

CURRICULUM VITAE

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Work experience

12-2018 /

Research associate at the Department of Archaeology and Anthropology, Institut Milà I Fontanals, Consejo Superior de Investigaciones Científicas, Barcelona, Spain.

05-2018 / 11-20018

Post-doctoral researcher at the Archaeogenetics group, CIBIO-InBIO, Porto, Portugal.

02-2010 / 06-2016

Post-doctoral researcher at the Epigenome and Paleogenome team, Institute Jacques Monod, CNRS, Paris, France.

04-2007 | 12-2008

Collaboration with the University of Florence and the University of Ankara in the project: "Anatolian origins of the Etruscans".

05-1999 / 12-2001

Responsible for the microbiology and chemical laboratory at the Pharmaceutical Company PRONEFRO, S.A., Maia, Portugal.

Education

01-2004 / 12-2006

PhD in Paleogenetics, Department of Animal Biology and Genetics "Leo Pardi", University of Florence, Italy. Final thesis: "The peopling of Tuscany: genetic and serial coalescence analysis in medieval skeletal remains (X-XV centuries)". Thesis discussed in March 2007.

01-2002 / 07-2003

Master in "Physical Anthropology of the Mediterranean Region", Department of Animal Biology and Genetics "Leo Pardi", University of Florence. Final thesis: "Methodological approach for the study of human ancient DNA".

09-1993 / 07-1998

Graduation in Microbiology, Biotechnology College, Portuguese Catholic University, Porto, Portugal.

Participation on Projects

12-2018 /

"ZoomWest: Zooarchaeology and Mobility in the Western Mediterranean", Institució Milà i Fontanals, Consejo Superior de Investigaciones Científicas, Barcelona, Spain.

05-2018 /

"Archaic: The archaeogenetics of Iberian cattle: investigating their origins, evolution and improvement", CIBIO-InBIO, Porto, Portugal.

07-2014 / 06-2016

"From hunting to herding. Exploring traditions of equids exploitation and horse domestication in ancient Anatolia", Institute Jacques Monod, CNRS, Paris in collaboration with the University of Chapel Hill, South Caroline.

05-2010 / 06-2013

"Modern Human installation in Morocco influence on the small terrestrial vertebrate biodiversity and evolution", Institute Jacques Monod, CNRS, ANR, Paris, France.

02-2010 / 04-2010

"Taphonomic processes: repercussions on the paleoecological, environmental and biomolecular interpretations", Institute Jacques Monod, CNRS Paris, in collaboration with the national Museum of Sciences-CSIC, Madrid, Spain.

09-12 / 2006

"Languages and Genes of the Greater Himalayan region" (visiting student), Wellcome Trust Sanger Institute, Hinxton, Cambridge.

01-2004 / 12-2006

"Genetic Analysis of the Medieval Populations from the Peninsular Italy", MIUR 2004, University of Florence, Italy.

Scientific publications

Guimaraes S., Arbuckle B., Peters J. et al., 2020. "Ancient DNA shows domestic horses were introduced in the Caucasus and Anatolia during the Bronze Age." (under revision)

Otoni C., Van Neer W., De Cupere, B., Daligault, J., **Guimaraes S.**, Peters J., Spassov N., et al. 2017. "The palaeogenetics of cat dispersal in the ancient world". *Natural Ecology & Evolution* 1 (7). <http://dx.doi.org/10.1038/s41559-017-0139>

Bennett EA., Champlot S., Peters J., Arbuckle BS., **Guimaraes S.**, Pruvost M., Bar-David S., Davis SJM, Gautier M., et al. 2017. "Taming the late Quaternary phylogeography of the Eurasian wild ass through ancient and modern DNA", *PLoS One*, 12(4):e0174216.

Massilani D., **Guimaraes S.**, Brugal JP, Bennett E.A., Tokarska M., Arbogast RM, Baryshnikov G., Boeskorov G., Castel J.C., Davydov S., Madelaine S., Putelat O., Spasskaya N., Uerpman HP, Grange T., Geigl EM., 2016. "Past climate changes, population dynamics and the origin of Bison in Europe", *BMC Biology*, 14: 93.

Guimaraes S., Pruvost M., Daligault J., Stoetzel E., Côté N., Bennett E.A., Nicolas V., Lalis A., Denys C., Geigl E.-M., Grange T., 2016. "A cost-effective high-throughput metabarcoding approach powerful enough to genotype ~44,000 year-old rodent remains from Northern Africa", *Molecular Ecology Resources*, doi: 10.1111/1755-0998.12565.

Côté N., Daligault J., Pruvost M., Bennett E.A., Gorgé O., **Guimaraes S.**, Capelli N., Le Bailly M., Geigl E.M., Grange T., 2016. "A New High-Throughput Approach to Genotype Ancient Human Gastrointestinal Parasites", PLOS One 11(1), e0146230. doi:10.1371/journal.pone.0146230.

Guimaraes S., Fernandez-Jalvo Y., Stoetzel E., Gorgé O., Bennett E.A., Denys C., Grange T., Geigl E-M, 2015. "Owl pellets: a wise DNA source for small mammal genetics", Journal of Zoology, 298(1): 64-74.

