

Mayra Eduardoff, Ph.D
Assistant Professor, Forensic Science
College of Criminal Justice
Sam Houston State University

EDUCATION

Ph.D. in Genetics & Genomics (Honors), *Medical University of Innsbruck, Innsbruck, Austria*

- PhD Thesis: "Evaluation of Autosomal and Mitochondrial Markers for Forensic Identification"

M.Sc. Molecular Biology, *Leopold Franzens University of Innsbruck, Austria*

- Master Thesis: "Molecular Control of Islet Morphogenesis in Zebrafish"

B.Sc. Biology specializing in Microbiology, *Leopold Franzens University of Innsbruck, Austria*

Master Business Administration, *Universität Pierre–Mendès-France, Grenoble, France*

B.A. Economics and French (2.1 Honors), *University of Sussex, Brighton, England, UK*

WORK OR PROFESSIONAL EXPERIENCES

2023–Pres **College of Criminal Justice, Sam Houston State Univ, Huntsville, TX**

Assistant Professor, Forensic Science

Graduate and undergraduate level course instruction. Research focus on DNA extraction and analysis from degraded human remains, new DNA typing technologies, and Kinship Analysis. Masters and Doctoral level research projects.

2021–2022 **International Commission on Missing Persos (ICMP) Headquarters, The Hague, The Netherlands**

Director, DNA Laboratories, Science & Technology Co-coordinator

ISO 17025 laboratory casework supervisor, project management, implementation and coordination of external training, grant and organizational representation duties

2021–2022 **International Commission on Missing Persos (ICMP) Headquarters, The Hague, The Netherlands**

Director of Research & Validation

Managed all procedures, projects and training related to ICMP's New Technologies Strategy and the validation of forensic genetic assays for ISO17025 Accreditation

2019–2022 **International Commission on Missing Persos (ICMP) Headquarters, Mexico Program, Monterrey, Nuevo Leon, Mexico The Hague, The Netherlands**

Science & Technology Program Officer (Scientific Liaison)

Analysis and evaluation of strategies for the identification of missing persons, designed and implemented learning programs for DNA extraction and analysis

2018-2019 International Committee of the Red Cross (ICRC), Tbilisi, Georgia

Forensic Identification Coordinator/Forensic Specialist

Reviewed all genetic activities related to identification of human remains, participated in gravesite mapping, excavations, and DNA sampling,; designed the strategy for ICRC's first genetic unit, implemented workshops and trainings.

2016 -2018 Institute of Legal Medicine, Medical University of Innsbruck, Austria

Postdoctoral Fellow

Established and ran a novel ancient DNA laboratory, conducted wet-lab and data analysis for ancestry or externally visible characteristics predictions, wrote grant proposals and reviewed activities

PEER-REVIEWED PUBLICATIONS

Evaluation of DNA Extraction Methods Developed for Forensic and Ancient DNA Applications Using Bone Samples of Different Age.

Xavier C, **Eduardoff M**, Bertoglio B, Amory C, Berger C, Casas-Vargas A, Pallua J, Parson W. *Genes* (Basel). 2021 Jan 22;12(2):146. doi: 10.3390/genes12020146.PMID: 33499220

Forensic evaluation of the Asia Pacific ancestry informative MAPlex assay.

Xavier C, de la Puente M, Phillips C, **Eduardoff M**, Heidegger A, Mosquera-Miguel A, Freire-Aradas A, Lagace R, Wootton S, Power D, Parson W, Lareu MV, Daniel R. *Forensic Sci Int Genet.* 2020 Sep;48:102344. doi: 10.1016/j.fsigen.2020.102344. Epub 2020 Jun 20.

Performance of ancestry-informative SNP and microhaplotype markers.

Cheung EYY, Phillips C, **Eduardoff M**, Lareu MV, McNevin D. *Forensic Sci Int Genet.* 2019 Nov

MAPlex - A massively parallel sequencing ancestry analysis multiplex for Asia-Pacific populations.

Phillips C, McNevin D, Kidd KK, Lagacé R, Wootton S, de la Puente M, Freire-Aradas A, Mosquera-Miguel A, **Eduardoff M**, Gross T, Dagostino L, Power D, Olson S, Hashiyada M, Oz C, Parson W, Schneider PM, Lareu MV, Daniel R. *Forensic Sci Int Genet.* 2019 Sep

SD quantis-Sensitive detection tetraplex-system for nuclear and mitochondrial DNA quantification and degradation inference.

Xavier C, **Eduardoff M**, Strobl C, Parson W. *Forensic Sci Int Genet.* 2019 Sep

Resolving the matrilineal relationship of seven Late Bronze Age individuals from Stillfried, Austria.

Parson W, **Eduardoff M**, Xavier C, Bertoglio B, Teschler-Nicola M. *Forensic Sci Int Genet.*, 2018 Sep

Evaluation of the precision ID whole MtDNA genome panel for forensic analyses.

Strobl C, **Eduardoff M**, Bus MM, Allen M, Parson W *Forensic Sci Int Genet.*, 2018 Jul

Optimized mtDNA Control Region Primer Extension Capture Analysis for Forensically Relevant Samples and Highly Compromised mtDNA of Different Age and Origin.

