University of Amsterdam
Institute for Interdisciplinary Studies

Master Forensic Science

Information Session, 12 February 2026,

Arian van Asten, Mika Sprik,
August de Heij

UNIVERSITY OF AMSTERDAM
Institute for Interdisciplinary Studies

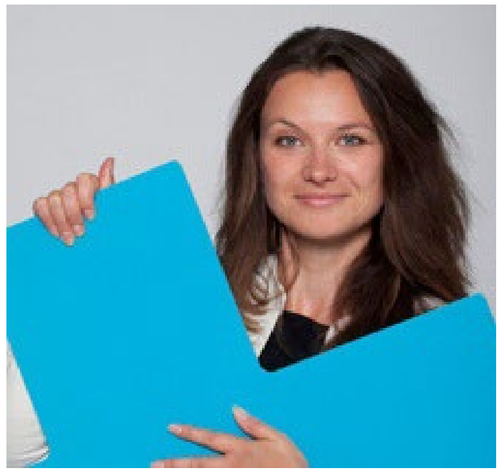
Programme Team

Mika Sprik

- Second year student
- Bachelor Applied Physics

Arian van Asten

- Programme director
- Chair Forensic Analytical Chemistry and On-Scene Chemical Analysis



Yorike Hartman

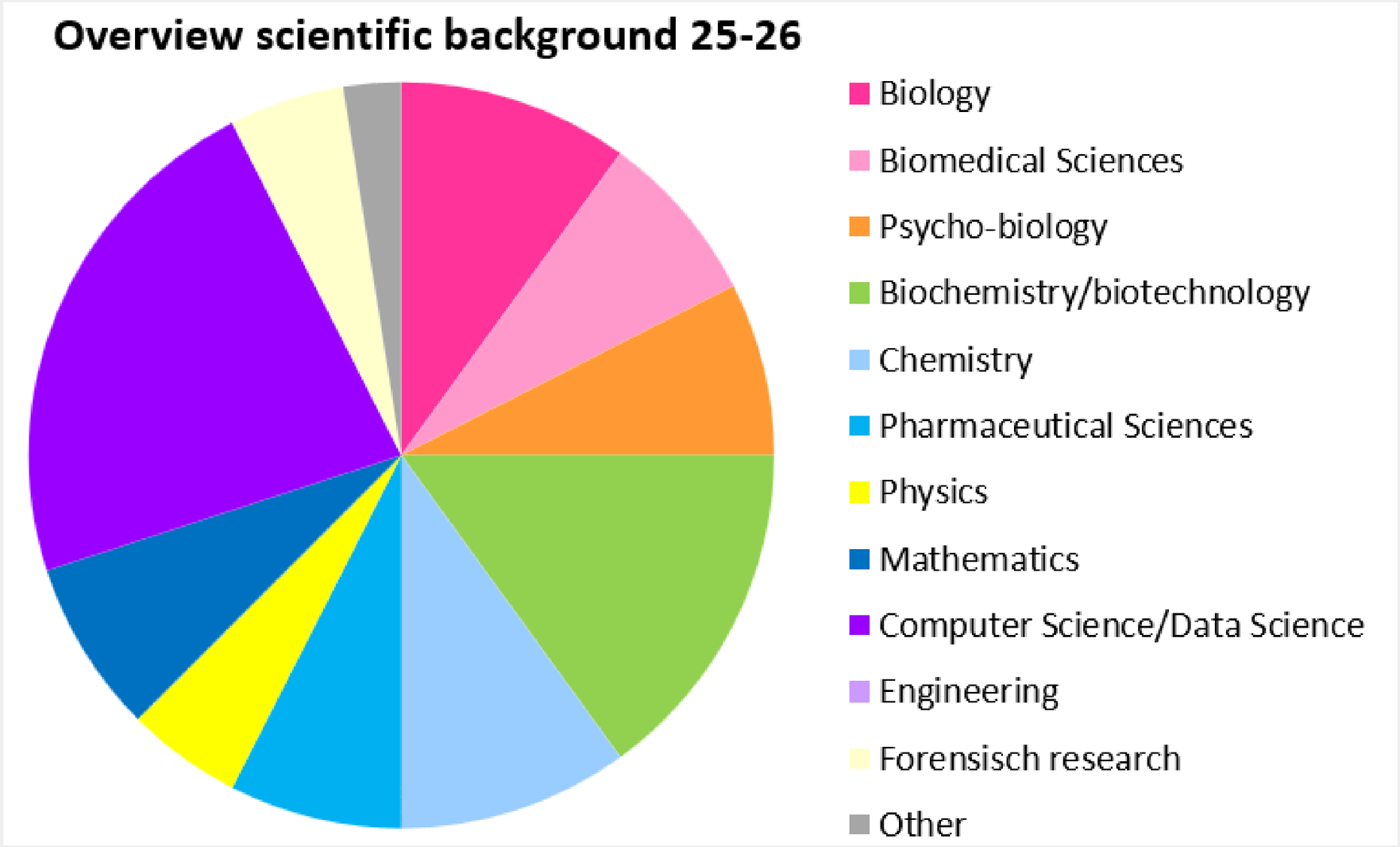
- Programme coordinator

