

Curriculum Vitae

Nádia Pinto

email: npinto@ipatimup.pt; nmgapinto@gmail.com

ResearcherID: K-3202-2013

ORCID ID: 0000-0002-1903-4206

Scopus Author ID: 9278025300

Researchgate Profile: Nadia Pinto; https://www.researchgate.net/profile/Nadia_Pinto

1. Personal Data

Date of Birth: 01.06.1980

Place of Birth: Bragança, Portugal

Place of current address: Porto, Portugal

Citizenship: Portuguese

2. Academic Degrees

2012 **PhD in Applied Mathematics**, Faculty of Sciences of University of Porto (FCUP),
Porto, Portugal

2006 **MSc in Mathematical Engineering**, FCUP, Porto, Portugal

2003 **BSc in Mathematics – Educational branch**, FCUP, Porto, Portugal

3. Current and Previous activities

3.1. Scientific Activities

01-2019 to Present Junior Researcher, Population Genetics and Evolution group, Institute of Molecular Pathology and Immunology of the University of Porto, i3S - Instituto de Investigação e Inovação em Saúde (IPATIMUP/i3S), Portugal

10-2014 to 12-2018 Post-Doctoral Fellow, Population Genetics and Evolution group, Institute of Molecular Pathology and Immunology of the University of Porto (IPATIMUP/i3S) and Center of Mathematics of the University of Porto (CMUP), Portugal

09-2013 to 09-2014 Post-Doctoral Fellow, Genes, Population genomics and Traits group, Research Center in Biodiversity and Genetic Resources (CIBIO), Vairão, Portugal

08-2012 to 09-2014 Visiting Researcher, Population Genetics group, IPATIMUP, Porto, Portugal

01-2008 to 07-2012 PhD student, Doctoral Program in Applied Mathematics, Faculty of Sciences of the University of Porto, Portugal

NB: Maternity Leaves: 07-2010 to 12-2010; and 02-2014 to 07-2014.

3.2. Teaching Activities

10-2014 to present Invited Assistant Professor, Faculty of Sciences of the University of Porto (FCUP), Porto, Portugal

10-2016 to 10-2018 Invited Assistant Professor, GABBA - Doctoral Program in Areas of Basic and Applied Biology, University of Porto, Porto, Portugal

11-2009 to 11-2013 Invited lecturer, Curricular Unite: Molecular Markers: Recombining Genomic Portions, FCUP, Portugal

09-2002 to 08-2008 Teacher of Mathematics at several high schools (7th to 12th grades), Portugal

3.3. Other activities

05-2005 to 07-2013 External collaborator and consultant, Centre Multimedia of Porto Editora: creation, development, implementation and validation of didactical software of Mathematics, Porto, Portugal

4. Grants

4.1. Scholarships

10-2014 to 12-2018 Post Doctoral grant, "Generalized Algorithms for kinship likelihood inferred from genetic markers" (reference SFRH/BPD/97414/2013), IPATIMUP, Portuguese Foundation for Science and Technology (FCT) and POPH - QREN.

09-2013 to 09-2014 Post Doctoral grant, "Assessing The Whole-Genome Structure and Variation of the Tropical Adapted Zebu Cattle (*Bos indicus*) using Dense SNP Maps." (reference PTDC/CVT/117851/2010), CIBIO-inBIO, FCT/MCTES (PIDDAC) and FEDER through COMPETE (POFC) program.

01-2008 to 05-2012 PhD grant, "General algorithms for computing genetic kinship likelihoods." (reference SFRH / BD / 37261 / 2007), IPATIMUP, FCT and POPH - QREN.

4.2. Travel Grants

01-2019 International Society for Forensic Genetics short term fellowship – DNA Diagnostics Laboratory, State University of Rio de Janeiro, Brazil.

