissement de Lausanne: ***point de vue du Procureur***
- **Professeur Yvan Jeanneret**, Avocat, Faculté de droit de l'Université de Genève: ***point de vue de l'Avocat***

QIAGEN PRESENTATION

9 March 2023, 14:20 - 14:45

From Crime Scene to Closure - QIAGEN's Comprehensive Sample to Insight workflow for HID and Forensics

Laurent Moncomble
Senior Market Development Manager HID & Forensics at QIAGEN

QIAGEN supports global customers who aim to make an impact in HID and Forensics. Our comprehensive portfolio for sample collection, DNA extraction, quantification, STR assays and NGS is bolstered by a wide range of automation and service solutions, supporting our customers from crime scene to courtroom.

LODOX MINI SYMPOSIUM

9 March 2023, 14:45 - 15:30

The objective of this symposium is to present the Lodox slit scanning radiology systems as a non-invasive examination for modern forensic practices. Lodox's high quality images can objectively complete a non-destructive gathering of findings from head to toe, providing intuitive and powerful forensic evidence to assist the pathologists in the cause of death determination.

Rapid and complete data acquisition and digital records assist in research and medico - legal cases.

Post Mortem Radiological Imaging (full body x-ray scanning) – The Pretoria Medico-Legal Laboratory (MLL) Experience.

Seduma Suzan Mabotja
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Majority of 1st world countries have incorporated post mortem radiological imaging into their routine. In South Africa we are not as privileged as most medicolegal death investigation facilities in our country don't have post mortem radiological imaging with the exceptions of the academic / larger facilities. The Pretoria medicolegal laboratory (MLL) is privileged to be one of those facilities to have access to post mortem radiological imaging system.

The facility admits approximately 2500 cases per annum. The majority of the work consists of trauma cases, viz. RTA, firearm, burns, and assault related deaths and decomposed bodies. In such a busy facility, post mortem radiological imaging system serves as valuable adjunct to autopsy.

The system has become an invaluable resource that enhances the performing of autopsies, assisting in the determination of medical cause of death, body identification, and creating a database for research. The other benefits of the system is the low doses of radiation it emits which minimize occupational exposure.

The objective of the presentation is to share the experience of pathologists at Pretoria MLL post mortem radiological imaging using a full body x-ray scanning radiology systems.

Lodox: Endless Possibilities In The Management Of Firearm Related Cases

Robert G Ngude & Thandi Mahuluhulu
Johannesburg Forensic Pathology Service, Gauteng, South Africa. Division of Forensic Medicine and Pathology, University of Witwatersrand.

The Lodox® (Low dose Xray) imaging device is an invaluable resource that has revolutionized and improved case management in Forensic Pathology: Firearm related fatalities, blunt force injuries, sharp force injuries, Fire, explosions & blasts related fatalities, decomposed bodies, Victim identification, prostheses, Sudden Unexplained/unexpected Deaths (Natural pathology), Sudden unexplained/ unexpected Deaths in infancy, non-accidental injuries (Child abuse). Fast, exceptionally high quality full-body images (anteroposterior view) can be produced in 13 seconds, useful in mass fatalities.

The image is available immediately. The radiation dose is minimum, making the device safer (can be placed anywhere). The average digital radiation dose is only 6%, relative to the conventional dose.
Gun violence is the leading cause of murder in South Africa. Around 20,000 people are killed in South Africa every year out of a population of 60 million. According to Gun Free SA, in 2022, 30 people were murdered by gunshot in South Africa every day between 1 April and 30 June. On average nearly one person an hour is shot dead.

Additionally, in 2022 South Africa ranked 8 in the top 10 most dangerous countries in the world with the homicide rate of 36.4 per 100,000 population.

The crime index ranking for 2022 also ranked South Africa the most dangerous country in Africa, followed by Angola, Somalia, and Cameroon.