August de Heij

- Study adviser

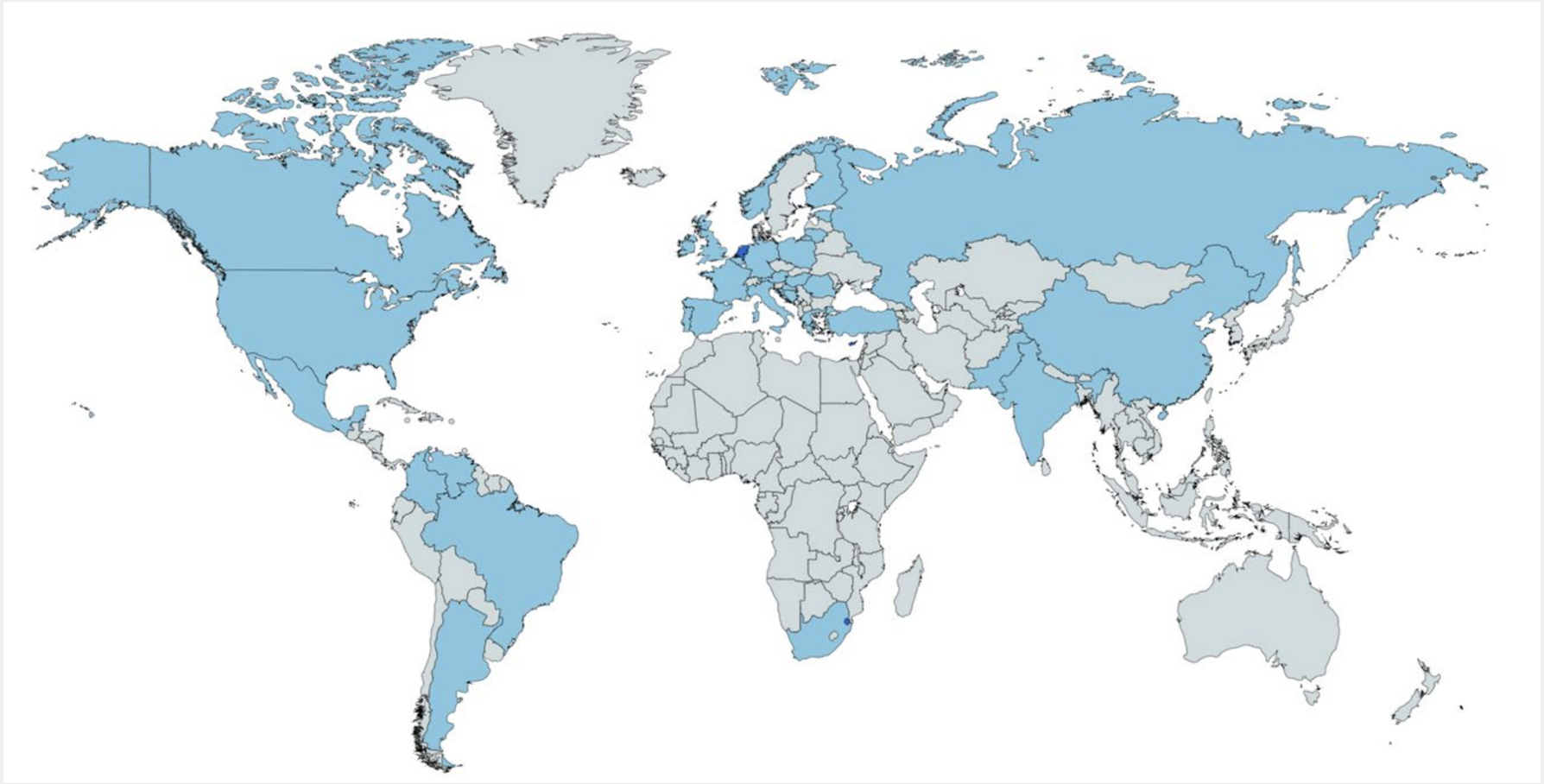
Take home messages

- Research not investigation
- Theoretical not practical (first year)
- Full-time master
- Selective
- International
- In-depth Interpretation of Evidence (first year)
- Disciplinary specialisation (second year)



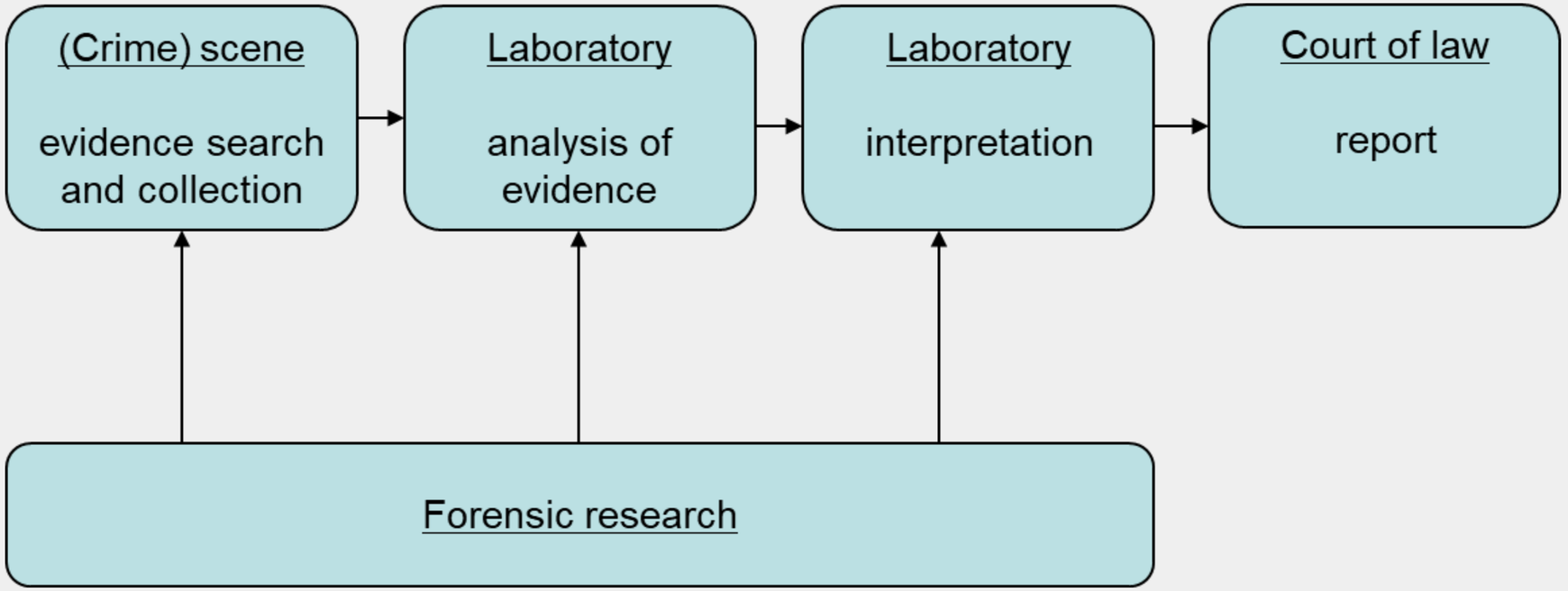
On average: 28 - 42% international students

A truly international programme with alumni and students from 39 countries



550 alumni and 82 students

What is forensic science?