5. Scientific Projects

5.1. Principal Investigator

- 09-2019 to 04-2022 "Analysis and correlation between epigenetics and brain activity to assess chronic and episodic migraine risk in women"; Original title (in Spanish): "Análisis y correlación entre la epigenética y la actividad cerebral para evaluar el riesgo de migraña crónica y episódica en mujeres", 0702_MIGRAINEE_2_E
 Universidad de Valladolid (Proponent Institution), IPATIMUP (**PI: Nádia Pinto**), Instituto de Biología Molecular e Celular, Fundación Instituto de Estudios Ciencias de la Salud de Castilla y León
 Operational Program: Programa INTERREG V A España Portugal (POCTEP)
 Budget (Total): 56437376€; Budget (IPATIMUP): 118.366,06€
- 06-2017 to 12-2020 "Analysis and correlation between the whole genome and brain activity to aid in the diagnosis of Alzheimer's disease"; Original title (in Spanish): "Análisis y correlación entre el genoma completo y la actividad cerebral para la ayuda en el diagnóstico de la enfermedad de Alzheimer", 0378_AD_EEGWA_2_P
 IPATIMUP (**Proponent Institution, PI: Nádia Pinto**), Universidad de Valladolid, Asociación de Familiares y Amigos de Enfermos de Alzheimer y otras demencias de Zamora, Associação Portuguesa de Familiares e Amigos de Doentes de Alzheimer
 Operational Program: Programa INTERREG V A España Portugal (POCTEP)
 Budget (Total): 543.404,48€; Budget (IPATIMUP): 164.734,43€

5.2. Team Member

- 06-2018 to 06-2021 "From genotype to phenotype: appraising the epistatic effect between mutations and polymorphisms on genetic diseases.", Ref. POCI-01-0145-FEDER-029723
 IPATIMUP/i3S.
 PI: Luísa Azevedo (IPATIMUP/i3S, FCUP)
 Operational Programs: FEDER - Fundo Europeu de Desenvolvimento Regional funds through the COMPETE 2020 - Operacional Programme for Competitiveness and Internationalisation (POCI), Portugal 2020, and by Portuguese funds through FCT/Ministério da Ciência, Tecnologia e Ensino Superior.
 Budget (Total): 237,706.73€
- 06-2019 to 12-2020 "Efficient computational solutions for integrated DNA barcoding, metabarcoding and associated high-throughput sequencing data analysis.", Ref. C491219728-00083261
 University of Minho (Principal), Instituto de Engenharia Biomédica – INEB/i3S, – IPATIMUP/i3S.
 PI: Filipe Costa (Centre of Molecular and Environmental Biology, UM).

Operational Programs: FEDER funds through the COMPETE 2020 - Operacional Programme for Competitiveness and Internationalisation (POCI), Portugal 2020, and by Portuguese funds through FCT /Ministério da Ciência, Tecnologia e Ensino Superior.

Budget (Total): 239.940,65€

- 07-2013 to 10-2015 “Assessing The Whole-Genome Structure and Variation of the Tropical Adapted Zebu Cattle (*Bos indicus*) using Dense SNP Maps.”, Ref. PTDC/CVT/117851/2010
 Instituto de Ciências e Tecnologias Agrárias e Agro-alimentares – Porto (ICETA-Porto/UP)
 PI: Albano Beja-Pereira (ICETA-Porto/UP)
 Operational Program: FCT/MCTES (PIDDAC) and by FEDER through COMPETE (POFC) program
 Budget (Total): 148.178,00€

6. Commissions and Working Groups

6.1. Coordinator

- 09-2019 to 10-2021 Working Group “Study of mutations in Y-STRs”, Spanish and Portuguese Speaking Working Group of the International Society for Forensic Genetics (GHEP-ISFG). Coordinators: **Nádia Pinto**, António Amorim (IPATIMUP/i3S, FCUP) and Leonor Gusmão (UERJ, Rio de Janeiro, Brazil).
- 09-2018 to 10-2021 Working Group “Study of mutations on one set of 12 X-STRs - Extension”, GHEP-ISFG. Coordinators: **Nádia Pinto**, Leonor Gusmão (UERJ, Rio de Janeiro, Brazil) and Gabriela Garcia (Manlab, Buenos Aires, Argentina).
- 09-2017 to Present Working Group “Segregation on X-STRs”, GHEP-ISFG. Coordinator: **Nádia Pinto**.
- 09-2017 to 09-2019 Working Group “Study of mutations on one set of 12 X-STRs”, GHEP-ISFG. Coordinators: **Nádia Pinto**, Leonor Gusmão (UERJ, Rio de Janeiro, Brazil) and Gabriela Garcia (Manlab, Buenos Aires, Argentina).