The aim of the presentation is to illustrate the endless possibilities in the management of firearm related cases using the Lodox.
Lodox® images of all firearm-related cases were analyzed (2013 to date). Cases ranged from single to multiple gunshot wound cases, fresh to decomposed bodies.
There are endless possibilities in the management of firearm related cases using the Lodox®. Identification and location of projectiles (rapid identification of bullets in multiple gunshot wounds - GSWs), injuries (soft, skeletal) and complications thereof (haemorrhages, haemo/pneumothorax, air embolism, pneumonia etc.). Identification of the ammunition used (low or high velocity), direction of projectile / wound track. Victim Identification (odontology /dental, sinuses, surgical procedure / prostheses (pins/plates/screws).

Lodox® system is an invaluable in Forensic Pathology. Lodox® full-body images present a comprehensive clinical picture offering, and better guiding cause-of-death determination. In Medico-legal Laboratories with high caseloads or resource constraints, Lodox® system is time efficient compared to the traditional Xray. The turnaround or examination time is reduced and assists in fast-tracking religious and compassionate cases that require expedited burial. Additionally, in certain cases Lodox® obviates the need for an autopsy. Although the Lodox® may be pricey it is worth it.

The Application of Lodox Statscan Radiological Screening at the Johannesburg Forensic Pathology Services

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The use of Lodox Statscan radiological screening has proven useful in the forensic pathology postmortem setting. It allows us to better search for various features before, during and after the postmortem examination. These features include injuries, artifacts, evidence, and indications of age - relating to a decedent and an incidence of death.

Being able to see these features, can assist in the determination a possible cause or manner of death, the identification and retrieval of evidence, the identification of certain hazardous objects, and also, aid in the potential positive identification of unknown or unidentified decedents.

This presentation aims to briefly provide examples of how Lodox Statscan radiological screening has been applied at the Johannesburg Forensic Pathology Services, to visualize features of relevance during the post mortem examination process.

THERMO FISHER SCIENTIFIC MINI SYMPOSIUM

8 March 2023, 17:00 - 18:00

Identifying the Missing and the Deceased with DNA Technologies

A panel discussion is offered as part of a cocktail mini-symposium hosted by DNAforAFRICA and sponsored by Thermo Fisher Scientific, and will focus on several key topics:

- difficult cases where DNA has helped with identifying human remains;
- the high number of unidentified and unclaimed decedents in Africa and how we can reduce these numbers e.g. by taking DNA samples from UHR and submitting profiles to a shared database such as iFamilia
- the establishment of a regional DNA database.

Facilitator:
Professor Bruce Budowle

Panelists:

- **Mr Stephen Fonseca,** ICRC Missing Persons and Separated Families Centre Manager - African Centre for Medicolegal Systems, South Africa
- **Dr Grace Midigo,** Pathologist,Ministry of Health,Division of Forensic and Pathology Services
- **Dr John Mungai,** Forensic Scientist, Kenya

POSTERS

Fire and Arson Scene Investigation, Technics and Challenges

Janvier Byukusenge
Forensic Scientist, Rwanda National Police/ Counterterrorism training center/ Rwanda

Fred Kagame
Forensic Scientist, Rwanda Investigation Bureau/ Rwanda

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Fire is enormously costly the society, around the world, the investigation of fire is required to determine the origin and the cause. Usually, the fire occurs when a fuel comes together with oxygen and the heat source; the role of fire investigator is basically to determine how and why combined factors were combined together checking if the fire was set accidentally or intentionally. The harmonization taken at the outset of an investigation at a fire and arson scene can play a pivotal role in the resolution of a case. Care full investigation of fire scene is key to ensuring that potential physical evidence is not tainted or destroyed or potential witnesses overlooked.

"Nullum crimen nulla poena sine lege" the investigation of fire scene leading to the detection of action committed focuses on the legal and forensic aspects of arson. Here is to describe unreplaceable role of forensic scientist in fire and arson scenes investigation. Worldwide, fire occurred and investigated with regards of circumstances. In Rwanda, the first responsible investigative institution is Rwanda Investigation Bureau and this last, in accordance with responsibilities, meets different cases to investigates including fire cases. Investigating the scene, collecting evidences and provide justice where necessary.

