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I am an Alaskan neuroscientist with a strong, diverse scientific background and special expertise in both criminology and criminalistics.

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My website → <https://matanuskaforensicscience.com/>

LinkedIn → <https://www.linkedin.com/in/amy-du-beau-phd-9566b2aa/>

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 Homicide Investigators Association (2022)
Global Scientific Guild - Forensic - Lecture webinar (2021 & 2022)
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

General forensics

2023	Data for Indigenous Justice. Case inquiry, pending. October/November.	Washington State
2023	Mind Freedom International (Law Project for Psych Rights). Volunteer. Ongoing current dates.	National
2023	International Association for Identification conference (on-site). My lecture presentation: psycho-geographic profiling (plus poster exhibit). Sub-committee vetting board member. August 19-26. Certificate: Gentle Introduction to Likelihood Ratios Certificate: Voids in Bloodstain Pattern Analysis Certificate: Forensic Courtroom Testimony Certificate: My lecture, Psychogeographic Profiling	National Harbor, Maryland
2023	Research and report for Cris Rogers Law (20 pages). September/October. Case no. 4:22-cv-00018-HRH	Anchorage, Alaska
2023	Hearing testimony at Nesbett Courthouse. Research and report for Cris Rogers Law (21 pages). Case no. 3AN-21-7754-CI	Anchorage, Alaska
2023	My presentation prepared for Alaska Office of Public Advocacy and Criminal Defense attorneys: forensic neuroscience, etc. April and July, respectively.	Alaska
2023	Webinar: In science we trust, what about the expert? Panel experts.	International

2023	Research and report for Palmer Public Defender. February.	Palmer, Alaska
2023	Anti-Human Trafficking, 8-hour online event. Anti-Human Trafficking Intelligence Initiative. January 18.	
2023	Case strategy proposal prepared for Data for Indigenous Justice. December/January/February	Nome, Alaska
2022	Journal of Criminal Psychology. Review submitted article for publication.	
2022	Missing and Murdered Minorities via Zoom. September 25 (one hour), hosted by Alaska Black Caucus.	Anchorage, Alaska
2022	Alaska Human Trafficking Data Summit, on-site. September 23 (all day).	Anchorage, Alaska
2022	International Homicide Investigators Association (IHIA) Symposium, on-site. August 4-14. Earned certificate.	New Orleans, Louisiana
2022	Missing and Murdered Indigenous Persons (MMIP), 10-minute presentation for members.	Alaska
2022	The Wellness Institute (Triad). Hypnosis and hypnotherapy professional development course, 60-hour intensive, online format. July 26 - August 2. Pursuant to earning clinical certification (behavioral health oriented), pending 18 more sessions within one year.	Washington State
2022	Alaska Pacific University. Serving on two doctoral psychology committees (one a forensic psychology thesis, prospectively). Ongoing current dates.	Anchorage, Alaska
2022	4 th annual Global Webinar, Forensic Science. April. Psychogeographic analysis of serialists: my poster and lecture. Earned certificate on behalf of my affiliate, Alaska Pacific University.	International
2021	3 rd annual Global Webinar, Forensic Science. November 19 - 21. Psychogeographic analysis of serialists: my poster and lecture. Earned certificate.	International
2021	Case no. 20-40385, Profile report (14 pages). For a local attorney. Based on review/analysis of discovery documents.	Anchorage, Alaska
2021	Forensic Talks: 'Psychoactive Medication and Violence,' by Dr Selma Eikelenboom-Schieveld with Eugene Liscio Psychoactive drugs and violent behavior with genetic preponderances (online live venue).	Canada

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2020	Dr Henry Lee Institute of Forensic Science, ½ day webinar Forensic Genetic Genealogy and Familial DNA Searching <i>Solving crimes using relatives' DNA: genetic genealogy and familial DNA searching: applications for casework.</i>	New Haven, Connecticut
2020	Forensic Talks: 'Science of Violence,' by Dr Geoff Desmoulin with Eugene Liscio Forensic kinesthetics and technology (online live venue).	Canada
2020	Forensic Talks: 'Science of Bias,' by Dr Itiel Dror with Eugene Liscio Cognitive science applied to forensics (online live venue).	Canada
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
2020-2022	International Association of Identification (IAI), General discipline sub-committee Designed template for vetting workshops/lectures.	
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), etc.	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
2021	Du Beau, A. Psychogeographic Analysis of Serialists Abstract: <i>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</i>	