6.2. Invited Assessor

- 05-2015 to 09-2015 “Kinship Paper Challenge – Advanced Level” in the “Intercomparison Program 2015: Analysis Of Dna Polymorphisms In Bloodstains And Other Biological Samples”, Spanish and Portuguese Speaking Working Group of the International Society for Forensic Genetics (GHEP-ISFG).
- 03-2014 to 11-2016 “DNA Commission on Software Validation”, International Society for Forensic Genetics (ISFG).

6.3. Member

09-2015 to 11-2016 Working Group “Expression and Reporting of DNA results”, Spanish and Portuguese Speaking Working Group of the International Society for Forensic Genetics (GHEP-ISFG).

7. Scientific Meetings and Workshops

7.1. Organizer

2018 Cycle of workshops in Forensic Genetics, Spanish and Portuguese-Speaking Working Group of the International Society for Forensic Genetics (GHEP-ISFG) and FCUP, 25th and 26th of October, 2018, Porto, Portugal. Local organizing committee: António Amorim, Nádia Pinto, Iva Gomes, Cíntia Alves, Maria João Prata.

2016 17th Portugaliæ Genetica, 17th and 18th of March, 2016, IPATIMUP/i3S, Porto, Portugal. Organizers and Scientific Committee: Alexandra Lopes, Miguel Arenas, Nádia Pinto.

7.2. Invited Lecturer

7.2.1. Courses & Workshops

1. “Statistical analyses in simple and complex genetic kinships”, 1st October 2019, XXV National Congress of Criminalistics, Goiânia, Brazil
2. “Disaster Victim Identification: General Principles and Theoretical Framework”, 25th October 2018, Cycle of Workshops in Forensic Genetics, Faculty of Sciences of the University of Porto, Portugal.
3. “Familial testing, X-files, FamLinkX”, 6th September 2016, XXI Meeting of the Spanish and Portuguese-Speaking Working Group of the International Society for Forensic Genetics (GHEP-ISFG), Bayahíbe, Dominican Republic.
4. “Familial testing: Autosomal and X chromosomal markers”, 28th March – 1st April 2016, State University of Rio de Janeiro (UERJ), Rio de Janeiro, Brazil.
5. “Workshop Interpretation of mtDNA and Sex Chromosome Results in the Forensic Field”, 7th – 8th September 2011, Universidad de Alcalá, Alcalá de Henares (Madrid), Spain.

7.2.2. Scientific Conferences

1. “Quantification of the genetic proof: challenges in the present and future perspectives”, 2nd October 2019, XXV Congresso Nacional de Criminalística, Goiânia, Brazil.

2. “Validating software to estimate genetic relatedness – one small step for algebra, one giant leap for forensics”, 18th April 2016, Cycle of conferences: “Retratos de Empregabilidade”, Faculty of Sciences of the University of Porto, Porto, Portugal
3. “The mathematics of Forensic Genetics”, 10th February 2015, “Are you Biocriative?”, JorTec Biologia – Biology Study Days of Faculty of Sciences and Technology of University Nova of Lisbon, Lisbon, Portugal
4. “Genealogies and Genetic Kinships: Related but Dissimilar Stories”, 23rd March 2012, XV Portugaliae Genetica, IPATIMUP, Porto, Portugal

7.2.3. Outreach Conferences

1. “Analysis and correlation between genomics and eletroencephalogram measurments in Alzheimer disease”, 29th November 2019, Living with dementia in our home, Alzheimer Portugal, Hospital Magalhães de Lemos, Porto, Portugal
2. “The Mathematics of Forensic Genetics”, 10th October 2018, “The year of Mathematical Biology”, Clube de Ciência Viva da Escola Secundária Aurélia de Sousa, Porto, Portugal.
3. “Forensic Genetics: Much more than just a human affair”, 23rd November 2017, “Semana da Ciência e Tecnologia: Ciência e Cidadania”, Life Sciences and Environment School, University of Trás-os-Montes and Alto Douro, Vila Real, Portugal.