Forensic Science is the application of a broad spectrum of sciences to answer questions of interest to a legal system


Seeing the big
picture &
Sharp eye for
detail

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First year: Seeing the big picture

- Overview forensic process and areas of expertise
- Focus on forensic reasoning
- Professional skills: teamwork and communication
- Many guest lectures from the forensic field

Year 1	**Criminalistics Applied to Forensic Chemistry** (6 ECTS)	**Research and Innovation in Forensic Biophysics** (6 ECTS)	**Complex Crime Scenes** (6 ECTS)	**Forensic Statistics and DNA evidence** (6 ECTS)	**Chain of Evidence** (6 ECTS)	**Policy, Ethics and Media** (6 ECTS)
	Statistics for Forensic Science (5 ECTS)	**Observer Based Techniques** (6 ECTS)		**Cybercime, Digital Traces and Forensic Data Analysis** (6ECTS)	**Criminal Law and Expert Evidence** (6 ECTS)	
	Professional Development (2 ECTS in 2 years)					

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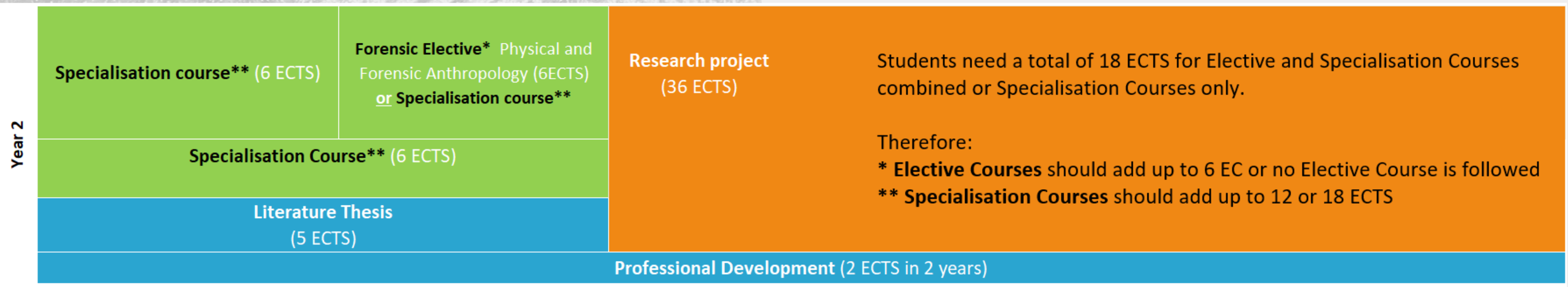
Second year: Sharp eye for detail

Specialisation in your own expertise

- Disciplinary master courses
- Literature Thesis
- Research project



A week in the curriculum

	Monday, September 22	Tuesday, September 23	Wednesday, September 24	Thursday, September 25	Friday, September 26
9					
10					
11		Statistics for Forensic Science Hoorcollege		Criminalistics Applied to Forensic Chemistry Hoorcollege	Statistics for Forensic Science Deeltoets
12					
13					
14					
15		Criminalistics Applied to Forensic Chemistry Hoorcollege		Statistics for Forensic Science Werkcollege	Criminalistics Applied to Forensic Chemistry Presentatie
16					
17					

A week in the curriculum

Chain of evidence

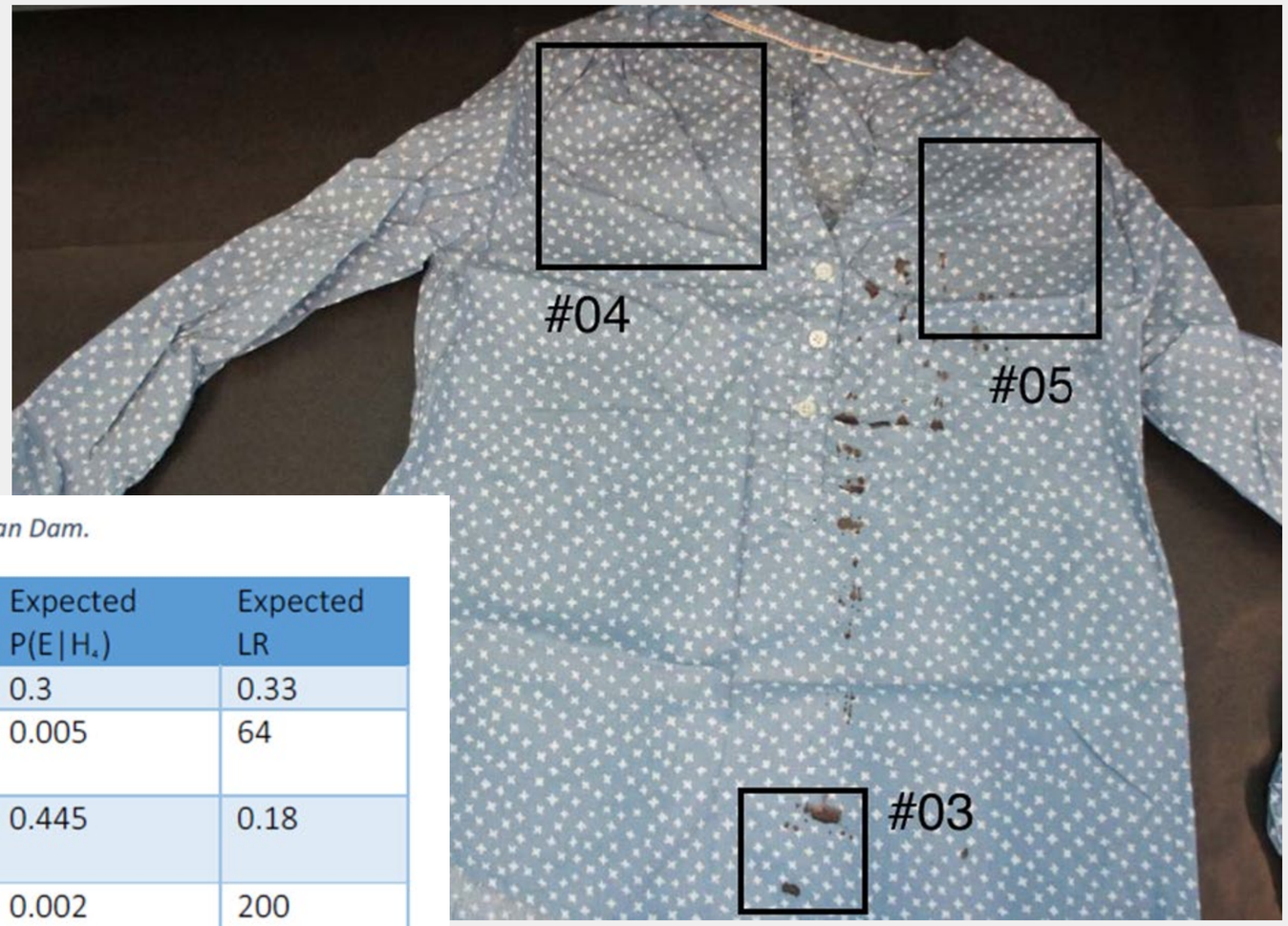


Table 4. Summary of expected values and likelihood ratios for the glass traces from suspect van Dam.