By experience in criminal investigation and forensic works, this subject is developed to express some of different technics in fire scene and arson investigation, described challenges across fire investigation. While solving the problem of fires and arsons, some technics are applied but also met with some of complications in fire investigations existed Arson often involves fires deliberately set to the property of another or to one's own

property so as to collect insurance compensation and this should not be confused with other fires caused by spontaneous combustion or natural wildfires. A person who commits this crime is called an arsonist or a pyromaniac.

Keywords: Arson, Pyromania, fire scene investigation

La sarcoïdose, une atteinte cérébrale mortelle (à propos d'un cas d'un jeune étudiant)

Mohammed Djilali Merzoug, Mohamed Amine Boumelik & Nadjat Belhadj
Service de médecine légale CHU Sidi Bel Abbès, Algérie

Notre but est de connaitre les difficultés rencontrées lors de la prise en charge des maladies graves du système, mais aussi dans le contexte de décès subitement chez les médecins légistes.

Les manifestations cliniques neurologiques de la sarcoïdose, sont variées marquées par des épilepsies, des troubles cognitifs ou psychiques et autres manifestations hypothalamo-hypophysaires, des tableaux focaux d'allure pseudo tumorale, hydrocéphalie, association très fréquente d'une méningite aseptique lymphocytaire, latente et avec une fréquence variable de l'atteinte de nerfs crâniens, en particulier le nerf VII.

Dans notre activité quotidienne, la sarcoïdose encéphalique ce fait très rare ; surtout chez les gens plus jeunes en plein activité et santé corporelle. Notre cas d'étude est un jeune étudiant immigré dans notre communauté universitaire de SIDI BEL ABBES. Il ce fut hospitalisé au niveau des urgences médico-chirurgicales pour des convulsions et une perte de conscience poste commotionnelle. L'exploration radiographique immédiate a mis en évidence un œdème cérébral avec signes d'engagement.

Le schéma de réanimation est entretenu, mais sans succès est la personne décède en quelques heures. Un constat de décès est délivré comme indéterminé ou suspect en cause d'une suspicion d'intoxication du fait que la victime étant jeune de 21 ans et en bonne état de santé apparente. Une autopsie médico-légale a été réalisé dans notre unité de thanatologie.

L'exploration nécrotique macroscopique était très difficile, en dehors de simples congestion généralisée de l'ensemble des viscères en place. La toxicologie était négative, par contre, l'étude et le screening des différents tissus (cérébrale, rénale, hépatique ...) a mis en évidence une sarcoïdose cérébrale dans sa forme la plus grave avec une atteinte du système nerveux central. Cette lésion est vraiment précoce et révélatrice et s'intègre quasi constamment dans le cadre d'une sarcoïdose systémique typique, d'emblée évidente ou plus rarement différée.

Mots clés: sarcoïdose cérébrale, convulsion, mort subite, anatomopathologie

Comparison of Three Commercial Autosomal STR Kits in a Black South African Population

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During routine parentage testing in the laboratory with a commercial STR kit, we became concerned with the apparent number of mutations detected when comparing the DNA profiles of alleged fathers and children. It is known that mutations resulting in single nucleotide polymorphisms at the primer binding sites may be a reason for false homozygous or heterozygous genotypes and therefore differences in primer design for the same loci in different kits may give rise to different genotypes. Results obtained with three different commercial autosomal STR kits will be compared to determine whether any discordance can be observed at specific loci.

A total of 180 South African individuals with self-declared black ancestry were sampled. PCR amplification of STR loci was performed using the Investigator® IDplex Plus kit (QIAGEN), AmpFlSTRTM IdentifilerTM Direct kit (Applied Biosystems) and PowerPlex® 21 System kit (Promega) according to the manufacturer's instructions. Capillary electrophoresis was performed on an ABI3500 Genetic Analyzer and DNA profiles determined with GeneMapper® ID-X v1.5 software.

The results for Amelogenin and the 15 STRs common to all three kits were compared and 27 discordances were detected in the 180 DNA samples. These discrepancies comprise 26 null alleles and one shifted allele. Four discordant results were observed for the AmpFlSTRTM IdentifilerTM Direct kit and twenty three for the Investigator® IDplex Plus kit.

Discordant results were observed for only three STR loci: D16S539, D19S433 and vWA.