7.3. Selected Oral Communications

* Presented by

1. Macedo A M*, Gomes I, Martins S, Durães L, Sousa P, Figueruelo M, Rodríguez M, Pita C, Rebelo M, Arenas M, Alvarez L, Hornero R, Gómez C, **Pinto N**, Lopes A M, Genome-wide characterization of a cohort of Alzheimer’s patients from Iberia: a focus on rare variants, Proceedings of the 22nd Annual Meeting of the Portuguese Society of Human Genetics, Bencanta, Portugal, 14th to 16th November 2019
2. **Pinto N**, Conde-Sousa E, Chen S, Pérez-Pardal L, Goyache F, Beja-Pereira A*, Computational tools to exploit cattle exomes. 34th Conference of International Society of Animal Genetics (ISAG), Xi’an, China, July 28th – August 1st 2014
3. Pereira V*, Tomas Mas C, **Pinto N**, Amorim A, Gusmão L, Prata MJ, Morling N, Assessing the potential application of X-chromosomal haploblocks in population genetics and forensic studies, 25th World Congress of the International Society for Forensic Genetics (ISFG), Melbourne, Australia, September 2nd - 6th 2013.
4. Magalhães M, **Pinto N***, Gomes C, Pereira R, Amorim A, Alves C, Gusmão L – When the alleged father is a close relative of the real father: the utility of insertion/deletion

polymorphisms. 24th World Congress of the International Society for Forensic Genetics (ISFG), Vienna, Austria, August 30th – September 4th 2011.

5. Pereira R*, Phillips C, **Pinto N**, Santos C, Santos SEB, Amorim A, Carracedo A, Gusmão L - A panel of 46 Ancestry-Informative Insertion-Deletion polymorphisms (AIM-INDELs) in a single reaction. 24th World Congress of the International Society for Forensic Genetics (ISFG), Vienna, Austria, August 30th – September 4th 2011.
6. **Pinto N***, Gusmão L, Amorim A - Distinguishing kinship from genealogical likelihoods. 23rd World Congress of the International Society for Forensic Genetics (ISFG), Buenos Aires, Argentina, September 15th – 18th 2009.

8. Supervisions

8.1. PhD Students

- 11-2021 to Present **Supervisor**, Faustino M., “Levering the statistical assessment of X-chromosomal evidence in forensic genetics”, Doctoral Program in Biology, Faculty of Sciences of the University of Porto, Porto, Portugal
FCT fellow Ref. 2021.08783.BD
- 10-2021 to Present **Supervisor**, Costa C., “Dismantling blind-trusted Black Boxes: Testing the limits and sensitivity of forensic DNA software”, Doctoral Program in Biology, Faculty of Sciences of the University of Porto, Porto, Portugal
FCT fellow Ref. 2021.05655.BD
- 09-2018 to Present **Supervisor**, Antão-Sousa A., “Uncovering mutational mechanisms through MPS analyses”, Doctoral Program in Biology, Faculty of Sciences of the University of Porto, Porto, Portugal
FCT fellow Ref. SFRH/BD/136284/2018
- 02-2016 to Present **Co-supervisor**, Garcia M.G., "Population genetic study of Argentina for the establishment of haplotype frequencies and mutations in 15 markers of the X chromosome", Doctorate in Biomedical Sciences, Faculty of Medical Sciences, Pontificia Universidad Católica Argentina, Buenos Aires, Argentina

8.2. MSc Students

- 09-2021 to Present **Supervisor**, Fernandes R. P., “Correlation between STRs mutation and their repetitive motif structure”, MSc in Forensic Genetics, FCUP, Porto, Portugal
- 09-2020 to 11-2021 **Supervisor**, Faustino M., “Haplotypic polymorphisms and mutation rate estimates of Y-STRs in the Portuguese population”, MSc in Forensic Genetics, FCUP, Porto, Portugal

