

EXHIBIT B

DECLARATION OF LINTON A. MOHAMMED, PH.D., D-ABFDE

The Examination of Signatures

September 30, 2016

A handwritten signature in black ink, reading "Linton A. Mohammed", written over a horizontal line.

**Linton A. Mohammed
Burlingame, CA**

Qualifications

1. I am a certified forensic document examiner, which is the scientific study of the authenticity of documents. My expertise includes the investigation and verification of signatures. I have been continuously certified by the American Board of Forensic Document Examiners (“ABFDE”) since August 1998. ABFDE is a certifying board for Forensic Document Examiners in North America. It is sponsored by the American Society of Questioned Document Examiners, the Canadian Society of Forensic Science, the Southwestern Association of Forensic Document Examiners, the Southeastern Association of Forensic Document Examiners, and is recognized by the American Academy of Forensic Sciences. Additionally, ABFDE is accredited by the Forensic Specialties Accreditation Board. I also have earned a Diploma in Document Examination from the Forensic Science Society (United Kingdom).

I am a Past-President of the American Society of Questioned Document Examiners (“ASQDE”). I previously served on the ASQDE’s Executive Committee as President (2010-2012), Vice President (2008-2010), Treasurer (2006-2008), and Director (2004-2006). I am a Fellow in the Questioned Document Section of the American Academy of Forensic Sciences (“AAFS”), the Forensic Science Society, and the Canadian Society of Forensic Science.

I graduated from the University of the West Indies in 1984 with a Bachelor of Science Degree. I trained full time in Document Examination from 1986 to 1988 at the Trinidad and Tobago Forensic Science Center, Port of Spain, Trinidad & Tobago and worked as a Forensic Document Examiner in Trinidad & Tobago from 1989 to 1993. In this role, I examined, reported on, and testified in criminal and civil cases in Trinidad & Tobago and other Caribbean islands. In 1993, I relocated to England and worked as a Forensic Document Examiner at the Laboratory of the Government Chemist until 1996. There I conducted examinations in criminal cases for seven police forces, Her Majesty’s Customs & Excise, the Benefits Department, and other government agencies. In 1996, I accepted a position as a Forensic Document Examiner with the San Diego County Sheriff’s Crime Laboratory. I was promoted to Senior Forensic Document Examiner in 2002 and my duties involved conducting examinations in complex cases involving questions regarding, among other things, the validity of signatures, handwriting, and typewriting. In addition, I trained junior examiners, investigators, and attorneys and providing expert testimony for criminal cases that were investigated by agencies of the County of San Diego, and by several local police, State, and Federal agencies. I currently manage my own consulting firm, specializing in forensic science consultation. My caseload is comprised of civil and criminal cases.

I earned a Master of Forensic Sciences from National University, San Diego, CA in 2005, and a PhD (Human Biosciences) at La Trobe University, Melbourne, Australia. My thesis topic was *“Elucidating static and dynamic features to discriminate between signature disguise and signature forgery behavior.”*

I am an appointed member of the Organization of Scientific Area Committees (“OSAC”) that is sponsored by the National Institute for Standards and Technology (NIST). The NIST-OSAC collaboration was formed to develop and promulgate standards in the forensic sciences. I have also been a member of the Technology Working Group (“TWG”) of the National Institute of Justice (“NIJ”). This group develops solicitations for research grants that are funded by NIJ.

My publications and presentations are detailed in my curriculum vitae which is attached as **EXHIBIT A**.