Eduardoff M*, Xavier C, Strobl C, Casas-Vargas A, Parson W*. *Corresponding author, *Genes*, 2017 Sep

Using EuroForMix to analyse complex SNP mixtures, up to six contributors

Øyvind Bleka, **Mayra Eduardoff**, Carla Santos, Chris Phillips, Walther Parson, Peter Gill *Forensic Sci Int Genet.*, 2017 Aug

Open source software EuroForMix can be used to analyse complex SNP mixtures.

Bleka Ø, **Eduardoff M**, Santos C, Phillips C, Parson W, Gill P. *Forensic Sci Int Genet.*, 2017 Oct

Inter-laboratory evaluation of the EUROFORGEN Global ancestry-informative SNP panel by massively parallel sequencing using the Ion PGM™.

M. Eduardoff*, T.E. Gross*, C. Santos, M. de la Puente, D. Ballard, C. Strobl, C. Børsting, N. Morling, B. Egyed, L. Souto, J. Uacyisrael, D. Syndercombe Court, Á. Carracedo, M.V. Lareu, P.M. Schneider, The EUROFORGEN-NoE Consortium, W. Parson, C. Phillips *Shared first authorship *Forensic Sci Int Genet.*, 2016

The open-source software LRmix can be used to analyse SNP mixtures.

Peter Gill, Hinda Haned, **Mayra Eduardoff**, Carla Santos, Chris Phillips, Walther Parson *Forensic Sci Int Genet.: Genetics Supplement*, 2015

Evaluation of the predictive capacity of DNA variants associated with straight hair in Europeans.

Pośpiech E, Karłowska-Pik J, Marcińska M, Abidi S, Andersen JD, van den Berge M, Carracedo Á, **Eduardoff M**, Freire-Aradas A, Morling N, Sijen T, Skowron M, Söchtig J, Syndercombe-Court D, Weiler N, Schneider PM, Ballard D, Børsting C, Parson W, Phillips C, Branicki W; EUROFORGEN-NoE Consortium *Forensic Sci Int Genet.*, 2015

Forensic ancestry analysis with two capillary electrophoresis ancestry informative marker (AIM) panels: Results of a collaborative EDNAP exercise.

Santos C, Fondevila M, Ballard D, Banemann R, Bento AM, Børsting C, Branicki W, Brisighelli F, Burren M, Capal T, Chaitanya L, Daniel R, Decroyer V, England R, Gettings KB, Gross TE, Haas C, Hartevelde J, Hoff-Olsen P, Hoffmann A, Kayser M, Kohler P, Linacre A, **Mayr-Eduardoff M**, McGovern C, Morling N, O'Donnell G, Parson W, Pascali VL, Porto MJ, Roseth A, Schneider PM,

Sijen T, Stenzl V, Court DS, Templeton JE, Turanska M, Vallone PM, van Oorschot RA, Zatkalikova L, Carracedo Á, Phillips C; EUROFORGEN-NoE Consortium. *Forensic Sci Int Genet.*, 2015

Evaluation of DNA variants associated with androgenetic alopecia and their potential to predict male pattern baldness.

Marcińska M, Pośpiech E, Abidi S, Andersen JD, van den Berge M, Carracedo Á, **Eduardoff M**, Marczakiewicz-Lustig A, Morling N, Sijen T, Skowron M, Söchtig J, Syndercombe-Court D, Weiler N; EUROFORGEN-NoE Consortium, Schneider PM, Ballard D, Børsting C, Parson W, Phillips C, Branicki W. *Plos One*, 2015

Inter-laboratory evaluation of SNP-based forensic identification by massively parallel sequencing using the Ion PGM™.

M. Eduardoff, C. Santos, M. de la Puente, T.E. Gross, M. Fondevila, C. Strobl, B. Sobrino, D. Ballard, P.M. Schneider, Á. Carracedo, M.V. Lareu, W. Parson, C. Phillips. *Forensic Sci Int Genet.*, 2015

Massively parallel sequencing of complete mitochondrial genomes from hair shaft samples.

Walther Parson, Gabriela Huber, Lilliana Moreno, Maria-Bernadette Madel, Michael D. Brandhagen, Simone Nagl, Catarina Xavier, **Mayra Eduardoff**, Thomas C. Callaghan, Jodi A. Irwin *Forensic Sci Int Genet.*, 2015

Building a forensic ancestry panel from the ground up: The EUROFORGEN Global AIM-SNP set.

Phillips C, Parson W, Lundsberg B, Santos C, Freire-Aradas A, Torres M, **Eduardoff M**, Børsting C, Johansen P, Fondevila M, Morling N, Schneider P; EUROFORGEN-NoE Consortium, Carracedo A, Lareu MV. *Forensic Sci Int Genet.*, 2014

Mass spectrometric base composition profiling: Implications for forensic mtDNA databasing.

Eduardoff M, Huber G, Bayer B, Schmid D, Anslinger K, Göbel T, Zimmermann B, Schneider PM, Röck AW, Parson W. *Forensic Sci Int Genet.*, 2013 Dec

Glucocorticoid-regulated microRNAs and mirtrons in acute lymphoblastic leukemia.