	Expected P ($E|H_3$)	Expected $P(E|H_4)$	Expected LR
No glass fragments are recovered	0.1	0.3	0.33
Few (0-4) glass fragments are recovered, matching the glass found at the crime scene	0.32	0.005	64
Few (0-4) glass fragments are recovered, not matching the glass found at the crime scene	0.08	0.445	0.18
Many (>4) glass fragments are recovered matching the glass found at the crime scene	0.4	0.002	200
Many (>4) glass fragments are recovered not matching the glass found at the crime scene	0.1	0.198	0.5

Moot court

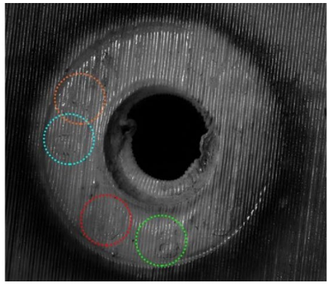
Excursion

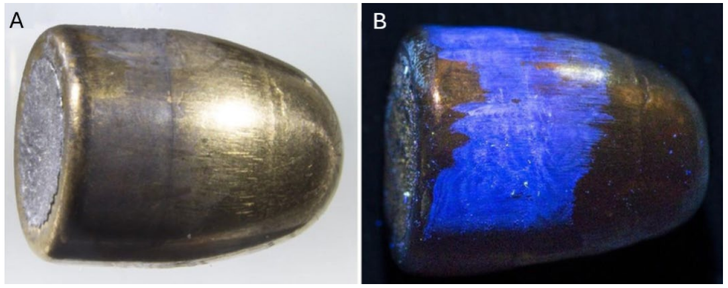
Literature Thesis

→ Investigation of the Dutch firearm expertise framework

- Investigation of current position in expertise framework

Forensic science international 286 pp. 245–251





Forensic science international 295 pp. 137–144

NEDERLANDS
REGISTER
RECHTELIJK
DESKUNDIGEN

National Register of Court Experts

Internship

→ Organization for the Prohibition of Chemical Weapons

Office of Strategy and Policy

- Reports developments in science and technology of relevance
- Science for Diplomats

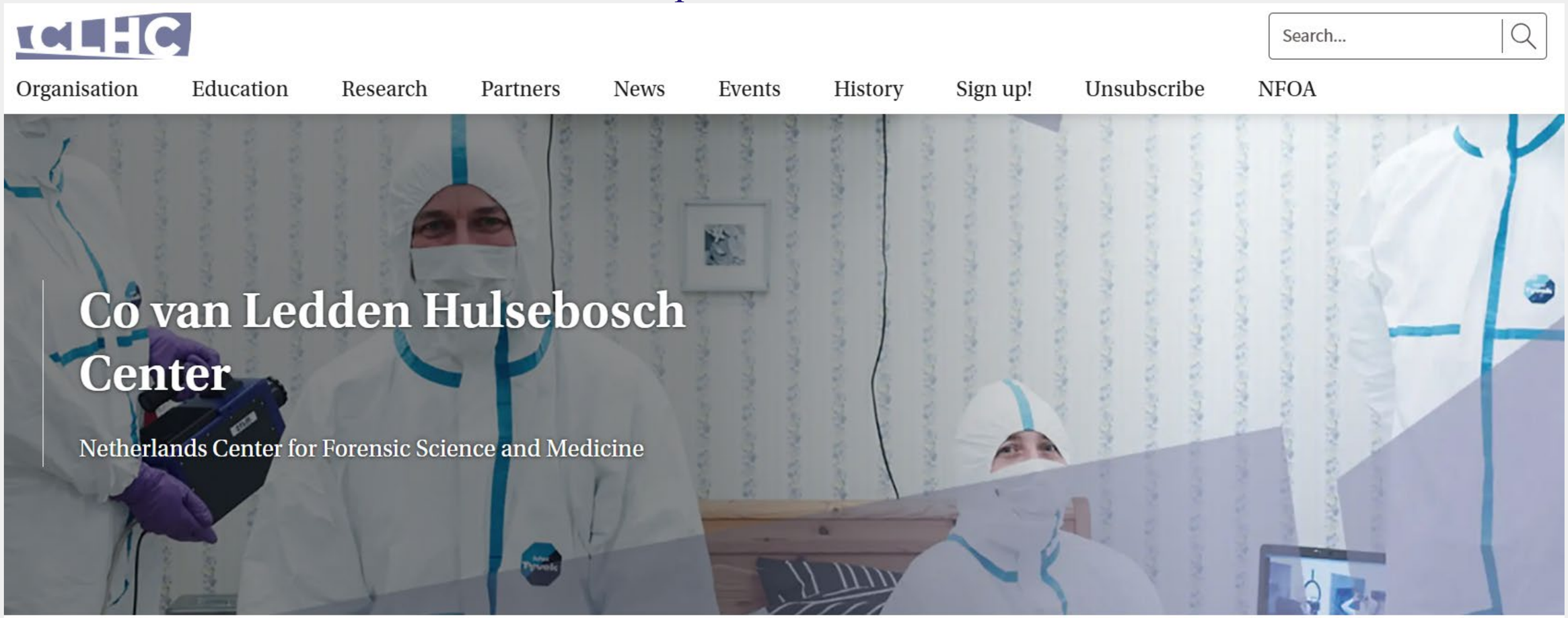
Research Project

→ Actively looking into

- Physics Simulations
- Geophysics
- Forensic Statistics

Forensic Research Center

http://www.clhc.nl



Co van Ledden Hulsebosch Center: the interdisciplinary expertise center for forensic scientific and medical research in the Netherlands.

