

Forensic Science Consultants, Inc.

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Linton A. Mohammed, Ph.D.
Forensic Document Examiner

Diplomate: American Board of Forensic Document Examiners
Diploma in Document Examination - Forensic Science Society (England)
American Society of Questioned Document Examiners
(Member & Past-President)
American Academy of Forensic Sciences (Fellow)

Linton A. Mohammed CURRICULUM VITAE

WORK EXPERIENCE

Forensic Science Consultants, Inc., 01/2012 - present
San Francisco, CA

Duties: Forensic Document Examination, expert testimony; research; management.

**dba Rile, Hicks, & Mohammed, Forensic Document Examiners,
10/2010 – 01/2012**

Long Beach, CA; San Francisco, CA

Duties: Forensic Document Examination, expert testimony; research; management.

dba Associated Document Examiners, 10/1997 – 09/2010

[with approval of San Diego County Sheriff's Department]

San Diego, CA

Duties: Forensic Document Examination, expert testimony; research; management.

San Diego County Sheriff's Department Regional Crime Laboratory, 08/1996 – 10/2010

San Diego, CA

Senior Forensic Document Examiner, (2002 – 2010)

Forensic Document Examiner, (1996 – 2002)

Duties:

Conducted examinations in the most complex cases involving: signatures, handwriting, typewriting, machine printing, commercial printing, photocopies, hand stamps, ink, paper, indented impressions, binding materials; restoration and decipherment of alterations, erasures, and obliterations.

Technical Lead - Questioned Documents Section.

Provided training and mentorship for junior examiners. Principal trainer in Forensic Document Examination for Marie Durina (07/2003- 08/2006) and Brenda Lanners (10/2009- 09/2010).

Provided training for investigators and attorneys.

Provided expert testimony in courts of law.

CURRICULUM VITAE – LINTON A. MOHAMMED

Conducted research, presented results at forensic science conferences, and published in peer-reviewed journals.
Produced and maintained the Questioned Documents Section Quality Manuals.
Oversaw the Questioned Documents Section's ASCLD-LAB accreditation status.
Acted as an Audit Team Captain or part of audit teams as per the Laboratory's ASCLD-LAB accreditation protocols.
Participated in proficiency testing.

Laboratory of the Government Chemist, 07/1993 – 07/1996

Teddington, Middlesex, England
Forensic Document Examiner

Caribbean Institute of Forensic Investigations Ltd., 06/1992 – 07/1993

Forensic Document Examiner
Trinidad, West Indies

Trinidad and Tobago Forensic Science Center, 01/1989 – 06/1992

Forensic Document Examiner; Safety Officer
Trinidad, West Indies

Trinidad and Tobago Forensic Science Center, 12/1986 – 12/1988

Chemist 1

Two-year full-time training program in Document Examination. (December 1986-December 1988) at the Trinidad and Tobago Forensic Science Center, Port of Spain, Trinidad. Mr. Robert Fawcett (Staff Sergeant [retired], Royal Canadian Mounted Police) conducted the training, which included the examination of: signatures, handwriting, typewriting, machine printing, commercial printing, photocopies, hand stamps, ink, paper, indented impressions, binding materials; restoration of alterations, erasures, and obliterations, photography, and court testimony.

EDUCATION

Ph.D. (Human Biosciences)

La Trobe University, Melbourne, Australia, 2012 Thesis: "*Elucidating spatial and dynamic features to discriminate between signature disguise and signature forgery behavior*"

Supervisors: Assoc. Prof. Doug Rogers and Dr. Bryan Found

Master of Forensic Sciences

National University, San Diego, CA, 2005

Bachelor of Science (General) [Honors]

University of the West Indies, St. Augustine, Trinidad & Tobago, 1984

TEACHING EXPERIENCE

Oklahoma State University, 2006 – present:

Adjunct Instructor,

Master of Forensic Sciences Administration and Graduate Certificate in Questioned Documents (online programs)

- Graduate course: Historical Aspects of Questioned Documents (4 hours per week during a semester)
- Graduate course: Technical Aspects of Questioned Documents (4 hours per week during a semester).