Rainer J, Ploner C, Jesacher S, Ploner A, **Eduardoff M**, Mansha M, Wasim M, Panzer-Grümayer R, Trajanoski Z, Niederegger H, Kofler R. *Leukemia*, 2009

The BCL2 rheostat in glucocorticoid-induced apoptosis of acute lymphoblastic leukemia.

Ploner C, Rainer J, Niederegger H, **Eduardoff M**, Villunger A, Geley S, Kofler R. *Leukemia*, 2008

OTHER CONTRIBUTIONS

Comparative Evaluation of Fast Screening Algorithms for Kinship Search in Databases
Córdova-Mercado M., **Eduardoff M.** (Poster)
ISHI 2024, San Antonio, Texasπ

Lessons Learned from the Field: Metrics and Success Criteria for Missing Persons (Oral Presentation virtual)

M. Eduardoff

AAFS 2022, Missing Persons Workshop

The revenge of the SNP (Oral Presentation virtual)

M. Eduardoff

AAFS 2021, Workshop15 STR Wars: The Rise of Sequencing

Enfoques de punta para la identificacion de personas desaparecidas a gran escala (Oral Presentation, virtual)

M. Eduardoff

V Congreso de Cienca Forense 2021, UNAM, Oct 18

Missing Persons Programs: Lessons learned from the Field (Oral Presentation, virtual)

M. Eduardoff

XXVI National Conference on Forensic Science, May 18-20, 2022, Brazil

Implementing an optimized DNA Extraction Protocol for Ancient and Highly Degraded Samples (Poster)

C. Xavier, **M. Eduardoff**, B. Bertoglio, A. Casas-Vargas, and W. Parson

ISFG 2019, Prague, Czech Republic

Casework experiences with detailed SNP-based ancestry analyses using Ion Torrent massively parallel sequencing (Poster)

C. Phillips, **M. Eduardoff**, C. Xavier, A. Freire, V. Alvarez, M.V. Lareu, A. Gómez-Tato, M. Casares de Cal, J. Álvarez-Dios, W. Parson

ISFG 2017, Seoul, Korea

Using EuroForMix to analyse complex SNP mixtures, up to six contributors (Oral Presentation)

Ø. Bleka, **M. Eduardoff**, C. Santos, C. Phillips, W. Parson and P. Gill

ISFG 2017, Seoul, Korea

An ancestry-informative assay for the Asia Pacific region (Oral Presentation)

C. Phillips, C. Santos, D. McNevin, **M. Eduardoff**, A. Heidegger, W. Parson, K. Kidd, R. Lagacé, S. Wooton, D. Power, S.M.T. Angustia, M. Barash, M.C.A. De Ungria, S.R. Hong, H.Y. Lee, C. Oz, E. Peters, L. Santos, N.A. Soliven, M.V.Lareu, R. Daniel

ISFG 2017, Seoul, Korea

Molecular Age Estimation (Oral Presentation)

Mayra Eduardoff

European Migration Network (EMN) Conference 2016, Vienna, Austria

Picking DNA from the Ashes: a method for mtDNA sequencing of highly compromised DNA samples (Oral Presentation)

Mayra Eduardoff, Catarina Xavier, Cordula Berger and Walther Parson

ISFG 2015, Krakow, Poland

Bioinformatics 101 (Oral Workshop)

Mayra Eduardoff

Quiagen Workshop, 2015, Hilden, Germany

Molecular structure analysis of an early medieval Alpine population using haplotypic markers (Oral Presentation)

M. Mayr-Eduardoff, C. Bauer, B. Zimmermann, G. Huber, C. Strobl, A. W. Röck, G. McGlynn, H. Stadler, W. Parson

DNA in Forensics 2014, Brussels, Belgium

Weighing the differences: the application of mass-spectrometry for mtDNA control region analysis (Oral Presentation)

Mayr-Eduardoff M., Huber G, Zimmermann B, Bayer B, Schmid D, Anslinger K, Göbel T, Niederstätter N, Schneider PM, Röck AW, Parson W.

DNA in Forensics 2012, Innsbruck, Innsbruck, Austria

Practical Evaluation of SNP-based prediction of male pattern baldness in a sample of convicted felons (Poster)

Mayra Eduardoff, F. Gandini, B. Berger, E. Pośpiech, M. Marcińska, The EUROFORGEN-NoE Consortium; D. Ballard, C. Phillips, W. Branicki, W. Parson

ISFG 2015, Krakow, Poland

The EUROFORGEN binary forensic ancestry marker exercise (Poster)

C. Phillips, C. Santos, M. Fondevila, W. Parson, D. Ballard, C. Børsting, W. Branicki,

M. Eduardoff, T. Gross, P. Kohler and the EUROFORGEN-NoE Consortium⁸

ISFG 2015, Krakow, Poland

Molecular and Cellular Studies of Islet Cell Regeneration in Zebrafish (Poster)

R.A. Kimmel, **M. Eduardoff**, L. Onder, D. Meyer

LIFESCIENCE Meeting Innsbruck Universities 18.-19. September 2009, Innsbruck, Austria