Forensic Research Center

http://www.clhc.nl

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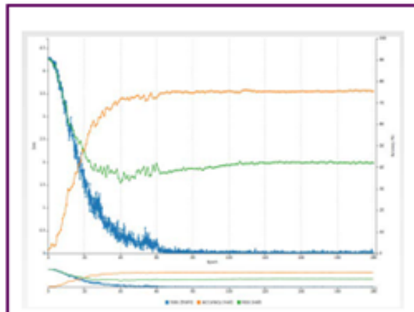
- Courses Open to Forensic PhD students
- Topics for Forensic Master Literature Thesis
- Topics for Forensic Master Research Projects
- Supervisor and examiner instruction

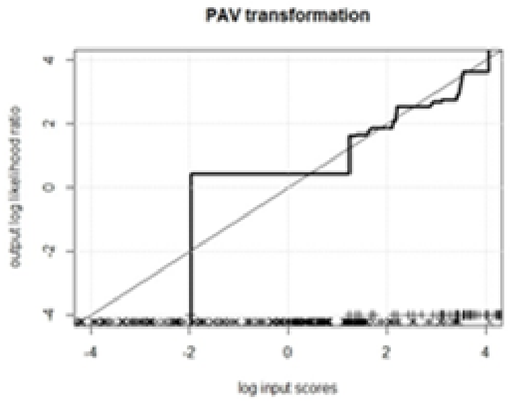
Digital Forensics



Graphical interpretation of the performance of the model-180 epochs were used. The accuracy plateaus at 75.4% while the loss (val) is 1.9.

Student	
Research carried out at	NFI
Supervisor	Prof. Dr. Ing. Zeno Geradts
Title thesis	Clothing identification via deep learning: forensic applications
Abstract	Usually, people can be described based on their clothing, which can be considered a visual cue to facilitate the process of identifying individuals. The research project aims to identify people based on the visual information that can be drawn from the attire they wear. Deep learning has been applied in this project in order to train the computer in classifying images with clothing content. Initially, the research involves clothing type classification in a large scale dataset. Unfortunately, the model performs poorly on the large scale dataset. In addition to that, the second part of the research applies clothing attribute classification in a dataset containing popular logos and famous brands images. The results show that the model

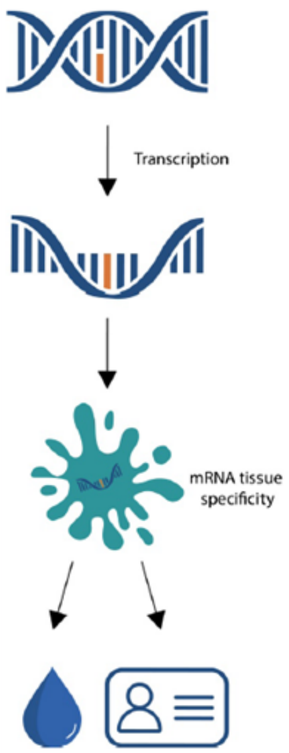
Forensic Statistics



A PAV transformation of LRs

Student	
Research carried out at	Dutch Forensic Institute (NFI)
Supervisor	Dr Peter Vergeer
Title thesis	Measuring calibration of likelihood ratio systems
Abstract	When forensic evidence is examined, the conclusions are summarized by a weight of evidence, most commonly the likelihood ratio. There are several methods to calculate these ratios and good performance of such models is essential. Calibration is a performance characteristic and this property can be measured. Different methods to measure the calibration of an LR system are available, and four of them are

Forensic Biology

Student	
Research carried out at	NFI
Supervisor	Margreete van den Berge
Title thesis	Variation in body fluid specific mRNAs: can cell type and donor be associated?
Abstract 	In recent years, efforts have been made to associate donors with body fluids found on stains. Although it can be easy to do this in single donor samples and in samples with one male and one female donor and only sex specific cells, in other cases it is normally challenging. In the past, four interns at the NFI have contributed to this field of research, with the first investigating six different body fluids as a proof of principle, the following two increasing the discrimination power for blood and semen, and the last one investigating the assays in mixed samples. The aim of this study was to increase the discrimination power for saliva samples by investigating saliva-specific genes. This was achieved by identifying 42 SNPs in 12 saliva-specific genes. A multiplex set was developed on DNA level, achieving a discrimination power of 69%. Twenty-seven of the 42 SNPs were observed in 86 donors and two new SNPs were posteriorly added to the assay, so, in total, 29 SNPs were observed. Although the discrimination power is already relatively high, it might still be possible to increase it by adding new markers. However, it needs to be done carefully, as the addition of markers that might be expressed in other body fluids in addition to saliva might jeopardise the analysis. Two multiplex sets were synthesised for RNA, however, they could not be sequenced upon the submission of this report. The two sets differ by one marker, which was included to understand how it interferes with the other markers. If the extra marker is added the discrimination power drops to 65%, but if not, it drops to 57%. Although the donors (DNA SNPs) and cell type (RNA SNPs) could not be associated in practice, the markers were chosen for their specificity in saliva, so, as a proof of principle, the results are promising for the association of donors to saliva samples. At the moment, donors are being tested on RNA level using two newly developed multiplexes. The next step is to associate those results with the results on DNA level to ascertain if they can in fact be linked. Zoom

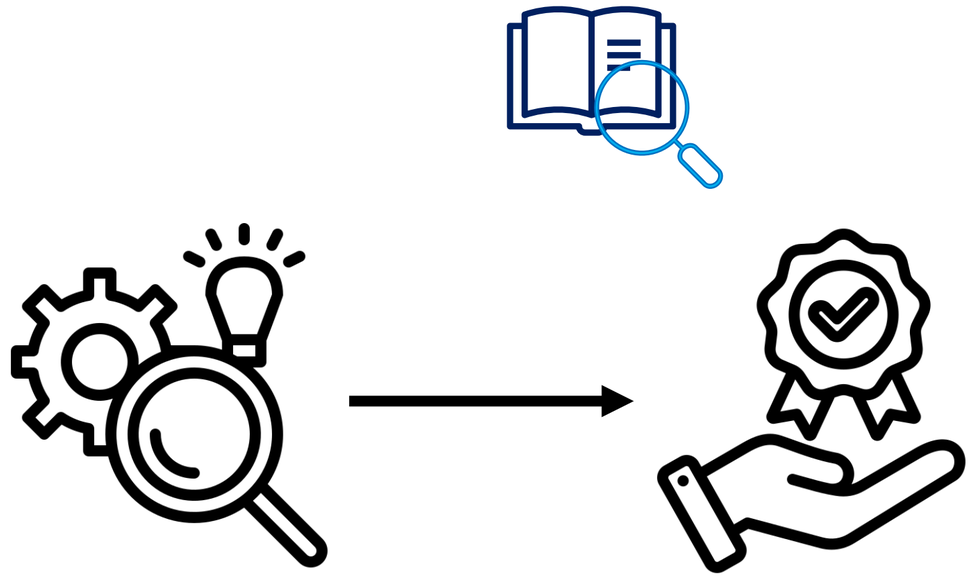
And many more fields...

