

Dr Amy Du Beau

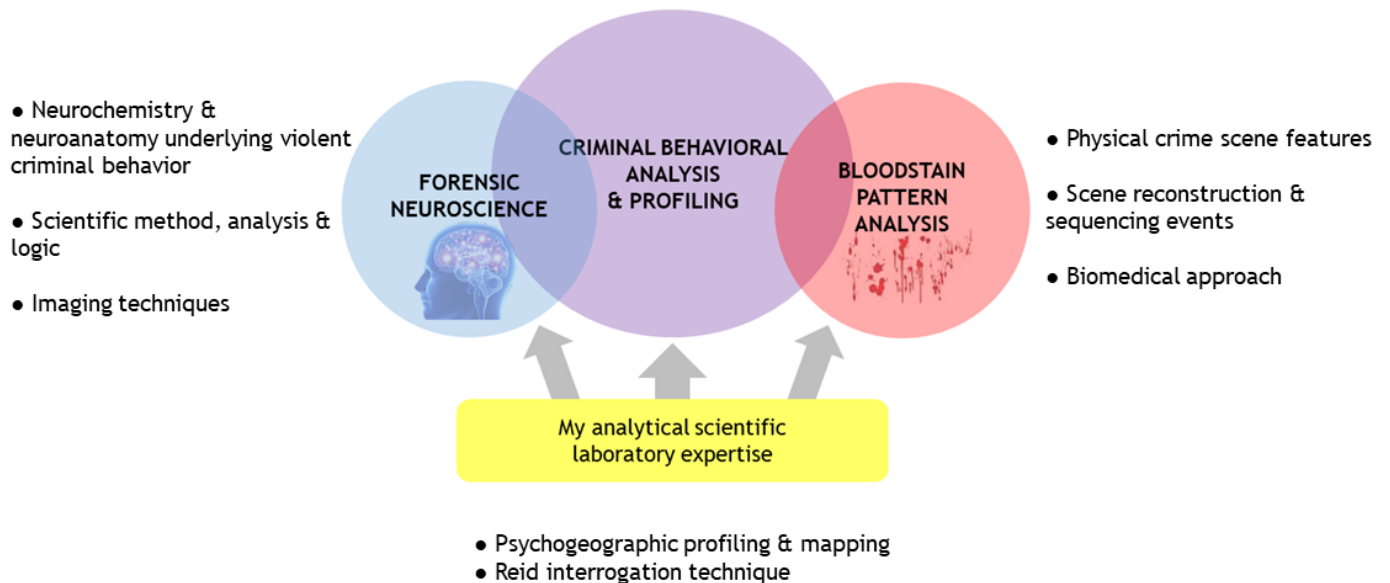
Matanuska Forensic Science, LLC

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I am a forensic behavioral analyst with a neuroscientific approach and expertise in bloodstain pattern analysis and crime scene reconstruction. As an independent expert consultant with a diverse scientific background, I can provide strong support to best inform your investigative and/or legal casework.



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Education and degrees

PhD, Neuroscience (Integrated Biology)	University of Glasgow, Scotland, United Kingdom 2013
MS, Environmental Science	Alaska Pacific University Matanuska Experiment Research Station internship
BS, Natural Science	University of Alaska Anchorage

Memberships and certifications

International Association of Crime Analysts (since 2020) No. 8764

Diplomat of the Academy of Behavioral Profiling, D-ABP (since 2019)

Certificate of Reid Technique - Investigative interviewing & advanced interrogation (earned 2020)

International Association of Identification (since 2018) No. 33079

International Association of Bloodstain Pattern Analysts (since 2018) No. 4647

Matanuska Forensic Science, LLC licensure (since 2019) Alaska No. 2092067

American Chemical Society (since 2017) No. 31227345

British Neuroscience Association (since 2012) No. 23682373

Federation of European Neuroscience Societies (since 2012)

European Physiological Society (since 2012)

American Association for the Advancement of Science (since 2020) No. 60220076

Institute of Neuroscience and Psychology (since 2010)

Scottish Accreditation Board - Animal modelling & surgical certificate (since 2011)

Qualifications and accomplishments

Forensic behavioral profiling and neuroscience

2020	Forensic Talks: 'Science of Violence,' by Dr Geoff Desmoulin Cognitive science applied to forensics (online live venue)	Canada
2020	Forensic Talks: 'Science of Bias,' by Dr Itiel Dror	Canada