- 09-2019 to 12-2020 **Supervisor**, Costa C., “Quantification of the forensic genetics proof: Evaluating the impact of different statistical approaches”, MSc in Forensic Genetics, FCUP, Porto, Portugal
- 09-2018 to 11-2019 **Co-supervisor**, Macedo A., “Quantifying the genetic predisposition to a complex disease through genome-wide association”, MSc in Mathematical Engineering, FCUP, Porto, Portugal
- 09-2017 to 11-2018 **Supervisor**, Figueiredo C., “Comparison and validation of software for mixture analyses”, MSc in Forensic Genetics, FCUP, Porto, Portugal
- 09-2017 to 11-2018 **Co-supervisor**, Ribeiro J., “The influence of Brugada syndrome in the diagnosis of the sudden death”, MSc in Forensic Genetics, FCUP, Porto, Portugal
- 09-2016 to 11-2017 **Supervisor**, Machado P., “The influence of mutation models in kinship likelihoods.”, MSc in Forensic Genetics, FCUP, Porto, Portugal
- 09-2016 to 11-2017 **Supervisor**, Antão-Sousa, “Estimation of bi-allelic mutation rates at Y-STRs.” MSc in Forensic Genetics, FCUP, Porto, Portugal
- 09-2016 to 11-2017 **Co-supervisor**, Simões R., "Distinguishing kinships beyond identity and paternity." MSc in Bioinformatics, Engineering School of the University of Minho, Braga, Portugal
- 09-2015 to 11-2016 **Co-supervisor**, Fadoni J., "Genetic analysis of haplotypic data for 17 Y-chromosome short tandem repeat loci in the population of São Paulo, Brazil." MSc in Forensic Genetics, FCUP, Porto, Portugal
TID: 201691701
- 09-2010 to 11-2011 **Co-supervisor**, Gomes C., "Forensic application of the study of 12 STRs: utility in different cases of biological kinship investigation" (in Portuguese), MSc in Forensic Genetics, FCUP, Porto, Portugal
- 09-2010 to 11-2011 **Co-supervisor**, Magalhães M., "Insertion/deletion polymorphisms in paternity investigations involving close relatives of the real father" (in Portuguese), MSc in Forensic Genetics, FCUP, Porto, Portugal

8.3. BSc Students

- 09-2020 to Present **Supervisor**, Nascimento M., BSc in Biology, FCUP, Porto, Portugal

8.4. Fellows

- 10-2021 to Present **Co-Supervisor**, Felício D, BSc fellow, “Analysis and correlation between epigenetics and brain activity to assess chronic and episodic migraine risk in women”, 0702_MIGRAINEE_2_E

- 09-2021 to Present **Co-Supervisor**, Carvalho E, MSc fellow, "Analysis and correlation between epigenetics and brain activity to assess chronic and episodic migraine risk in women", 0702_MIGRAINEE_2_E
- 07-2019 to 12-2019 **Co-Supervisor**, Rebelo M, MSc fellow, "Analysis and correlation between the whole genome and brain activity to aid in the diagnosis of Alzheimer's disease", 0378_AD_EEGWA_2_P
- 07-2019 to 12-2019 **Co-Supervisor**, Cunha R, BSc fellow, "Analysis and correlation between the whole genome and brain activity to aid in the diagnosis of Alzheimer's disease", 0378_AD_EEGWA_2_P
- 05-2019 to 12-2019 **Supervisor**, Macedo A, BSc fellow, "Analysis and correlation between the whole genome and brain activity to aid in the diagnosis of Alzheimer's disease", 0378_AD_EEGWA_2_P
- 05-2019 to 12-2019 **Supervisor**, Rocha R, MSc fellow, "Analysis and correlation between the whole genome and brain activity to aid in the diagnosis of Alzheimer's disease", 0378_AD_EEGWA_2_P
- 03-2018 to 04-2019 **Supervisor**, Gomes I, Post Doc fellow, "Analysis and correlation between the whole genome and brain activity to aid in the diagnosis of Alzheimer's disease", 0378_AD_EEGWA_2_P