Research Project booklets

→ www.uva.nl/mfs > study programme > second year

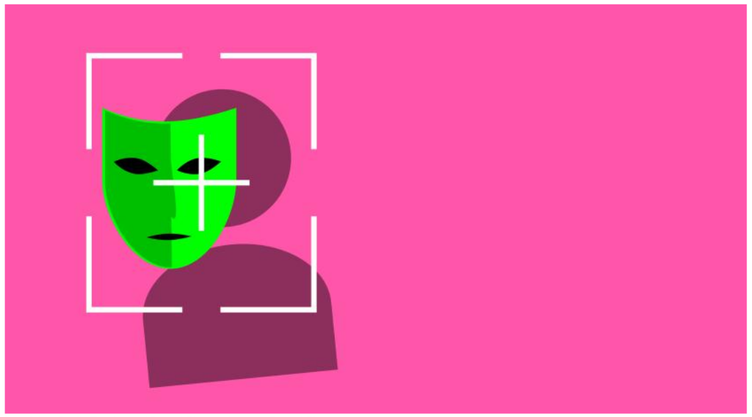
Research Project Guide MFS UvA 2024-2025

Research Project Guide MFS UvA 2023-2024



NL#TIMES

TOP STORIES HEALTH CRIME POLITICS BUSINESS TECI



Deepfake - Credit: Tenebrous / DepositPhotos - License: DepositPhotos

TECH SCIENCE DEEPFAKE DEEPFAKES UNIVERSITY OF AMSTERDAM FORENSIC
» MORE TAGS

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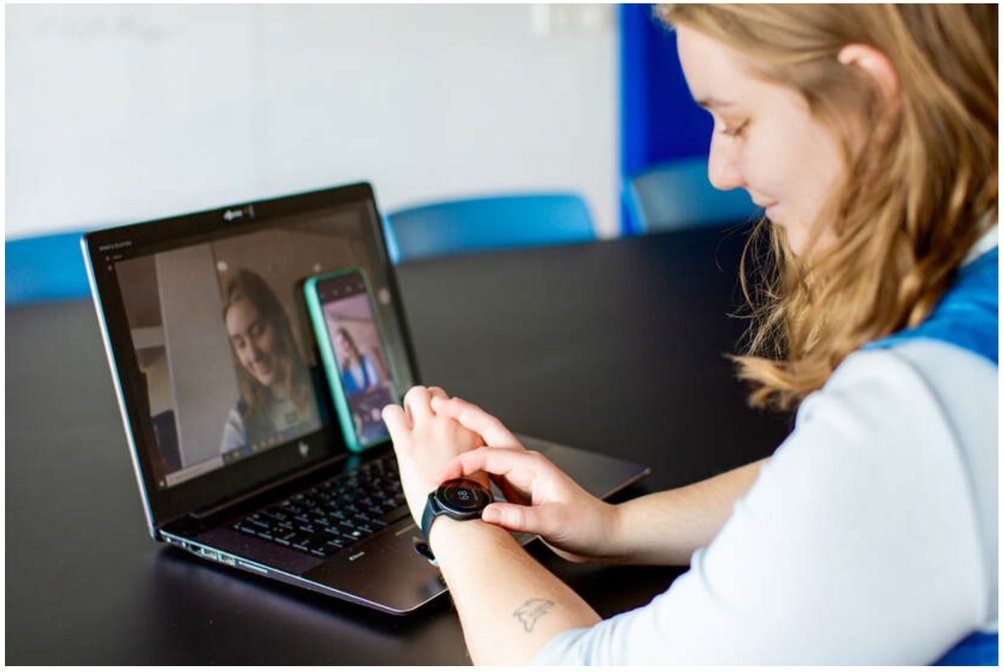
FRIDAY, 23 MAY 2025 - 12:50

Dutch forensic experts unveil breakthrough heartbeat test to detect deepfakes

Netherlands Forensic Institute
Ministry of Justice and Security

[redacted] She/Her · 2de
Forensic Science MSc Graduate & Computer Science BSc Graduate

Universiteit van Amsterdam



How do forensic experts detect fake videos?

Quest

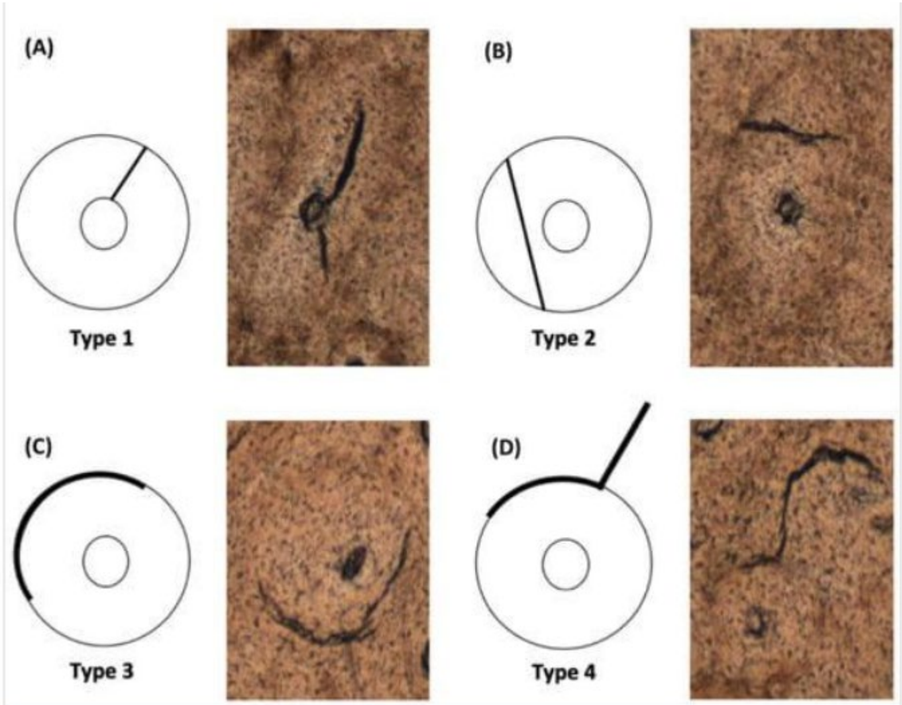
life

MDPI

Article

Osteonal Damage Patterns from Ballistic and Blunt Force Trauma in Human Long Bones

Keira Sexton [1,2], Nathalie Schwab [2,3], Ignasi Galtés [2,4,5,*], Anna Casas [3], Nuria Armentano [3], Pedro Brillas [6], Xavier Garrido [7] and Xavier Jordana [3,8,*]