	Cognitive science applied to forensics (online live venue)	
2020	Dr Henry Lee Institute of Forensic Science, 5-part online webinar Certificate: Advanced Forensic Science <i>Crime scene investigation, Documentation, Pattern evidence reconstruction, Bloodstain pattern examination/analysis, Trace evidence analysis, Forensic DNA evidence</i>	New Haven, Connecticut
2020	Reid technique of investigative interviewing and advanced interrogation certification, Four day on-site course	Wichita, Kansas
2020	Review photographic bloodstain evidence, crime scene and medical examination (advocate request)	Anchorage, Alaska
2020	International Association of Identification (IAI), General discipline sub-committee	
2020	International Association of Forensic Criminologists (IAFC), summit conference	Sitka, Alaska
2019-2020	Case no. 19-5110, Criminal behavioral profiling and investigations, including my profile report (57 pages plus 10 page addendum with interactive mapping)	Homer, Alaska
2019	Mental health and the criminal justice system, Alaska Association of Criminal Defense Lawyers (AKACDL), Attendance certificate (1.5 continuing legal education credits)	Anchorage, Alaska
2020	Psychogeographic Analysis of Serialists, Publication/project (journal review in progress), 42 pages. <i>Abstract: Serial crimes pose an especially dire threat to public safety. Serial murderers volitionally choose places to prey, encounter, kill and dispose of their victims using distinctively identifying mental maps. Criminal behavioural profiling may be succinctly described as the 'what' plus the 'how' equals 'who'. Based on finding from this study, 'where' emerges as the other critical missing factor in identifying serial murderers. Using a novel application of mapping technology and sophisticated imaging techniques, this study explicitly addresses the geography of serial murderers as a function of their behavioural profiles by analyzing three solved cases: Robert Hansen, Israel Keyes and Cody Legebokoff. This study highlights the need for identifying, classifying and collecting comprehensive serial crime scene location data to refine investigative profiling directives in support of implementing Savanna's Act and allaying risks to public safety. Psychogeographic profiling emerges as a powerful investigative approach.</i>	

2019	International Association of Identification (IAI) Conference <i>Participated in a weeklong conference representing every forensic discipline - workshops, lectures and networking.</i>	Reno, Nevada
2019	Criminal profiling and crime scene analysis, certification diploma (D-ABP), International Association of Forensic Criminologists (IAFC) and Academy of Behavioral Profiling (ABP), January - June <i>Coursework: Forensic behavioral analysis, Criminology, Forensic fraud, Case studies, Threshold analysis, Equivocal death analysis, Motive, Intent, Modus operandi, Linkage analysis, Logic, Scientific methodology, Medico-legal examination, Sexual deviance, Rape, Femicide, Domestic violence, Terrorism, Mass murder, Serial crimes, Victimology, Crime scene reconstruction, Courtroom trial presentation etc.</i> Threshold assessment: State of North Carolina v Peterson (solved case study), 30 pages	
2018	Forensic science presentation, Alaska Federal Public Defenders Office	Anchorage, Alaska
2018	Alaska small business development center, day workshops Starting a business, Digital marketing resolutions	Anchorage, Alaska
2018	Du Beau, A. Forensic neurobiology underling violent criminal behavior. Glasstree Academic Publishing, open access, 35 pages. <i>Abstract: Violent criminal behavior may be a sequela of functionally and structurally compromised prefrontal and corticolimbic cortices. These anatomically distinct yet functionally integrated regions of the human brain confer qualities of moral sensibility and intentionality of action. Criminal behavior leading to conviction necessitates the commission of a prohibited act, actus reus, coincidentally occurring with a guilty state of mind, mens rea. Sentencing determinations markedly differ for those who intentionally violate compared to reckless acts and such outcomes can be critically life-impactful. However, making inferential assessments about an aggressor's mental state can be a challenging task for legal experts. This meta-analysis reviews how the functional somatotopy of brain regions associated with aggression can be forensically assessed to contextualize violent criminal behavior to facilitate legal processes. Because brain scans have diagnostic credibility, by extension, they are</i>	

	<i>increasingly becoming persuasive forensic evidence. A centralized neuroimaging database may emerge as a game-change for legal processes. The intercalated framework of neurolaw uniquely offers great power to elucidate criminological factors within the statute.</i>	
2016	Crime and delinquency, three credit course, University of Alaska Anchorage, January - May	Anchorage, Alaska

Bloodstain pattern analysis

2020	Dr Henry Lee Institute of Forensic Science, 5-part online webinar Certificate: Advanced Forensic Science <i>Crime scene investigation, Documentation, Pattern evidence reconstruction, Bloodstain pattern examination/analysis, Trace evidence analysis, Forensic DNA evidence</i>	New Haven, Connecticut
2019	International Association of Identification (IAI) Conference Certificate: Examination of Bloodstains Patterns on Clothing (half-day workshop) Certificate: Blood Enhancement versus Blood Detection (day workshop) Certificate: Impact Pattern Reconstruction (half-day workshop)	Reno, Nevada
2018	International Association of Bloodstain Pattern Analysts (IABPA) Conference Certificate: Introduction to HemoSpat (half-day workshop) Certificate: Bloodstain Reconstruction (half-day workshop)	Ottawa, Ontario, Canada
2018	Bloodstain pattern analysis workshop, TriTech Forensics Certificate: Bloodstain Pattern Analysis (40 hour basic course)	Alexandria, Virginia
2018	Blood distribution and spatter, three credit graduate online course, Grade 'A', University of Florida, January - May. Coursework: <i>Hemodynamics, Biomedical, Physics, Trigonometry, Blood enhancement/detection, Presumptive/confirmatory chemical testing, Sample collection, Software programming, Chain of custody, Documentation, Case studies, Crime scene reconstruction, Courtroom trial presentation, etc.</i>	Gainesville, Florida