Engagement & Summary of Opinion

2. Plaintiffs in this case have asked me to opine on the process of signature verification as well as the reliability of various types of signature matching processes and standards generally and in the context of this case. I am being compensated at a rate of \$350.00 per hour.
3. I have reviewed the signature matching processes and standards in Florida for vote-by-mail ballots. It is my opinion that the lack of a uniform standard or signature review process across Florida counties and the use of lay persons (i.e., the canvass board or supervisor of elections) - even where minimally trained - to review and match signatures is likely to lead to a high degree of variation in the accuracy of signature matches and, in most cases, a high number of false-positives (i.e., calling a genuine signature simulated¹).
4. There are over twenty factors such as health, age, and education level that influence the formation and range of variation of a person’s signature style. These factors impact the ability of an individual to determine the signature’s authenticity. In many cases, where an examiner is not cognizant of these factors, he or she is more likely to make mistakes in their determination of authenticity. Where examiners have no or little knowledge of or practice with established standards in the field, it is also likely that they will fail to account for the proper characteristics when evaluating signatures.
5. As discussed in more detail below, even highly trained Forensic Document Examiners who operate under strict standards may err when reviewing signatures. And in studies comparing these experts to lay persons, lay persons have been found to have significantly higher error rates.

Discussion

A. Florida Signature Matching Procedures

6. It is my understanding that under Florida law, when a vote-by-mail ballot is received by the county supervisor of elections the signature on the ballot is reviewed and

¹ Forgery is a legal term. FDEs refer to non-genuine signatures as simulations.

a determination is made about its authenticity. In particular, this determination is made by a canvass board that is comprised of laypersons or the county supervisor of elections. Fla. Stat. § 101.68(2)(c)(1). These individuals make their determination by comparing the vote-by-mail signature to the voter's signature in the registration book or precinct register. Fla. Stat. § 101.65. There is no scientific standard for comparing signatures; the standard for determining whether a signature is authentic is "reasonableness." *Div. of Election Op. 13-07*, at 3 n.1, available at: <http://opinions.dos.state.fl.us/searchable/pdf/2013/de1307.pdf>

B. Principles of Signature Verification and Application to Florida Verification Process

7. The forensic examination of signatures is a major part of the work of most Forensic Document Examiners ("FDEs"). Signatures present a challenge to FDEs as they are usually comprised of a relatively small amount of handwriting that may be written in one of three styles: Text-based, Mixed, or Stylized as illustrated and defined in Figures 1 to 3².



Figure 1 Example of a text-based signature. Note that nearly all of the letters can be interpreted.

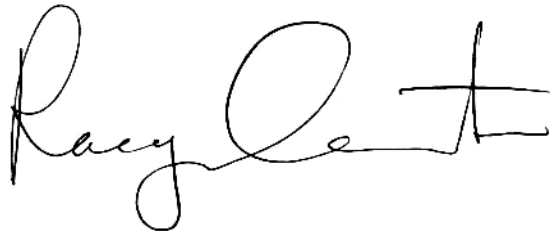


Figure 2 Example of a mixed style signature. More than two letters but



Figure 3 Example of a stylized signature. No letters can be interpreted.

8. Research conducted on the kinematics of signatures, *i.e.*, the study of motion as the signature is being written, showed that these three classes of signatures exhibit

² 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, No. 1.

features that a FDE should consider when conducting an examination to determine whether a signature is genuine, disguised, or simulated^{3,4}. It is important to note that with the exception of digital signatures, FDEs have to infer kinematic features such as velocity, changes of acceleration, and pen pressure from static ink traces all factors which are important to determining the authenticity of a given signature.

9. The training of an FDE takes a minimum of two years full-time training (generally three years) with an experienced examiner. At least 18 months of this training covers the examination of signatures and handwriting. During his time the trainee is exposed to theory, practical casework, and proficiency testing.
10. In testing that assessed the success rate of trained FDEs as compared to laypersons (without training) in the US with regard to determinations as to the authenticity of signatures, revealed significant differences in performance. The most pronounced difference in error rates appeared when non-genuine signatures were declared authentic (Type I error) and when authentic signatures were declared non-genuine (Type II error). Type I errors were made by FDEs in only 0.49% of cases, but laypersons made it in 6.47% of the cases. Type II errors were made by FDEs in only 7.05% of cases, but laypersons made it on 26.1% of the cases⁵. In other words, laypersons found that an authentic signature was inauthentic or false at least 26% of the time.
11. Similarly, a study conducted in Australia found that FDEs were statistically better than laypersons in determining the genuineness or non-genuineness of a signature. The FDE group in the study had only a 3.4% error rate in the determination of genuineness, while the laypersons had a 19.3% error rate⁶.
12. It must be noted that the error rates in both of these studies occurred when adequate signature samples and examination time were available. It can be safely assumed that the error rate will rise when inadequate comparison samples - such as merely one signature on a voter registration document - and time are available.
13. One long-standing principle of signature and handwriting examination is that no one writes the same way twice. This is called the Principle of Natural Variation. Signatures are a product of neuro-muscular coordination. A motor program developed