The observation of discordant results depended on the commercial STR kit employed. No discrepancies were observed for the PowerPlex® 21 System kit in the black South African population of this study and this commercial autosomal STR kit is thus recommended for this population. Furthermore, in forensic database entries, the kit used to generate the data should be included with the STR profile. This could aid in deciding whether a mismatch is true or due to different kits.

Use of Forensic Evidences in Investigation and Prosecution During International Criminal Proceedings. A Case Study of International Criminal Court (ICC)

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Universe is coming together as one, atrocities are being committed and current one is Russia-Ukraine war.

There is a need of forensic science in investigating and prosecuting offenders of atrocities than traditional use of testimonies which are not easy to be relied on but still some legal and administrative issues still hinder the successful use of forensic evidences in investigating and prosecuting in international criminal proceedings.

The International Criminal Courts and Tribunals admissibility and exclusion of evidences, he insufficient legal provisions for the admissibility and chain of custody of evidence is determined within case law decisions which are determined by the Judge's discretion and this can lead to inconsistency even within the same case. All legal obstacles are problems that can lead to breach of legal and judicial principles such as; fail trial principle, principle of legality and presumption of innocent.

For example, ICC Pre-Trial Chamber had dismissed charges against the three defendants; Thomas Lubanga, Germain Katanga and Mathieu Ngudjolo Chui from DRC and one from the Central African Republic because the judges did not find "sufficient evidence to establish substantial grounds to believe" that the accused committed the alleged crimes as use of scientific evidence was limited

The research reviewed the substantive use of forensic evidences like; Anthropology, pathology and DNA in exhumation of mass grave to determine the cause, manner and mechanism of death and during to locating, excavating and exhuming mass graves to produce forensic evidences of atrocities and to returning victims to loved ones, hence justice, humanitarian and documentation functions while investigating International crimes with reference to the International Criminal Tribunal for Rwanda and for former Yugoslavia and Permanent court (ICC) Cases.

Documentary technique was used to attain the objectives of study, whereby data will be collected, interpreted and analyzed from legal texts, books, journal articles, annual reports, newspapers.

The research revealed the problems which are not only limited to the legal challenges of insufficiency of forensic evidence admissibility regulations and their maintenance of chain of custody, but also there are administrative issues like, lack of fund to be used during forensic investigation activities including, crime scene examination, collection of evidence and laboratory examination of forensic evidence and all these can lead to unnecessary complications and prolongation criminal proceedings in international criminal court hence breach of fair trial principle.

Finally, the research proposed reforms by establishing specific regulations related to the admissibility and chain of custody of forensic evidences in international criminal proceedings, and harmonizing the standard operating procedure of forensic investigations to validate scientific investigation activities including; Crime Scene Management, Evidence Collection, Examination of forensic evidences and forensic expert report writing in investigating and prosecuting the international criminal proceeding and also detailed mandate to solve administrative issues.

Key words: Forensic Evidence – Investigation and Prosecution – International Proceedings

Violences au nord du Sénégal: bilan d'une consultation de victimologie

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La colonisation a légué un lourd héritage aux populations anciennement colonisées. La restructuration de certaines sociétés, durant cette période, est venue bouleverser l'organisation initialement faite par les autochtones. Les délimitations sont souvent la cause de conflits entre groupes (ethnies, castes...). Certains de ces conflits persistent et sont accentués par le phénomène de modernisation et la politisation des identités ethniques. Le nord du Sénégal n'a pas été épargné par ces phénomènes de violence, en attestent les évènements tragiques survenus entre le Sénégal et la Mauritanie en 1989. D'autres cas de violence inter-groupes sont également rapportés et persistent jusqu'à nos jours, dans cette zone. Cette situation suscite un certain nombre de questionnement dans maints domaines de la recherche. Ce travail s'inscrit dans cette perspective.

Le but est d'étudier le profil épidémio-clinique de la violence dans cette région nord du Sénégal (région de Matam). Il s'agit une étude descriptive rétrospective sur quatre ans (2017-2021). Ont été inclus, dans notre étude, tous les cas de violence reçus en consultation de victimologie au Centre Hospitalier Régional de Matam durant la période d'étude.