2018	Du Beau, A. Serological method to determine blood phenotypes and probability of occurrence. Absorption-elution method, 9 pages, prepared for Alaska Forensics, LLC.	Alaska
2018	Photography workshop, Alaska Photo Treks, digital photography techniques	Anchorage, Alaska

Publications and articles

2020	Du Beau A. Psychogeographic Analysis of Serialists, Publication/project (journal review in progress). <i>Publication pending.</i>	Journal article, <i>in progress</i> 42 pages
2020	Sleep and violent behavior <i>My report investigating the neurobiology underlying sleep and the forensic implications of sleep related violent behavior.</i>	Web report 12 pages
2020	Detecting deception <i>Can you detect deception?</i>	Web article 3 pages
2020	The curious incident of the neuroleptic prescription <i>My exposé exploring neuroleptic action at the neuronal and neurochemical level with emphasis on the efficacy of off-label prescribing and diagnostic criteria.</i>	Web article & published in 'Mad In America' 13 pages
2020	Experimental shift <i>Mathematically, can you imagine thinking like a pathogen?</i>	Web article 3 pages
2020	Are you cold blooded? <i>Why have our body temperatures dropped?</i>	Web article 2 pages
2020	Eye drops and premeditated murder <i>Forensic toxicology behind eye drops. Who knew?</i>	Web article 1 page
2020	Mediums, Ouija Boards, séances and tarot cards, oh my! <i>Psychics do not belong in profiling and here is why. How do you investigate?</i>	Web article 2 pages
2019	Monoamines and violent criminal behavior <i>The chemistry behind mood, motivation, emotion. What underlies violence?</i>	Web article 1 page
2019	Presumptive testing to detect blood and freezing temperatures <i>It was a dark and stormy night....is it blood? Thermodynamics and molecular chemistry underlying blood detection.</i>	Web article 4 pages

2018	Du Beau A. Forensic neurobiology underlying violent criminal behavior. Glasstree Academic Publishing. ISBN 978-1-5342-0416-4.	Journal article 36 pages
2018	Du Beau, A. Serological method to determine blood phenotypes and probability of occurrence. Absorption-elution method. Prepared for Alaska Forensics, LLC.	Report 9 pages
2014	Du Beau A. Neurochemistry and synaptic connections in the mammalian spinal cord. Pennsylvania State University, Philadelphia and Queens University, Kingston, Ontario, Canada.	Presentations
2014	Huma Z., Du Beau A. <i>et al.</i> Origin and neurochemical properties of bulbospinal neurons projecting to the rat lumbar spinal cord via the medial longitudinal fasciculus and caudal ventrolateral medulla. Front Neural Circuits.	Journal article 9 pages
2013	Du Beau A. Corticospinal and reticulospinal contacts onto cholinergic interneurons. Poster presentation. Festival of Neuroscience, British Neuroscience Association. London, England, United Kingdom.	Poster presentation
2013	Du Beau A. Neurotransmitter phenotypes of descending systems in the rat lumbar spinal cord. PhD thesis, University of Glasgow.	PhD thesis 256 pages
2011-2013	Scottish Neuroscience Group and Glasgow Neuroscience conferences. Glasgow, Aberdeen, Dundee, Edinburgh, Scotland, United Kingdom.	Poster presentations
2012	Du Beau, A. <i>et al.</i> Neurotransmitter phenotypes of descending systems in the rat lumbar spinal cord. J Neurosci. 227.	Journal article 12 pages
2010	Scottish Autism Research Group Conference. Edinburgh, Scotland, United Kingdom.	Conference

Scientific skill sets

Extensive array of laboratory bench techniques

E.g., Qualitative/quantitative analysis, Calibrations, Titrations, Cryopreservation, Preparing reagents/formulae, Preparatory techniques, DNA extraction/analysis, etc.

Neurochemistry and neuroanatomy

Microscopy, histology and immunocytochemistry

Laser confocal microscopy, immunofluorescence and digital photomicrography

Dissections, perfusions, animal modelling and surgical techniques

Psychophysics and visual cognition

Imaging techniques and digital image processing

Photochemistry, electrical potentials, agronomy

Research design and implementation of novel methods to fulfill experimental aims

Employment background

2017	Molecular Ecology Laboratory, US Geological Survey	Anchorage, Alaska
2015-2016	Adjunct Professor of Human Anatomy and Physiology Laboratory, Department of Biological Sciences, University of Alaska Anchorage	Anchorage, Alaska
2014	Post-doctoral researcher, Psychophysics and visual cognition, Queens University	Kingston, Ontario, Canada
2010-2013	Graduate teaching assistant, Biological sciences, University of Glasgow	Glasgow, Scotland