³ 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, 56 (S1).

⁴ Mohammed, L., Found, B., Caligiuri, M., Rogers, D. (2015). *Dynamic characteristics of signatures: Effects of writer style on genuine and simulated signatures*. J Forensic Sci, 60 (1).

⁵ Kam M, Gummadidala K, Fielding G, Conn R. (2001). *Signature authentication by forensic document examiners*. J. Forensic Sci., 46 (4):884-888.

⁶ Sita, J, Found, B., & Rogers, D. (2002). Forensic handwriting examiners expertise for signature comparison. J Forensic Sci. 47(5).

over time in the brain instructs the muscles in the hand to extend and contract when a writing movement is required.⁷ Therefore any factor that can affect this coordination will have an effect on handwriting.

14. In order to determine a writer's range of variation, at least 10 to 20 sample signatures that are contemporaneous with the questioned (disputed) signature are normally required⁸. With writers who are ill, elderly, or impaired many more samples may be required.
15. An example of the range of variation of a writer may be seen on the signature that a writer hurriedly produces on a package receipt versus that same writer's signature on his will. Some writers have a narrow range of variation, meaning their signature is very consistent, whereas other writers may have a wide range of variation.
16. In a signature examination, the FDE has to determine whether features being compared between the questioned and sample signatures are variations or differences. Variations imply the product of one writer and differences imply two writers.
17. Huber and Headrick⁹ list 20 possibilities that must be considered in determining if a feature is a difference or variation of the same writer. These are standards for determining variations and differences in the field of signature verification:
 - i. Adequacy of standards (are the standards contemporaneous and are there enough).
 - ii. Accidental occurrences (a feature or feature that may occur only once, for example, due to a malfunctioning pen, and will not be seen in any other standards of the writer).
 - iii. Alternative styles.
 - iv. Ambidexterity.
 - v. Carelessness or negligence.
 - vi. Changes in the health condition of writer.
 - vii. Changes in the physical condition of writer – fractures, fatigue, and weakness.
 - viii. Changes in the mental condition or state of the writer.
 - ix. Concentration on the act of writing.
 - x. Disguise or deliberate change.
 - xi. Drugs or alcohol.

⁷ Caligiuri, M., Mohammed, L. (2012). *The neuroscience of handwriting: Applications for forensic document examination*. CRC Press, Boca Raton, FL.

⁸ Kelly, J., Lindblom, B. [Eds.]. (2006). *The Scientific Examination of Questioned Documents 2nd Ed.* CRC Press, Boca Raton, FL.

⁹ Huber, R. A. & Headrick, A.M. (1999) *Handwriting identification: Facts and fundamentals*. CRC Press, Boca Raton, FL.

