



**RESUME OF  
SARAH HUGHES**

**EDUCATION**

**Graduated 2010**

***Florida International University, Miami, Florida***

MS in Forensic Science. Forensic Biology, Forensic Analysis, Forensic DNA Typing, DNA Instrumentation, Topics in Biology, Analytical Methods, Statistical Methods in Research.

**Graduated 2004**

***University of Newcastle upon Tyne, Newcastle, England***

BSc Honors in Human Genetics (First Class.) Genetics, Biochemistry, Cell and Molecular Biology, Cytogenetics, Human Genome Organization and Function, Microbiology, Immunology.

**EMPLOYMENT**

**2008-Current**

***Serological Research Institute, Richmond, California***

Forensic Serologist I

Examine and analyze biological physical evidence, Conduct presumptive and/or confirmatory tests for blood, semen, saliva and other body fluids, Extract DNA using chelex, organic and differential extraction methods, Quantify DNA with Real Time PCR ABI 7500 Sequence Detection System using Quantifiler Human, Y, and Duo Quantification Kits, Amplify DNA using Identifiler, Yfiler and Minifiler kits, Analyze and interpret data using the ABI 310 Genetic Analyzer and GeneMapper ID software, Provide written reports and testify to results in court, Conduct research projects and validation studies, Assist with quality control of various chemicals and kits used in the laboratory.

**2006-2008**

***Massachusetts State Police Crime Lab, Maynard, Massachusetts***

Chemist I-Chemist II DNA Unit

DNA examinations of evidence from crime scenes or submitted by law enforcement personnel, Analyze samples to obtain DNA profiles from biological fluids for use in court utilizing PCR-DNA methodologies: Real-time PCR ABI 7500 Sequence Detection System using the Quantifiler Human DNA Quantification Kit and Quantifiler Y Male DNA Quantification Kit, ABI 9700 using the Identifiler and Yfiler Multiplex STR kits, and ABI 3130xl Genetic

Analyzer, Analyze DNA profiles and corresponding data utilizing GeneMapper ID software, Writing casework reports, Testify in court regarding casework findings, Technical review of DNA casework files, exemplar batch files, CODIS hit files, and outsourced casework data.

**2001-2002**

***University Hospital of North Durham, Durham, England***  
Medical Laboratory Assistant

Receiving samples and ordering the requested tests, Labeling and centrifuging samples and distributing to the appropriate lab for analysis, Taking aliquots of samples to send to external labs for outsourced testing, Disposing of old samples, Reporting results via telephone when required.

**RESEARCH PROJECTS**

**2010**

***McCord Research Group, Florida International University***  
The use of real time PCR to determine the quantity and quality of DNA in degraded and inhibited samples.

**2005**

***Forensic DNA Profiling Facility, Florida International University***  
Validation of the AmpFLSTR<sup>®</sup> COfiler<sup>®</sup> PCR Amplification Kit for use with reduced volume reactions and optimization of the amount of template DNA.

**2003**

***Institute of Human Genetics Centre for Life, Newcastle upon Tyne  
Newcastle, England***  
Cloning genes of interest into vectors with various kinase genes and determining the effect of phosphorylation on known protein interactions.

**CONTINUING EDUCATION AND TRAINING**

**2010**

• Applied Biosystems 2010 HID Future Trends in DNA Technology Seminar Series, Berkeley, CA.

**2009**

• Applied Biosystems 2009 HID Future Trends in DNA Technology Seminar Series, Berkeley, CA.

**2007**

• 18<sup>th</sup> International Symposium on Human Identification, sponsored by Promega Corporation, Hollywood, CA.  
• Expert Witness Testimony Workshop, sponsored by Promega Corporation, Hollywood, CA.  
• Generating DNA Profiles from Difficult Samples, sponsored by Promega Corporation, Hollywood, CA.

**2006**

• Forensic Mixture Interpretation and Statistical Analysis, presented by Ray Wickenheiser, George Carmody, and Joanne Sgueglia, Sudbury, MA.  
• Capillary Electrophoresis Workshop, presented by John Butler and Bruce McCord, Sudbury, MA.  
• GeneMapper ID, ABI 7500, ABI 3100 Training, given by Applied Biosystems, Sudbury, MA.

- 2006**
- Pipettes in the Laboratory Training, given by Wendy Vaccaro, Artel Inc., Sudbury, MA.
  - Northeast Regional Forensic Institute (NERFI) training, Albany, N.Y. and Sudbury, MA.

***CERTIFICATION***

- 2006**
- Certified by Artel as trainer in the operation and mechanics of pipettes, pipetting techniques, and ergonomics in the laboratory.

***POSTERS/PRESENTATIONS***

Determining the Quantity and Quality of DNA using Real Time PCR  
American Academy of Forensic Sciences  
58<sup>th</sup> Annual Meeting  
February 20-25, 2006

Determining the Quantity and Quality of DNA using Real Time PCR  
National Academy of Sciences  
Sackler Colloquia, Forensic Science: The Nexus of Science and the Law  
November 16-18, 2005