8.5. Peer Scientific Hosting

- 2019 Prof. Richard Mayeux. PhD MD, Taub Institute for Research on Alzheimer's Disease and the Aging Brain; and Gertrude H. Sergievsky Center, Columbia University College of Physicians and Surgeons, USA
i3S Friday Noon Seminar: 29-03-2019
- 2018 Prof. Carlos Gomez, PhD, University of Valladolid, Spain
From: 03-05-2018 to 04-07-2018
- 2016 Prof. Thore Egeland, PhD, Norwegian University of Life Sciences, Norway
From 19-01-2016 to 25-01-2016

9. Publications

9.1. International peer reviewed journals

* Corresponding author; † The authors contributed equally to the work

1. Maturana-Candelas A*, Gómez C, Poza J, Rodríguez-González V, Pablo VG, Lopes AM, **Pinto N**, Hornero R. Influence of PICALM and CLU risk variants on beta EEG activity in Alzheimer's disease patients. Sci Rep. 2021 Oct 14;11(1):20465. doi: 10.1038/s41598-021-99589-y. PMID: 34650147; PMCID: PMC8516883.

2. Neto L†, **Pinto N†**, Proença A, Amorim A*, Conde-Sousa E. 4SpecID: Reference DNA Libraries Auditing and Annotation System for Forensic Applications. *Genes (Basel)*. 2021 Jan 2;12(1):61. doi: 10.3390/genes12010061. PMID: 33401773; PMCID: PMC7824288.
3. Macedo A, Gómez C, Rebelo MÂ, Pozad J, Gomes I, Martins S, Maturana-Candelas A, Gutiérrez-de Pablo V, Durães L, Sousa P, Figueruelo M, Rodriguez M, Pita C, Arenas M, Alvarez L, Hornero R, Lopes AM, **Pinto N***. Risk Variants in Three Alzheimer's Disease Genes Show Association with EEG Endophenotypes. *J Alzheimers Dis*. 2021;80(1):209-223. doi: 10.3233/JAD-200963. PMID: 33522999; PMCID: PMC8075394.
4. González RD†, Gomes I†, Gomes C, Rocha R, Durães L, Sousa P, Figueruelo M, Rodríguez M, Pita C, Hornero R, Gómez C, Lopes AM, **Pinto N***, Martins S. APOE Variants in an Iberian Alzheimer Cohort Detected through an Optimized Sanger Sequencing Protocol. *Genes (Basel)*. 2020 Dec 22;12(1):4. doi: 10.3390/genes12010004. PMID: 33375167; PMCID: PMC7822120.
5. Rebelo MÂ, Gómez C, Gomes I, Poza J, Martins S, Maturana-Candelas A, Ruiz-Gómez SJ, Durães L, Sousa P, Figueruelo M, Rodríguez M, Pita C, Arenas M, Álvarez L, Hornero R, **Pinto N***, Lopes AM. Genome-Wide Scan for Five Brain Oscillatory Phenotypes Identifies a New QTL Associated with Theta EEG Band. *Brain Sci*. 2020 Nov 18;10(11):870. doi: 10.3390/brainsci10110870. PMID: 33218114; PMCID: PMC7698967.
6. Gutiérrez-de Pablo V, Gómez C*, Poza J, Maturana-Candelas A, Martins S, Gomes I, Lopes AM, **Pinto N**, Hornero R. Relationship between the Presence of the ApoE ϵ 4 Allele and EEG Complexity along the Alzheimer's Disease Continuum. *Sensors (Basel)*. 2020 Jul 10;20(14):3849. doi: 10.3390/s20143849. PMID: 32664228; PMCID: PMC7411888.
7. Gomes I, **Pinto N**, Antão-Sousa S, Gomes V, Gusmão L, Amorim A*. Twenty Years Later: A Comprehensive Review of the X Chromosome Use in Forensic Genetics. *Front Genet*. 2020 Sep 17;11:926. doi: 10.3389/fgene.2020.00926. PMID: 33093840; PMCID: PMC7527635.
8. **Pinto N***, Pereira V, Tomas C, Loiola S, Carvalho E F, Modesti N, Maxzud M, Marcucci V, Cano H, Cicarelli R, Januario B, Bento A, Brito P, Burgos G, Paz-Cruz E, Díez-Juárez L, Vannelli S, Pontes M L, Berardi G, Furfuro S, Fernandez A, Sumita D, Bobillo C, García MG, Gusmão L. Paternal and maternal mutations in X-STRs: A GHEP-ISFG collaborative study. *Forensic Sci Int Genet*. 2020 May;46:102258. doi: 10.1016/j.fsigen.2020.102258. Epub 2020 Feb 5. PMID: 32066109.
9. Ruiz-Gómez SJ*, Hornero R, Poza J, Maturana-Candelas A, **Pinto N**, Gómez C. Computational modeling of the effects of EEG volume conduction on functional connectivity metrics. Application to Alzheimer's disease continuum. *J Neural Eng*. 2019 Oct 29;16(6):066019. doi: 10.1088/1741-2552/ab4024. PMID: 31470433.