Au total 38 cas ont été colligés durant la période d'étude. Tous étaient des cas de violences volontaires dont 25 répertoriés en milieu urbain et 13 en milieu rural. L'âge moyen des victimes étaient de 30 ans avec des extrêmes allant de 11 à 59 ans. Le sexe féminin était le plus représentatif (20 cas, soit 53%). Parmi elles, 8 étaient des femmes au foyer (sans profession). Treize des victimes (34%) exerçaient une profession libérale, douze étaient des élèves (31,5%), cinq étaient des fonctionnaires de l'Etat (13,5%). Dans 28 cas, l'agresseur a agi seul, dans le reste des cas, l'agression était faite en groupe. Le (s) agresseur (s) étai (en)t connu dans 31 cas et inconnu dans 7 cas. Dans tous les cas où l'agresseur était connu, il s'agissait d'un proche (famille, voisin, ami). Les lésions observées étaient compatibles avec le traumatisme évoqué dans la plupart des cas. Le taux moyen d'ITT, au sens pénal, était de 4 jours.

Le désir de modernisation a changé le profil de la violence routinière dans notre contexte, entrainant une augmentation des consultations de victimes de coups et blessures. D'où la nécessité d'avoir des unités de consultation médico-judiciaire, avec du personnel qualifié, dans les différentes régions.

Mots-clés: violence – identité - nord Sénégal

Quantitative Analysis of Methanol in Locally made Alcoholic Beverages by Headspace Gas Chromatography: Acute Methanol Poisoning Case Study

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Methanol, popularly known as wood alcohol is used mainly as a solvent and in the production of other chemicals. It is also a product of fermentation found in both alcoholic and nonalcoholic fermented drinks. However, the contamination of alcoholic beverages with methanol claimed more than a thousand lives in 2019 [1,2]. Methanol poisoning cases are mostly observed in people living in rural areas where cheap and uncontrolled illicit beverages are produced at large.

In December 2021, sixteen patients were admitted at Centre Hospitalier Universitaire de Kigali (CHUK) after consuming locally made alcoholic beverages suspected to contain methanol which resulted in the sudden death of four among them.

The aim of our study was to assess quantitatively methanol content in locally-made beverages from the area where the tragic incident occurred.

Forty (40) samples of locally made beverages were collected from the village where the incident happened.

Methanol and ethanol standards of HPLC grade

at purity of ≥ 99.9% and 99.99% respectively; distilled water were used in the preparation of the working standards and samples. Six working standards (0.01, 0.05, 0.1, 0.2, 0.5 and 1 % w/v) for the calibration curve were prepared by serial dilution from stock methanol and ethanol.

The collected samples were analyzed for the presence of methanol and ethanol by Headspace Gas Chromatography with dual Flame Ionization Detectors (HS-GC-FIDs). Control samples composed of 0.5% w/v for ethanol and methanol was used to ensure the precision and accuracy of the method. The results of the analysis showed 19 samples (47 %) out of 40 collected to contain high concentrations of methanol varying from 1% v/v to 12.3% v/v.

According to the World Health Organization (WHO), methanol concentration above 0.05 % w/v in human blood is associated with severe toxicity and may cause death in untreated patients.

Hence, the detected quantities of methanol in our samples are responsible to cause severe toxicity as they are far above the recommend ones by WHO.

Identification of criminals using partial fingerprints lifted from crime scene

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Partial fingerprint is a print with much smaller usable or legible area of pattern or minutiae features than a full fingerprint. Unusable or illegible portions vary depending on the condition and quality of the partial fingerprint deposited, developed or lifted on the evidence from crime scene. Usually partial fingerprint means very small, incomplete, unclear, broken or degraded.

The objective consists of providing safe and convenient identification, authentication with a human touch and understanding the examination of partial fingerprint and their use in solving crimes.

Partial fingerprints were manually analyzed using VSC 6000/HS.

Case 1: Partial fingerprints were collected by investigators from the crime scene on glass of a window where the offence took place and the fingerprint lifted were compared with the known print, that is, the fingerprint taken from suspect, using VSC 6000/HS.

