Ross **Kwok**

Geneticist

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I am a geneticist specilised in population genetics and genomic laboratory practices. I have recently completed my PhD studies in Forensic Science at Staffordshire University and I am due to graduate in July 2023. My research investigated the feasibility of acquiring DNA profiles from counterfeit currency. My previous and current degrees have provided me with significant experience in using equipment specific to DNA analysis including thermal cyclers and genetic analysers alongside various techniques in DNA extraction and genetic sample evaluation.

Education

PhD in Forensic Science: Evaluating the Viability of Obtaining DNA Profiles from DNA Encapsulated Within the Layers of Counterfeit Banknotes

Staffordshire University — *2019 –> 2022*

- Research Chapter 1: Evaluation of DNA in Counterfeit Banknotes.
- Research Chapter 2: Simulated Procedural Study to Evaluate the Presence of DNA in Composite Counterfeit Banknotes.
- Research Chapter 3: Genetic Evaluation of Counterfeit Banknotes.
- Skill Areas: DNA extraction, qPCR, DNA profiling and population genetics.

Msc First Class in Forensic Science

University of Strathclyde — *2017 –> 2018*

- Skill Areas: crime scene analysis, handling of evidence, court procedure, application of chemical and biological based testing of evidence and genetic approaches of DNA evidence.
- Courses Taken: practical crime scene and court exercise, forensic biology, essentials of forensic science (theory and practical) and practical examinations.
- Masters Project: The Application of ISSR Primers to Identify Forensically Important Carrion Flies for The Estimation of Post-Mortem Intervals.

Msc in Genetics

University of Aberdeen — *2016 –> 2017*

- Skill Areas: cell culture, extraction and analysis of RNA/DNA and statitistical evaluation of genomic population dynamics.
- Courses Taken: bioinformatics, introductory immunology, genome-enabled medicine, mendelian genetics, applied statistics, and immuno-genetics.
- Masters Project: Establishing the Phylogenetic Relationships of Birds: Integrating Conservation and Genetics.

BSc (Hons) Upper Second Class in Zoology

University of Aberdeen — *2012 –> 2016*

- Skill Areas: DNA extraction and analysis, applied statistics, conservation and surveying techniques, experimental design and ecological modelling.
- Selection of Courses Taken: molecular ecology and evolution, ecological and environmental modelling, conservation in practice, wildlife conservation and management.
- Honours Project: Conservation Genetics in North Atlantic Porbeagle Sharks.

Employment

Sales Assistant — *Edinburgh, Scotland*

The Works — *May 2016 –> September 2016*

- Position focussed on customer service and relations.

Volunteer — *Chengdu, China*

Chengdu Panda Breeding Research Base — *31 June 2015 –> 14 July 2015*

- Husbandry and care for pandas as part of a conservation project.

Volunteer — *Edinburgh, Scotland*

National Trust — *8 April 2012 –> 14 April 2012*

- Assisted in the construction of a ‘roundhouse‘.

Volunteer — *Edinburgh, Scotland*

Oxfam Record Store — *August 2012 –> July 2016*

- Sales assistant.

Skillset

Computer and Statistical software

Word, Excel, related Microsoft software, Minitab and SPSS

Programming Languages

R, Git and markdown

Genomic software

MrBayes, DNAsp, FinchTV, CLC, Figtree, Arlequin, ClustalX, Proseq, BLAST, Funcassociate, MultiArray Viewer, GeneMapper

Laboratory skills

Polymerase chain reaction techniques (qPCR), DNA/RNA extraction (phenol chloroform, chelex resin, silica spin columns and magnetic bead extractions), gel electrophoresis, agarose gel digestion, capillary electrophoresis, PCR thermocyclers (both for standard PCR and qPCR), fume hoods, gel electrophoresis equipment, heat blocks, qubit fluorometer and nanodrops

Forensic skills

GRIM, MSP, PLM, TLC, fingerprint analysis, DNA profiling, blood spatter and presumptive and confirmative body fluid testing

Langauges

English (Fluent), Cantonese (Basic)

Conferences

Guest speaker

The Centre for Crime, Justice and Security, University of Staffordshire

2022

Title: An Evaluation of Two Adhesive Media for the Recovery of DNA from Latent Finger-marks: A Preliminary Study

Guest speaker

The Centre for Crime, Justice and Security, University of Staffordshire

2022

Title: Evaluating the Viability of Obtaining DNA Profiles from DNA Encapsulated Within the Layers of Counterfeit Banknotes

Poster Presenter

The 28th International Congress of the International Society of Forensic Genetics, Prague

2019

Title: Evaluating the Viability of Obtaining DNA Profiles from DNA Encapsulated Within the Layers of Counterfeit Banknotes

Publications

Evaluating the viability of obtaining DNA profiles from DNA encapsulated between the layers of composite counterfeit banknotes.

Forensics Science International: Genetics Supplement Series, 7, pp. 438-440

2019

Kwok, R., Kenny, D. and Williams, G.A.

- https://doi.org/10.1016/j.fsigss.2019.10.043

An evaluation of two adhesive media for the recovery of DNA from latent fingermarks: A preliminary study.

Forensic Science International, [online] 344(4), 111574

2023

Kwok, R., Parsons, R., Fieldhouse, S. and Walton-Williams, L.

- https://doi.org/10.1016/j.forsciint.2023.111574

Memberships

Chartered Society of Forensic Science

International Society of Forensic Genetics