Forensic Chemistry 45 (2025) 100680

Contents lists available at ScienceDirect

Forensic Chemistry

journal homepage: www.sciencedirect.com/journal/forensic-chemistry

ELSEVIER

Discovery of selective markers for chlorine gas exposure in concrete

Mirjam de Bruin-Hoegée [a,*], Bence Dallos [b], Tomas van Groningen [a], Jelle de Koning [a,b], Latifa Lamriti [a], Marcel J. van der Schans [a], Arian C. van Asten [b,c]

[a] TNO Defence, Safety and Security, Dep. CBRN Protection, Lange Kleiweg 137, 2288GJ Rijswijk, the Netherlands
[b] van 't Hoff Institute for Molecular Sciences, Faculty of Science, University of Amsterdam, P.O. Box 94157, 1090GD Amsterdam, the Netherlands
[c] CLHC, Amsterdam Center for Forensic Science and Medicine, University of Amsterdam, P.O. Box 94157, 1090GD Amsterdam, the Netherlands

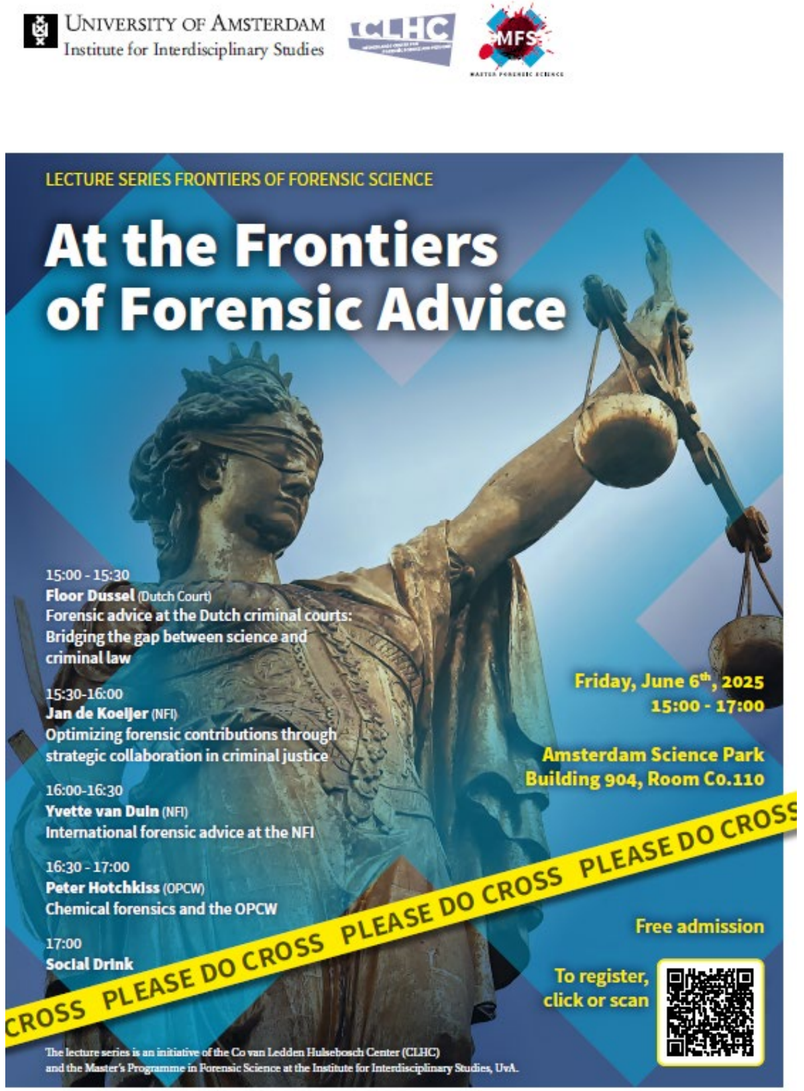
TNO
innovation
for life

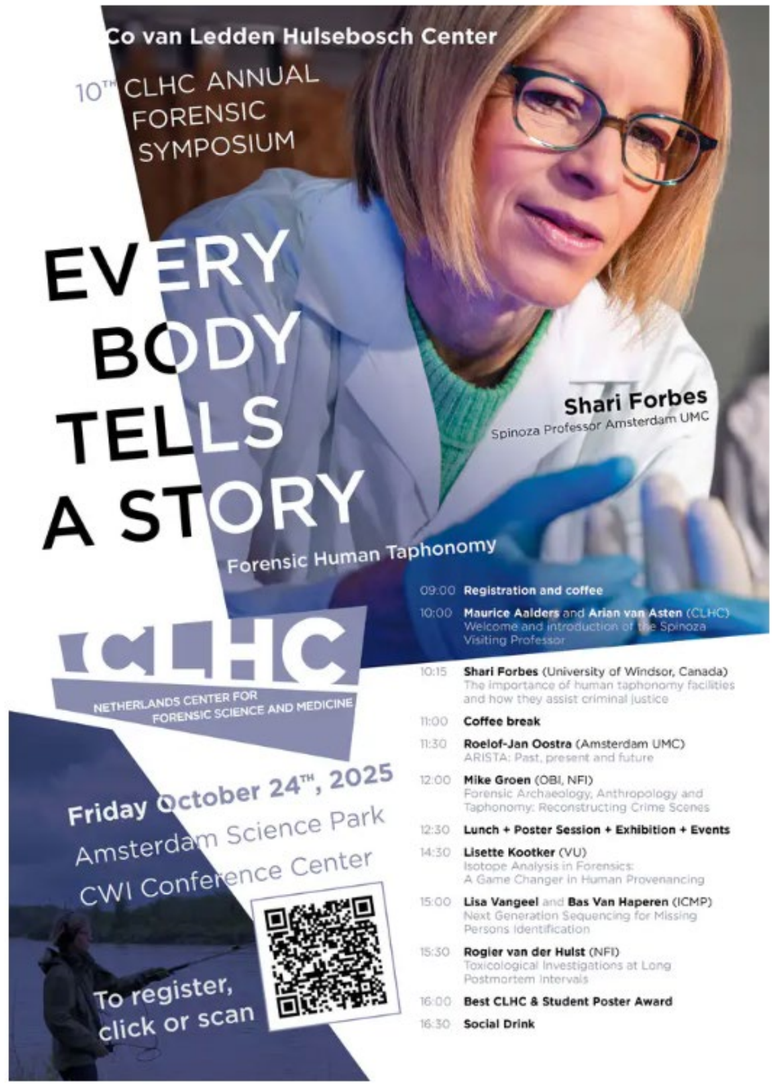
REVEALING THE ORIGIN OF CHEMICAL WEAPONS