PROFESSIONAL CERTIFICATIONS

- Certificate of Qualification in Forensic Document Examination (No. 298) *American Board of Forensic Document Examiners, Inc.*, 1998 (re-certified every 5 years since 1998 to present).
- Diploma in Document Examination *Chartered Society of Forensic Sciences*, 1996 (re-certified every 5 years since 1996 to present).

TESTIMONY EXPERIENCE

Testified over 100 times as an expert witness in Forensic Document Examination in USA (Federal & State courts, depositions), England (High Court & Magistrates' Court), and the Caribbean (High Court & Magistrates' Court).

AWARDS

New Horizon Award – American Board of Forensic Document Examiners, Inc., 2012. (In Recognition of Exceptional Contributions in Scientific Research for the Advancement of Forensic Document Examination).

PUBLICATIONS

Book

Caligiuri, M. & Mohammed, L. *The Neuroscience of Handwriting: Applications for Forensic Document Examination*. Taylor & Francis: Boca Raton, 2012.

Papers

1. Caligiuri, M., Mohammed, L., Lanners, B., Hunter. G. (2018). *Kinematic Validation of FDE Determinations about writership in handwriting examination: A preliminary study*. Journal of the American Society of Questioned Document Examiners, Vol, 21, No. 1.

2. Mohammed, L., Found, B., Caligiuri, M., Rogers, D. (2015). *Dynamic Characteristics of Signatures: Effects of Writer Style on Genuine and Simulated Signatures*. Journal of Forensic Sciences, January 2015, Vol. 60, No.1.
3. Mohammed L.A. (2013). *History of the Forensic Examination of Documents*. In: Siegel JA and Saukko PJ (eds.) Encyclopedia of Forensic Sciences, Second Edition, pp. 386-390. Waltham: Academic Press.
4. Caligiuri, M., Mohammed, L., Found, B., & Rogers, D. (2012). *Nonadherence to the Isochrony Principle in Forged Signatures*. Forensic Science International 223 (2012) 228–232.
5. Mohammed, L., Found, B., Caligiuri, M., Rogers, D. (2011). *The Dynamic Character of Disguise Behavior for Text-Based, Mixed, and Stylized Signatures*. J Forensic Sci, January 2011, Vol. 56, No. S1 pp. S136-141).
6. Mohammed, L., Ostrum, B. (2010). *Using Adobe Photomerge™ for Demonstrative Evidence*, Journal of the American Society of Questioned Document Examiners, Vol. 13, No. 1.
7. Mohammed, L.A. (2009). *Alterations, Erasures, and Obliterations of Documents*, in Wiley Encyclopedia of Forensic Science, Jamieson, A., Moenssens, A. (eds). John Wiley & Sons Ltd., Chichester, UK, pp. 128-134.
8. Mohammed, L., Found, B., Rogers, D. (2008). *Frequency of Signature Styles in San Diego County* – Journal of the American Society of Questioned Document Examiners, Vol. 11 (1).
9. Mohammed, L., Richards, G. (2006). *Thinking Outside the Box* – Journal of the American Society of Questioned Document Examiners, Vol. 9 (2).
10. Mohammed, L., Jenkinson, G. (2002). *Association of counterfeit documents to a printing plate by means of half tone dots* – Journal of the American Society of Questioned Document Examiners, Vol. 5 (1).
11. Mohammed, L. (1999). *Write-On™: A new tool for handwriting comparison* - Journal of the American Society of Questioned Document Examiners, Vol. 2 (2).
12. Mohammed, L. (1999). *An evaluation of documents produced by a high-speed, high-volume scanning process* - Forensic Science Communications, Vol. 1 (3).
13. Mohammed, L. (1998). *Sequencing writing impressions and laser printing or ink-jet printing using the ESDA* - Journal of the American Society of Questioned Document Examiners, Vol. 1 (1).

14. Mohammed, L. (1993). *Signature disguise in Trinidad and Tobago* - Journal of the Forensic Science Society, Vol. 33 (1).