	<p><i>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></p>	
2019	<p>International Association of Identification (IAI) Conference <i>Participated in a weeklong conference representing every forensic discipline - workshops, lectures and networking.</i></p>	Reno, Nevada
2019	<p>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. Threshold assessment: State of North Carolina v Peterson (solved case study), 30 pages, etc.</i></p>	
2018	<p>Forensic science presentation, Alaska Federal Public Defenders Office.</p>	Anchorage, Alaska
2018	<p>Alaska small business development center, day workshops Starting a business, Digital marketing resolutions.</p>	Anchorage, Alaska
2018	<p>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.</i></p>	

	<i>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 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

2023	International Association for Identification Workshop Certificate: Voids in Bloodstain Pattern Analysis	National Harbor, Maryland
2023	Linn County District Attorney, private appointment. Casework review inclusive of bloodstain pattern analysis, etc.	Portland, OR
2022	Reviewed 2 doctoral research papers for publication. Bloodstain pattern analysis.	Staffordshire, England UK
2021	Report prepared for Effingham County Sheriff’s Office Criminal Investigation Division. Photographic review (15 pages).	Springfield, Georgia
2021	Qualtrics Survey, Photographic review. Staffordshire University UK: Impact spatter and expiratory patterns.	Staffordshire, England UK
2021	Qualtrics Survey, Photographic review. Staffordshire University UK: Swipes and wipes.	Staffordshire, England UK
2021	Bloodstain Pattern Recognition, by Trittech Forensics Interactive webinar, examination, assignment and project	International

	Certificate.	
2020	Scientific Foundations of Bloodstain Pattern Analysis by Jeremiah Morris, Celestina Rossi, Kacper Choromański Certificate.	International
2020	Presentation: Scientific Foundations of Bloodstain Pattern Analysis (half-day online). International Association of Bloodstain Pattern Analysts.	International
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

2022	The alcohol blackout My exposé exploring the mechanisms of ethyl alcohol induced memory lapses from a neuroscientific and legal perspective.	Web report 20 pages
2021	Mise en place <i>Why scaling matters in this complex ‘Where’s Waldo’ world.</i>	Web report 4 pages
2020	Consciousness squared <i>Why the brain’s anatomy cannot explain the process of consciousness.</i>	Web report 2 pages
2020	Architectural design and murder <i>Violent offenders’ proclivity for the Eichler design, geographic profiling.</i>	Web report 3 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	Web article 4 pages

	<i>It was a dark and stormy night....is it blood? Thermodynamics and molecular chemistry underlying blood detection.</i>	
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, assays, calibrations, titrations, cryopreservation, preparing reagents/formulae, preparatory techniques, instrumentation, etc.

Microscopy, histology and immunocytochemistry

Neurochemistry and neuroanatomy
Surgical techniques, animal modelling, dissections and perfusions
Forensic expertise
Biomedical, e.g., Anatomy and physiology, biochemistry
Basic genetic techniques, e.g., DNA extraction/analysis, PCR, electrophoresis
Psychophysics and visual cognition
Imaging techniques and digital image processing
Experimental methodology and research design
Agronomy, photochemistry, botany and soil sciences

Employment background

2022	Adjunct Professor, Department of Psychology and Biology, Alaska Pacific University <i>Biological Bases of Behavior</i> <i>Principles of Biology II</i> Plus, academic doctoral committees International presentation with poster and certificate	Anchorage, Alaska
2018-2021	Matanuska Forensic Science, LLC	Anchorage, Alaska
2017	Molecular Ecology Laboratory, US Geological Survey	Anchorage, Alaska
2015-2016	Adjunct Professor, Department of Biological Sciences, University of Alaska Anchorage <i>Human Anatomy and Physiology Laboratory</i>	Anchorage, Alaska
2014	Post-doctoral researcher, Psychophysics and visual cognition, Queens University	Kingston, Ontario, Canada
2010-2013	Doctoral research scholar, University of Glasgow Earned PhD	Glasgow, Scotland UK
2010-2013	Graduate teaching assistant, Biological sciences, University of Glasgow	Glasgow, Scotland UK

Up to ≈
2006

Laboratory Technician, research assistant (with
internship), Agricultural research/experiment station

Palmer, Alaska