10. Maturana-Candelas A, Gómez C*, Poza J, **Pinto N**, Hornero R. EEG Characterization of the Alzheimer's Disease Continuum by Means of Multiscale Entropies. *Entropy (Basel)*. 2019 May 28;21(6):544. doi: 10.3390/e21060544. PMID: 33267258; PMCID: PMC7515033.
11. García MG*, Catanesi CI, Penacino GA, Gusmão L, **Pinto N**. X-chromosome data for 12 STRs: Towards an Argentinian database of forensic haplotype frequencies. *Forensic Sci Int Genet*. 2019 Jul;41:e8-e13. doi: 10.1016/j.fsigen.2019.04.005. Epub 2019 May 10. PMID: 31085140.
12. **Pinto N***, Simões R, Amorim A, Conde-Sousa E. Optimizing the information increase through the addition of relatives and genetic markers in identification and kinship cases. *Forensic Sci Int Genet*. 2019 May;40:210-218. doi: 10.1016/j.fsigen.2019.02.019. Epub 2019 Feb 21. PMID: 30921688.
13. Ferragut J*, **Pinto N**, Amorim A, Picornell A. Improving publication quality and the importance of Post Publication Peer Review: The illustrating example of X chromosome analysis and calculation of forensic parameters. *Forensic Sci Int Genet*. 2019 Jan;38:e5-e7. doi: 10.1016/j.fsigen.2018.11.006. Epub 2018 Nov 10. PMID: 30455113.
14. Amorim A*, **Pinto N**. Big data in forensic genetics. *Forensic Sci Int Genet*. 2018 Nov;37:102-105. doi: 10.1016/j.fsigen.2018.08.001. Epub 2018 Aug 2. PMID: 30142461.
15. Arenas M*, Pereira F, Oliveira M, **Pinto N**, Lopes AM, Gomes V, Carracedo A, Amorim A*. Forensic genetics and genomics: Much more than just a human affair. *PLoS Genet*. 2017 Sep 21;13(9):e1006960. doi: 10.1371/journal.pgen.1006960. PMID: 28934201; PMCID: PMC5608170.
16. Egeland T*, **Pinto N**, Amorim A. Exact likelihood ratio calculations for pairwise cases. *Forensic Sci Int Genet*. 2017 Jul;29:218-224. doi: 10.1016/j.fsigen.2017.04.018. Epub 2017 Apr 27. PMID: 28482259.
17. Gonçalves J, Conde-Sousa E, Egeland T, Amorim A, **Pinto N***. Key individuals for discerning pedigrees belonging to the same autosomal kinship class. *Forensic Sci Int Genet*. 2017 Jul;29:71-79. doi: 10.1016/j.fsigen.2017.03.018. Epub 2017 Mar 19. PMID: 28380400.
18. Amorim A, Crespillo M, Luque JA, Prieto L, Garcia O, Gusmão L, Mercedes A, Barrio PA, Saragoni VG, **Pinto N***. Formulation and communication of evaluative forensic science expert opinion-A GHEP-ISFG contribution to the establishment of standards. *Forensic Sci Int Genet*. 2016 Nov;25:210-213. doi: 10.1016/j.fsigen.2016.09.003. Epub 2016 Sep 7. PMID: 27690358.
19. Coble MD*, Buckleton J, Butler JM, Egeland T, Fimmers R, Gill P, Gusmão L, Guttman B, Krawczak M, Morling N, Parson W, **Pinto N**, Schneider PM, Sherry ST, Willuweit S, Prinz M. DNA Commission of the International Society for Forensic Genetics: Recommendations on the validation of software programs performing biostatistical calculations for forensic