- xii. Influence of medications.
 - xiii. Intentional change for later denial.
 - xiv. Nervous tension.
 - xv. Natural variations – beyond those of the standards.
 - xvi. Writing conditions - place or circumstances (moving vehicles).
 - xvii. Writing instrument.
 - xviii. Writing position - including stance.
 - xix. Writing surface.
 - xx. Writing under stress.
18. If a layperson is comparing one questioned signature to one sample signature, there is no way for that person to determine what the writer's range of variation is because the layperson has only one comparison sample. In Florida, this shortcoming is certainly applicable as members of the canvassing body make "their determination by comparing the vote-by-mail signature to the voter's signature in the registration book or precinct register." Fla. Stat. § 101.65. The members of the canvassing body therefore, in some cases, only have one sample signature for comparison with the ballot signature. It would be almost impossible to determine if a feature that appeared to be different between questioned and sample was in fact a difference or variation. If the questioned and sample signature were not contemporaneous or if the writer was ill, impaired, or elderly, this would further exacerbate the potential for error. Applying this principle to the case at hand, since a person's signature in the registration book may not be contemporaneous to the vote-by-mail ballot, the potential for error in the type of signature examination conducted by a Florida canvassing body is very high.
19. A study of the handwriting of healthy, aging writers found that duration (*i.e.*, length of time taken and dysfluency (*tremor in the writing line*) increased with age, while vertical size and velocity decreased with age. Male writers were found to exhibit stronger age effects than female writers especially for pen pressure and stroke disfluency¹⁰. Laypersons, such as members of the canvass boards or the supervisor of elections, who are unaware or ignore the potential wide variations posed by such writers are likely to misinterpret these variations as differences.
20. It should be noted that the signatures or writers who are poorly educated or for whom English may be a second language, may exhibit a wide range of variation in their signatures. Anyone assessing the genuineness of a signature must be cognizant of this and, failure to take these factors into account is also likely to lead to error.
21. Signature examination by trained FDEs requires adequate time, lighting, and magnification aids in order to minimize the chance of error. Lack of proper training as well as limited time and resources with which to conduct a signature examination has a strong potential for a very high error rate.

¹⁰ Caligiuri, M., Chi, K., Landy, K. (2014). *Kinematics of signature writing in healthy aging*. J Forensic Sc1. 59(4).

CONCLUSION

22. Given that the canvass boards and supervisors of elections in Florida that determine signature matches are made up of laypersons; that vote-by-mail ballots are matched against signatures which may not (and likely are not) contemporaneous to the signature on the vote by mail ballot; and given that the only standard for review provided by the State is “reasonableness,” it is highly likely that the canvass boards are likely to make mistakes in determining the authenticity of signatures. Further, in such circumstances, studies have indicated that lay persons are more likely to mistakenly find an authentic signature to be inauthentic or false, meaning that it is likely that in many instances the persons reviewing signatures in Florida are finding that perfectly valid signatures are invalid. Finally, with no standards, it is likely that the results of signature reviews will vary widely across boards and counties.

**Exhibit A to Declaration of Linton
Mohammed**

Forensic Science Consultants, Inc.

433 Airport Boulevard, Suite 406
Burlingame, CA 94010-2017

Tel: 650-548-1652
lamqde@gmail.com
www.qdexam.com

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 (40 hours/week)

San Francisco, CA

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

dba Rile, Hicks, & Mohammed, Forensic Document Examiners, 10/2010 – 01/2012 (40 hours/week)

Long Beach, CA; San Francisco, CA

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

dba Associated Document Examiners, 10/1997 – 09/2010 (8 hours/week)

(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 (40 hours/week)

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 (37.5 hours/week)
Teddington, Middlesex, England
Forensic Document Examiner

Caribbean Institute of Forensic Investigations Ltd., 06/1992 – 07/1993 (37.5 hours/week)
Forensic Document Examiner
Trinidad, West Indies

Trinidad and Tobago Forensic Science Center, 01/1989 – 06/1992 (37.5 hours/week)
Forensic Document Examiner; Safety Officer
Trinidad, West Indies

Trinidad and Tobago Forensic Science Center, 12/1986 – 12/1988 (37.5 hours/week)
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

CURRICULUM VITAE – LINTON A. MOHAMMED

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
American Board of Forensic Document Examiners, Inc., 1998
(re-certified every 5 years since 1998 to present).
- Diploma in Document Examination
Chartered Forensic Science Society, 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. 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.