PRESENTATIONS

Workshops

- *The Forensic Examination of Original and Copied Signatures*
 - Presented at The Midwestern Association of Forensic Sciences Conference, Cincinnati, OH 2017
- *Likelihood Approach and Document Examination: What For?*
 - Co-presented with Liv Cadola and Tobin Tanaka at the 21st Triennial Meeting of the International Association of Forensic Sciences, Toronto, Canada 2017
- *The Examination of Skillfully Simulated Arabic Signatures*
 - Presented at the 2nd Saudi International Conference on Forensic Medicine and Sciences, Riyadh, Kingdom of Saudi Arabia 2017
- *The Forensic Examination of Genuine, Disguised, and Simulated Signatures with an Introduction to Kinematics of Handwriting*
 - Presented at the Midwestern Association of Forensic Sciences 2016 Conference, Branson, MO.
- *Genuine, Disguised, and Simulated Signatures; Kinematics of Handwriting; Formal and Informal Signatures*
 - Co-presented with Lloyd Cunningham at the Australasian Society of Forensic Document Examiners, Inc., Sydney, Australia 2016.
- *Document Examination in the USA*
 - 2-day seminar presented at the Institute of Forensic Science Seminar, Beijing, China 2015.
- *Are Fountain Pens Back in Vogue? Characteristics of Fountain Pen Writing and Aqueous Ink Analysis*
 - Co-presented with Lloyd Cunningham, Dr. Valery Aginsky, & William J. Flynn at the 73rd Annual Meeting of the American Society of Questioned Document Examiners, Toronto, Canada 2015.
- *The Forensic Examination of Genuine, Disguised, and Simulated Signatures – with an introduction to the Neuroscience and Kinematics of Handwriting (2 days)*
 - 2-day workshop conducted at the II Brazilian Symposium on Forensic Science, Brazilia, Brazil 2015.

- *The Examination of Skillfully Simulated Signatures*
 - Presented at the 67th Annual Meeting of the American Academy of Forensic Sciences, Orlando, FL, 2015.
 - Presented at Canada Border Services Forensic Laboratory, Ottawa, Canada, 2015.

- *Skillful Freehand Signature Simulation* - co-presented with Lloyd Cunningham at the Joint Meeting of the American Society of Questioned Documents Examiners, Inc. & the Australasian Society of Forensic Document Examiners, Inc., Honolulu, HI, 2014.

- *Skillfully Simulated Signatures (1/2 day)* – presented at the European Network of Forensic Handwriting Examiners (ENFHEX) meeting, Riga, Latvia, 2013.

- *Signature Examination of Healthy and Impaired Writers (1 day)* - co-presented with Prof. Michael Caligiuri, UCSD, at the American Academy of Forensic Sciences Annual Conference, Washington DC, 2013.

- *Neural Bases and Characteristics of Signature Formation in Writers with Dementia (1/2 day)*
 - Co-presented with Prof. Michael Caligiuri, UCSD, at the 70th Annual General Meeting of the American Society of Questioned Document Examiners, Charleston, SC, 2012.

- *Signature Examination - Translating Basic Science into Practice (1 day)*
 - Co-presented with Prof. Michael Caligiuri, UCSD at the American Academy of Forensic Sciences Annual Conference, Seattle, WA, 2010.

 - Co-presented with Prof. Michael Caligiuri, UCSD at the American Society of Questioned Document Examiners 68th Annual General Meeting, Victoria, BC, Canada, 2010.

- *Genuine, Disguised, and Forged Signatures (1/2 day)*
 - Presented at the 1st Eurasian Congress on Forensic Sciences, Istanbul, Turkey, 2008.

 - Presented at the Victoria Forensic Science Centre, Melbourne, Australia, 2008.

 - Presented at the European Network of Forensic Handwriting Experts (ENFHEX) Meeting, Krakow, Poland, 2009.