- genetics applications. *Forensic Sci Int Genet.* 2016 Nov;25:191-197. doi: 10.1016/j.fsigen.2016.09.002. Epub 2016 Sep 4. PMID: 27643465.
20. **Pinto N**, Gusmão L, Amorim A*. Mutation and mutation rates at Y chromosome specific Short Tandem Repeat Polymorphisms (STRs): a reappraisal. *Forensic Sci Int Genet.* 2014 Mar;9:20-4. doi: 10.1016/j.fsigen.2013.10.008. Epub 2013 Oct 31. PMID: 24528575.
 21. Egeland T*, **Pinto N**, Vigeland M. A general approach to power calculation for relationship testing. *Forensic Sci Int Genet.* 2014 Mar;9:186-90. doi: 10.1016/j.fsigen.2013.05.001. Epub 2013 Jun 28. PMID: 23810238.
 22. **Pinto N***, Gusmão L, Egeland T, Amorim A. Paternity exclusion power: comparative behaviour of autosomal and X-chromosomal markers in standard and deficient cases with inbreeding. *Forensic Sci Int Genet.* 2013 Feb;7(2):290-5. doi: 10.1016/j.fsigen.2012.12.002. Epub 2013 Jan 9. PMID: 23312390.
 23. **Pinto N***, Magalhães M, Conde-Sousa E, Gomes C, Pereira R, Alves C, Gusmão L, Amorim A. Assessing paternities with inconclusive STR results: The suitability of bi-allelic markers. *Forensic Sci Int Genet.* 2013 Jan;7(1):16-21. doi: 10.1016/j.fsigen.2012.05.002. Epub 2012 Jun 1. PMID: 22658886.
 24. Gomes C, Magalhães M, Alves C, Amorim A, **Pinto N**, Gusmão L*. Comparative evaluation of alternative batteries of genetic markers to complement autosomal STRs in kinship investigations: autosomal indels vs. X-chromosome STRs. *Int J Legal Med.* 2012 Nov;126(6):917-21. doi: 10.1007/s00414-012-0768-5. Epub 2012 Sep 1. PMID: 22940765.
 25. **Pinto N***, Silva PV, Amorim A. A general method to assess the utility of the X-chromosomal markers in kinship testing. *Forensic Sci Int Genet.* 2012 Mar;6(2):198-207. doi: 10.1016/j.fsigen.2011.04.014. Epub 2011 May 17. PMID: 21592877.
 26. Pereira R*, Phillips C, **Pinto N**, Santos C, Dos Santos SE, Amorim A, Carracedo A, Gusmão L. Straightforward inference of ancestry and admixture proportions through ancestry-informative insertion deletion multiplexing. *PLoS One.* 2012;7(1):e29684. doi: 10.1371/journal.pone.0029684. Epub 2012 Jan 17. PMID: 22272242; PMCID: PMC3260179.
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9.5. Theses

1. "General algorithms for computing genetic kinship likelihoods", PhD in Applied Mathematics, FCUP, Porto, Portugal
2. "Algorithms for Reconstruction of Genealogies" (in Portuguese), MSc in Mathematical Engineering, FCUP, Porto, Portugal