Case 2: Partial fingerprints were as well collected by investigators from the crime scene on the bulb where the offender touched and the fingerprint lifted were compared with the known print using VCS 6000/HS. Comparison of partial fingerprints lifted from crime scenes with fingerprints taken from suspects matched, with more than 12 ridge characteristics.

Partial fingerprint analysis should be analyzed carefully for it to give conclusive results.

Motherless Paternity Testing in South Africa

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In a motherless paternity test only the samples of the alleged father and child are tested. The number of motherless paternity cases are increasing in the Ampath paternity laboratory. This might be due to the Department of Home Affairs requiring a paternity test for the late registration of the birth of children and for the registration of immigration cases. The Maintenance Courts also require proof of paternity for the settlement of child support cases. The increase is also due to the cost involved in standard trio paternity cases.

False inclusion of alleged fathers has serious legal implications for the testing parties as well as the testing laboratory. The probability of false inclusion of paternity increase with a decrease in STR loci being included in the test as well as the absence of the mother in the test. Several factors could increase the probability of false inclusions, of which one is if the alleged father is related to the biological father.

This study aims to determine the effect of the number of loci included in motherless paternity tests to determine the possibility of the false inclusion of alleged fathers
A retrospective data analysis study was performed for motherless paternity testing for 2022 cases. The DNA profiles of individuals included in the study were determined using the VersaPlex™ 27PY System (Promega).

The laboratory uses a “2-exclusion” rule to accommodate possible mutation events. According to "two-exclusion" rule, paternity cannot be excluded when a mismatch at two STR loci between the alleged father and child is observed.
Motherless paternity cases with only a few matched loci, when typed with the VersaPlex™ 27PY System, between the alleged father and child were investigated. The mismatched loci were compared with the loci included in the AmpFLSTR™ Identifiler™ PCR Amplification kit (Applied Biosystems).

Several cases were identified where the mismatched loci would not have been detected if the AmpFLSTR™ Identifiler™ PCR Amplification kit was used. In these cases, the alleged father would not have been excluded as the putative father of the child, thus resulting in a false inclusion. Kits with limited number of loci, e.g. 15 STR loci, is inadequate for motherless paternity cases. It is recommended that mothers should be included in paternity tests as far as possible. It is further recommended to use STR kits with at least 26 STR loci. Any motherless paternity should be evaluated with care.

Oral Presentations

Addendum

Genetic Polymorphism of 24 Autosomal STR in the Population of Rwanda

Paul Gasana

Rwanda is one of the smallest countries of Africa, where forensic genetic studies are rarely being conducted and very few DNA databases have been developed. Short tandem repeats (STRs) polymorphisms were investigated in 505 unrelated Rwandese by using the HUMDNA TYPING (Yanhuang) Kit. The following STRs were targeted: D3S1358, D13S317, D7S820, D16S539, SE33, D10S1248, D5S818, D21S11, TPOX, D1S1656, D6S1043, D19S433, D22S1045, D8S1179, Penta E, D2S441, D12S391, D2S1338, vWA, Penta D, TH01, D18S51, CSF1PO and FGA.

The purpose of this study was to elucidate the genetic diversity and explore the potential of applying these 24 STR in 505 Rwandan population in forensics. A total of 360 alleles, with corresponding allele frequencies in the range from 0.001 to 0.442, were found in the Rwandan population. SE33 presented the highest polymorphism (PIC=0.921) among these 24 loci, whereas D13S317 presented the lowest one (PIC=0.671). No deviation from the Hardy-Weinberg equilibrium was observed for any of the 24 loci.

The forensic parameters, including the combined power of discrimination (PD and the combined exclusion power, have demonstrated that this panel of 24 STRs is highly informative and useful for forensic applications such as individuals’ identification and paternity tests. Additionally, the genetic distances between Rwanda population and other 24 published populations were calculated based on 8 overlapping loci with the polygenetic tree revealing significant clusters in the populations associated with their geographic locations and their historical relationship.

Keywords: DNA typing, Rwandan populations, Short tandem repeats (STR) HUMDNA TYPING (Yanhuang-PCR) · Technology acceptance mode

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