Papers

1. Fuglsby, C., Saunders, C., Ommen, D., Caligiuri, M., Mohammed, L., Buscaglia, J. (2018). *FDE Conclusion Scales: Reverend Bayes or Professor Kirk?* Presented at the 76th Annual Conference of the American Society of Questioned Document Examiners, Park City, UT.
2. McClary, C., Mohammed, L., Caligiuri, M. (2018). *An Analysis of Forensic Document Examiner (FDE) Aptitude in Determining Velocity Rates of Strokes.* Presented at the American Academy of Forensic Sciences Conference, Seattle, WA.
3. Fuglsby, C., Mohammed, L., Buscaglia, J., Saunders, C. (2018). *Sufficiency and Complexity Factors in Handwriting Examination.* Presented at the Impression, Pattern, & Trace Evidence Symposium, Washington, DC.
4. Caligiuri, M., Mohammed, L. (2018). *Error Rates in Handwriting Examination.* Presented at the CSAFE Error Rates Symposium, Arlington, VA.
5. Caligiuri, M., Mohammed, L., Lanners, B. & Hunter G. (2017). *Kinematic Validation of FDE Determinations About Authorship in Handwriting Examination.* Presented at the 75th Annual Conference of the American Society of Questioned Document Examiners, San Diego, CA.
6. Mohammed, L. (2017). *The Kinematics of Signatures and Handwriting.* Presented at the 2nd Saudi International Conference on Forensic Medicine and Sciences, Riyadh, Kingdom of Saudi Arabia
7. Domitrovich, S. Judge, Seaman Kelly, J., Mohammed, L. (2017). *A Review of the Almeciga V. Center for Investigative Reporting, Inc. Decision: Analysis and Counter-Analysis.* Presented at the American Academy of Forensic Science Conference, New Orleans, LA.
8. Mohammed, L. (2016). *Document Examination – not just handwriting.* Presented to the Young Forensic Scientists Forum, American Academy of Forensic Science Conference, Las Vegas, NV.
9. Mohammed, L. (2014). *Kinematic approach to signature analysis.* Presented at the 3rd. International Workshop on Automated Forensic Handwriting Analysis, Honolulu, HI.
10. Mohammed, L. (2013). *Handwriting stroke kinematics.* Presented at the Measurement Science and Standards in Forensic Handwriting Analysis conference, NIST, Gaithersburg, MD.
11. Mohammed, L., Found, B., Caligiuri, M., Rogers, D. (2012). *Dynamics of stroke direction in genuine and forged signatures.* Presented at the American Academy of Forensic Sciences Conference, Atlanta, GA.

12. Mohammed, L., Found, B., Caligiuri, M., Rogers, D. (2009). *Pen pressure as a discriminating feature between genuine and forged signatures* – Presented at the International Graphonomics Society Conference, Dijon, France.
13. Mohammed, L., Found, B., Caligiuri, M, Rogers, D. (2009). *Can dynamic features be used to discriminate between genuine, auto-Simulated, and simulated signatures?* - Presented at the 61st Annual Conference of the American Academy of Forensic Sciences, Denver, CO.
14. Mohammed, L. (2008). *Judicial challenges to expert witness testimony in the USA: The Daubert Trilogy* -Presented at the 1st. Eurasian Congress on Forensic Sciences, Istanbul, Turkey.
15. Mohammed, L., Found, B., Rogers, D. (2008). *Genuine and disguised signatures – An empirical approach* - Presented at the 60th Annual Conference of the American Academy of Forensic Sciences, Washington, DC.
16. Mohammed, L., Williams, D. (2006). *Preparing demonstrative charts with the use of Adobe Photomerge®* - Poster presentation, American Academy of Forensic Sciences, Seattle, WA.
17. Mohammed, L. (2005). *The Edge of Light™ Scanner* - Presented at the American Academy of Forensic Sciences Conference, New Orleans, LA.
18. Mohammed, L. (2003). *Daubert and documents* – Presented at the California Association of Criminalists Fall Conference, San Diego, CA.
19. Mohammed, L. (2003). *A standardized training program for Forensic Document Examiners – A proposal*- Presented at the 61st Annual Conference of the American Society of Questioned Document Examiners, Baltimore, MD.
20. Mohammed, L. (2001). *Demonstrative evidence and multi-media technology* - Presented at the 59th Annual Conference of the American Society of Questioned Document Examiners, Des Moines, IA.
21. Mohammed, L., Buglio, J., Shafer, A. (2000). *The influence of paper on the performance of the VSC-2000 spectrometer* - Presented at the 58th Annual Conference of the American Society of Questioned Document Examiners, Ottawa, Ontario, Canada.
22. Mohammed, L., Buglio, J. (2000). *The Association of Forensic Document Examiners* - Prepared for the 58th Annual Conference of the American Society of Questioned Document Examiners, Ottawa, Ontario, Canada.
23. Mohammed, L. (1992). *Cocaine and handwriting* - presented at the 50th Annual Conference of the American Society of Questioned Document Examiners, Milwaukee, WI.