CURRICULUM VITAE – LINTON A. MOHAMMED

2. 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.
3. Caligiuri, M., Mohammed, L., Found, B., & Rogers, D. (2012). *Nonadherence to the Isochrony Principle in Forged Signatures*. *Forensic Science International* 223 (2012) 228–232.
4. 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).
5. Mohammed, L., Ostrum, B. (2010). *Using Adobe Photomerge™ for Demonstrative Evidence*, *Journal of the American Society of Questioned Document Examiners*, Vol. 13, No. 1.
6. 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.
7. 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).
8. Mohammed, L., Richards, G. (2006). *Thinking Outside the Box* – *Journal of the American Society of Questioned Document Examiners*, Vol. 9 (2).
9. 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).
10. Mohammed, L. (1999). *Write-On™: A new tool for handwriting comparison* - *Journal of the American Society of Questioned Document Examiners*, Vol. 2 (2).
11. Mohammed, L. (1999). *An evaluation of documents produced by a high-speed, high-volume scanning process* - *Forensic Science Communications*, Vol. 1 (3).
12. 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).
13. Mohammed, L. (1993). *Signature disguise in Trinidad and Tobago* - *Journal of the Forensic Science Society*, Vol. 33 (1).

CURRICULUM VITAE – LINTON A. MOHAMMED

PRESENTATIONS

Workshops

- *Document Examination in the USA*
 - 2-day seminar presented at the Institute of Forensic Science Seminar, Beijing, China 2015.
- *Characteristics of Fountain Pens*
 - 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)*
 - Presented 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.

CURRICULUM VITAE – LINTON A. MOHAMMED

- *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. Mohammed, L. (2016). *Document Examination – not just handwriting*. Presented to the Young Forensic Scientists Forum, American Academy of Forensic Science Conference, Las Vegas, NV.
2. Mohammed, L. (2014). *Kinematic approach to signature analysis*. Presented at the 3rd. International Workshop on Automated Forensic Handwriting Analysis, Honolulu, HI.
3. Mohammed, L. (2013). *Handwriting stroke kinematics*. Presented at the Measurement Science and Standards in Forensic Handwriting Analysis conference, NIST, Gaithersburg, MD.
4. 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.
5. 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.
6. 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.

CURRICULUM VITAE – LINTON A. MOHAMMED

7. 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.
8. 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.
9. Mohammed, L., Williams, D. (2006). *Preparing demonstrative charts with the use of Adobe Photomerge®* - Poster presentation, American Academy of Forensic Sciences, Seattle, WA.
10. Mohammed, L. (2005). *The Edge of Light™ Scanner* - Presented at the American Academy of Forensic Sciences Conference, New Orleans, LA.
11. Mohammed, L. (2003). *Daubert and documents* – Presented at the California Association of Criminalists Fall Conference, San Diego, CA.
12. 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.
13. 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.
14. 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.
15. 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.
16. Mohammed, L. (1992). *Cocaine and handwriting* - presented at the 50th Annual Conference of the American Society of Questioned Document Examiners, Milwaukee, WI.
17. 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.

CURRICULUM VITAE – LINTON A. MOHAMMED

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
 - Chair, Evaluation and Examination Committee, 2002 – 2006
 - Annual Conference Site Chair, 2002
- American Academy of Forensic Sciences
Chair – Questioned Documents Section, 2016 –
 - Secretary – Questioned Documents Section, 2014 – 2016
 - Fellow – Questioned Documents Section
- Canadian Society of Forensic Science
- Chartered Forensic Science Society

PROFESSIONAL ACTIVITIES

- 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), 2015 –
- 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
- Guest reviewer:
 - Forensic Science International
 - Science & Justice
 - Australian Journal of Forensic Science
 - Egyptian Journal of Forensic Sciences

CURRICULUM VITAE – LINTON A. MOHAMMED

CONTINUING EDUCATION

- American Society of Questioned Document Examiners, Honolulu, HI
 - 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

- 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

CURRICULUM VITAE – LINTON A. MOHAMMED

- 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
- 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

CURRICULUM VITAE – LINTON A. MOHAMMED

- 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

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