Tracing Threats
Towards source- and activity-level interpretation in forensic explosives investigations
Irene van Damme
Follow the trace
Evaluating physical and digital forensic findings given activity level propositions using Bayesian networks
Marouschka Vink
FORENSIC EXPLOSIVES INTELLIGENCE
Karlijn Bezemer
WHAT FINGERMARKS REVEAL ABOUT ACTIVITIES
Anouk de Ronde

https://vimeo.com/1114811776?msockid=3a72860cea976b27080e96a6eb136a18

Events:
Frontiers of Forensic Science & Annual Symposium





Upcoming Event
Engineering Forensic Evidence
@TU Delft

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Application & admission

Application

- Procedure see: uva.nl/mfs
- Reference letter from an academic staff member
- Motivation letter
- Deadlines:
  - Dutch/EU: April 30th, 2026
  - Non-EU: January 31st, 2026

Admission

- By assessment committee
- Assessment interview

Take home messages

- Research not investigation
- Theoretical not practical (first year)
- Full-time master
- Selective
- International
- In-depth Interpretation of Evidence (first year)
- Disciplinary specialisation (second year)

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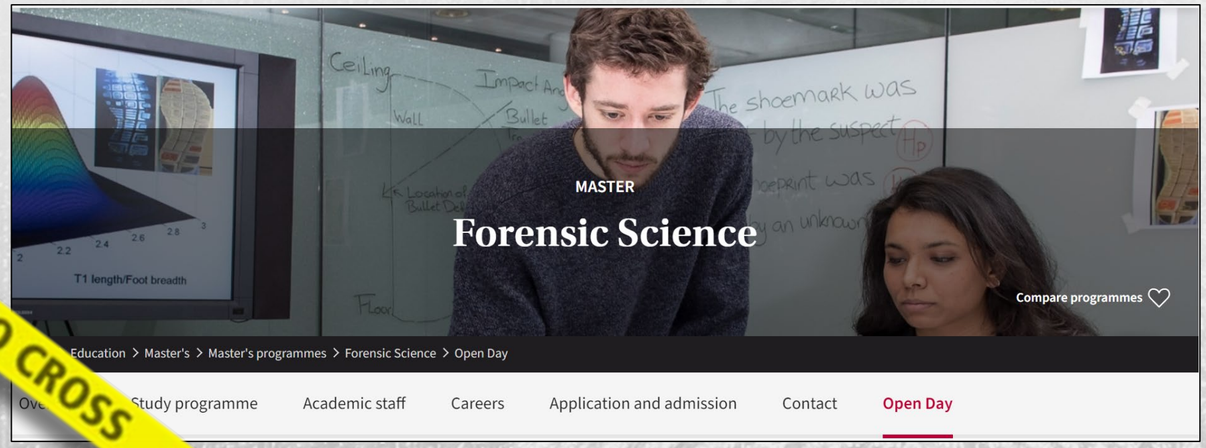
More information



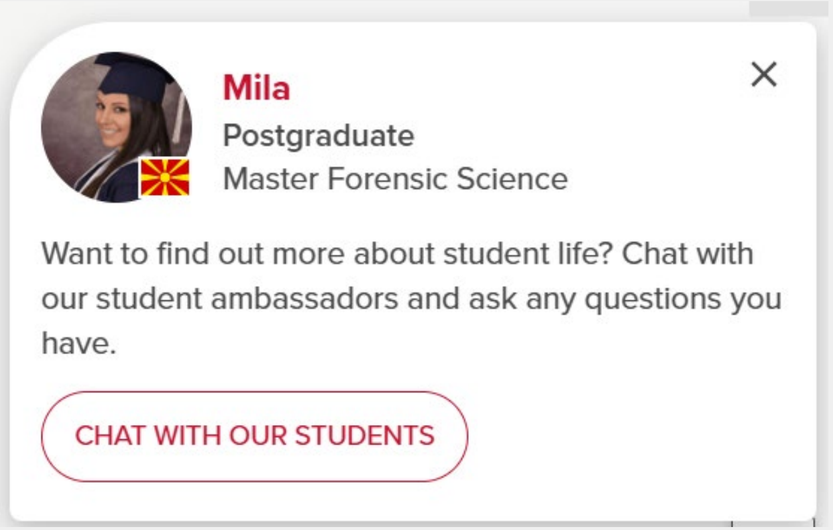
Meet the Master

Want to know if Forensic Science suits you? Accompany a Master's student in their daily study routine and find out!

Yes, sign me up! →

http://www.uva.nl/mfs
http://www.clhc.nl

August de Heij: studieadviseur-iis@uva.nl
Programme: fs-iis-science@uva.nl
Mika Sprik: mika.sprik@student.uva.nl



Curriculum

	Semester I			Semester II		
	Block 1 (8 weeks)	Block 2 (8 weeks)	Block 3 (4 weeks)	Block 4 (8 weeks)	Block 5 (8 weeks)	Block 6 (4 weeks)
Year 1	Criminalistics Applied to Forensic Chemistry (6 ECTS)	Research and Innovation in Forensic Biophysics (6 ECTS)	Complex Crime Scenes (6 ECTS)	Forensic Statistics and DNA evidence (6 ECTS)	Chain of Evidence (6 ECTS)	Policy, Ethics and Media (6 ECTS)
	Statistics for Forensic Science (5 ECTS)	Observer Based Techniques (6 ECTS)		Cybercime, Digital Traces and Forensic Data Analysis (6ECTS)	Criminal Law and Expert Evidence (6 ECTS)	
	Professional Development (2 ECTS in 2 years)					
Year 2	STEM elective** (6 ECTS)	Special elective* Physical and Forensic Anthropology (6ECTS) or STEM elective**	Research project (36 ECTS)	Students need a total of 18 ECTS in Elective Courses: * **Special elective courses** can be up to 6 EC but are optional ** **STEM elective courses** adding up from 12 to 18 ECTS depending on whether the student decides to choose a special elective or not.		
	STEM elective** (6 ECTS)					
	Literature Thesis (5 ECTS)					
	Professional Development (2 ECTS in 2 years)					

Career examples

Forensic Expert: DNA Analist

Forensic advisor

Consultant Forensic Technology

Forensic Weapons expert

PhD student: “Using drones and remote sensing to locate clandestine graves.”

Forensic Expert: Data scientist – Team High Tech Crime

PhD student: “From identification to a chemical fingerprint for explosives in forensic research”

Forensic Scientist - Crime Scene Unit at Forensic Science Institute, State Criminal Police Office Berlin