24. Mohammed, L. (1991). *Signature disguise in Trinidad and Tobago* - presented at the 49th Annual Conference of the American Society of Questioned Document Examiners, Orlando, FL.

PROFESSIONAL AFFILIATIONS

- American Society of Questioned Document Examiners
 - President, 2010 – 2012
 - Vice-President, 2008 – 2010
 - Treasurer, 2006 – 2008
 - Director, 2004 – 2006;
 - Annual Conference Program Chair, 2006 & 2017
 - Chair, Evaluation and Examination Committee, 2002 – 2006
 - Annual Conference Site Chair, 2002
- American Academy of Forensic Sciences
 - Fellow – Questioned Documents Section
 - Chair – Questioned Documents Section, 2016 – 2018
 - Chair – Inter-Disciplinary Symposium 2018
 - Co-Chair – Inter-Disciplinary Symposium 2017
 - Secretary – Questioned Documents Section, 2014 – 2016
- Canadian Society of Forensic Science
- Chartered Society of Forensic Sciences

PROFESSIONAL ACTIVITIES

- Member – Academy Standards Board, 2017 –
- Member – Expert Working Group on Human Factors in Handwriting Examination, National Institute of Standards and Technology, 2015 –
- Member – Physics/Pattern Scientific Area Committee within the National Institute of Standards and Technology Organization of Scientific Area Committees (NIST/OSAC), 2014 –2016.
- Participant in the General Forensics Technology Working Group, National Institute of Justice, 2011
- Participant in Scientific Working Group on Documents (SWGDOC), 2009 – present
- Grant reviewer for the National Institute of Justice and affiliated agencies, 2009 – present
- Editorial Review Board Member:
 - Journal of Forensic Sciences
 - Journal of the American Society of Questioned Document Examiners
 - Forensic Science and Technology (China)

CURRICULUM VITAE – LINTON A. MOHAMMED

- Guest Reviewer:
 - Forensic Science International
 - Science & Justice
 - Australian Journal of Forensic Science
 - Egyptian Journal of Forensic Sciences
 - IEEE Transactions on Cybernetics

CONTINUING EDUCATION

- American Society of Questioned Document Examiners, Park City, UT 2018
 - Write-On 3.0 Workshop
 - The Greatest Forger to Ever Get Caught
- American Society of Questioned Document Examiners, San Diego, CA 2017
 - Forensic Science Research: Your Mission to Propose, Innovate, and Collaborate
 - Preparing a Digital Signature File for Forensic Analysis
 - Chinese Handwriting and Signatures Workshop: Hanzi Through the Eyes of the Forensic Document Examiner
 - Write or Wrong? Bias, Decision-Making, and the Use of Contextual Information in Forensic Document Examination
- American Society of Questioned Document Examiners, Pensacola, FL 2016
 - Measuring Frequency Occurrence in Handwriting and Hand Printing Characteristics
 - Sequence of Entries Determination – New Approach to Additional Print
- American Society of Questioned Document Examiners, Toronto, Canada 2016
 - Principles of Forensic Examination of Arabic Signatures
- American Society of Questioned Document Examiners, Honolulu, HI 2014
 - Adobe - Digital Media & Evidence
- American Academy of Forensic Sciences, Seattle, WA 2014
 - Science, Law, and the Inferential Process: The Epistemology of Scientific Conclusions
- National Institute of Standards and Technology (NIST), Gaithersburg, MD 2013.
 - Measurement Science and Standards in Forensic Handwriting Analysis
- American Academy of Forensic Sciences, Atlanta, GA, 2012
 - Paper Fundamentals for Forensic Document Examiners
 - Digital Photography for Forensic Document Examiners
- American Society of Questioned Document Examiners, Philadelphia, PA, 2011
 - Printing Process Identification for Forensic Document Examiners
 - Using Adobe Photoshop in a QD Workflow

CURRICULUM VITAE – LINTON A. MOHAMMED

- American Society of Questioned Document Examiners, Victoria, BC, Canada, 2010
 - Electronic Recording and Analysis of Handwritten Signatures & Writing
- Cedar Crest College, Allentown, PA, 2010
 - Multivariate Analysis for Forensic Scientists: Statistical Pattern Recognition for Physical Evidence Analysis and Chemometrics
- American Academy of Forensic Sciences, Denver, CO, 2009
 - Estimation of Uncertainty – Is Anyone Certain What This Means?
 - Security Documents before and After the Crime: REAL ID, Physical and Electronic Security Features, Developments in Commercial Printing Technology, and an Introduction to Counterfeit Link Analysis
- American Academy of Forensic Sciences, Washington DC, 2008
 - The Applications of Color Analysis and Light Theory in the Forensic Examination of Documents Workshop
- American Society of Questioned Document Examiners, Portland, OR 2006
 - Fine and Subtle Features of Handwriting Workshop
 - Signature Workshop
- Southeastern Association of Forensic Document Examiners, Atlanta, GA, 2006
 - Disguised and Forged Signatures Workshop
- American Academy of Forensic Sciences, New Orleans, LA, 2005
 - State of the Art Infrared and Ultraviolet Examinations of Documents by the Video Spectral Comparator
- California Criminalistics Institute, Sacramento, CA, 2005
 - Technical Writing for Criminalists
- American Board of Forensic Document Examiners, Las Vegas, NV, 2004
 - Daubert Seminar
- American Academy of Forensic Sciences, Chicago, IL, 2002
 - Note Taking for Forensic Document Examiners Workshop
- Rochester Institute of Technology, Rochester, NY, 2002:
 - Printing Process Identification and Image Analysis for Forensic Document Examiners
- Limbic Systems, Inc., Bellingham, WA, 2001:
 - Measurement of Internal Consistencies Software (MICS)
- American Board of Forensic Document Examiners, Norcross, GA, 2000:
 - Canon Photocopier and Facsimile Training Workshop

CURRICULUM VITAE – LINTON A. MOHAMMED

- California Criminalistics Institute, Sacramento, CA, 2000:
 - Special Topics in Questioned Documents
- Southwestern Association of Forensic Document Examiners, Las Vegas, NV, 1999:
 - Typewriter Examination & Classification Workshop
- American Board of Forensic Document Examiners, Las Vegas, NV, 1998:
 - Examination Techniques in Handwriting & Rubber Stamp Cases Seminar
- Canadian Society of Forensic Science 44th Annual Conference, Regina, Saskatchewan, Canada, 1997:
 - Digital Image Processing Workshop
- California Criminalistics Institute, Sacramento, CA, 1997:
 - Courtroom Presentation of Evidence
- American Society of Questioned Document Examiners 55th Annual Conference, Scottsdale, AZ, 1997:
 - Handwriting Workshop
- American Society of Questioned Document Examiners 51st Annual Conference, Ottawa, Canada, 1993:
 - Laser Printer Workshop
 - Miscellaneous Document Examination Workshop
- American Society of Questioned Document Examiners 50th Annual Conference, Milwaukee, WI, 1992:
 - Signature Workshop
- American Society of Questioned Document Examiners 49th Annual Conference, Orlando, FL, 1991:
 - Canon Fax Workshop
 - Deposition Testimony Workshop
 - Expert Witness Workshop
 - Signature Comparison Workshop

August 28, 2018