Guimaraes S., Ghirotto S., Benazzo A., Milani L., Lari M., Pilli E., Pecchioli E., Mallegni F., Lippi B., Bertoldi F., Gelichi S., Casoli A., Belle EM., Caramelli D., Barbujani G., 2009. "Genealogical discontinuities among Etruscan, Medieval, and contemporary Tuscans", Molecular Biology and Evolution, 26(9): 2157-66.

Caramelli D., Lalueza-Fox C., Capelli C., Lari M., Sampietro ML, Gigli E., Milani L., Pilli E., **Guimaraes S.**, Chiarelli B., Terribile Wien Marin V., Casoli A., Stanyon R., Bertranpetit J., Barbujani G., 2007. "Genetic analysis of the skeletal remains attributed to Francesco Petrarca", Forensic Science International, Feb. 21.

Book sections

Geigl E.-M., **Guimaraes S.**, Liesau C., "Palaeogenetic analysis of bovine remains from Camino de las Yeseras and Humanejos", 2011. In "Yacimientos Calcolíticos con campaniforme de la region de Madrid: nuevos estudios". Blasco, C., Liesau, C., and Rios, P. (eds.). Universidad Autonoma de Madrid, Madrid, p. 199-210.

Geigl, E.-M., Champlot, S., **Guimaraes, S.**, Bennett A., Thierry G., 2010. *Molecular taphonomy of Spy: DNA preservation in bone remains*. In "Spy": DNA Preservation in Bone Remains. In "Spy". Semal, P., Rougier, H. (eds.)

Guimaraes S., Caramelli D., 2007. "Ancient DNA", Human Evolution, 22, 3-4.

Conference abstracts

Blaschikoff, L., Serra, O., Cardoso, J.L., Fernández-Rodríguez, Z., Sousa, A.C., Moreno-Garcia, M., **Guimaraes, S.**, et al. 2019. "Unraveling the genomes of ancient Iberian Canis". *Abstract Book of the XV ENBE - National Meeting of Evolutionary Biology (Poster presentation)*, Matosinhos, Portugal.

Gaspar, D., **Guimaraes, S.**, Ureña, I., Davis, S., Gonçalves, A., Detry, Cleia, Pires, A. E., et al. 2019. "An evolutionary study of domestic sheep from the Iberian Peninsula: mitogenome analysis of Roman sheep remains and Portuguese native breeds". *Abstract Book of the XV ENBE - National Meeting of Evolutionary Biology (Poster presentation)*, Matosinhos, Portugal.

Ginja, C., Ureña, I., Valenzuela, S., **Guimaraes, S.**, Simões, L., Davis, S., Detry, C., et al. 2019. "The impact of breeding practices in the genomic composition of Iberian cattle: inferences from Medieval-Moslem vs. Post-Medieval Christian specimens". *8th meeting of the ICAZ Archaeozoology, Genetics, Proteomics and Morphometrics (AGPM) Working Group Book of Abstracts (Oral presentation)*, 17-18 October, Paris, France.

Pires, A. E., Detry, C., Chikhi, L., Rasteiro, R., Blaschikoff, L., Davis, S., Serra, O., **Guimaraes, S.**, et al. 2019. "News from Mesolithic Iberian Dogs". *8th meeting of the ICAZ Archaeozoology, Genetics, Proteomics and Morphometrics (AGPM) Working Group Abstract book (Oral presentation)*, Natural History Museum, 17-18 October, Paris, France.

Guimaraes, S., Detry, C., Davis, S., Arruda, A., Viegas, C., Gonçalves, A., et al. 2019. "Genomic variability of Western Mediterranean Roman cattle". *8th meeting of the ICAZ Archaeozoology, Genetics, Proteomics and Morphometrics (AGPM) Working Group Book of Abstracts (Poster presentation)*, 17-18 October, Paris, France.

Blaschikoff, L., Serra, O., Cardoso, J.L., Fernández-Rodríguez, C., Moreno-García, M., **Guimaraes, S.**, Simões, F., et al. 2019. "Iberian Chalcolithic Canis: a genomic approach to know them better". Paper presented in *Paper presented in 8th meeting of the ICAZ Archaeozoology, Genetics, Proteomics and Morphometrics (AGPM) Working Group Book of Abstracts (Poster presentation)*, 17-18 October, Paris, France.

Gaspar, D., **Guimaraes, S.**, Ureña, I., Davis, S., Gonçalves, A., Detry, C., Pires, A. E., Ramos, M., Ginja, C., 2019. "Genomic analysis of sheep remains from the 4th to 5th century AD Roman villa at São Miguel de Odrinhas, Portugal". *Proceedings of the 37th International Conference on Animal Genetics (Poster presentation)*, 7-12 July, Leida, Spain.

Guimaraes S., Grange T., Geigl, E-M., 2014. "NGS Analysis of the evolution of Moroccan rodent populations from the Pleistocene to the Holocene". *6th ICAZ/AGM Working Group Meeting (Oral presentation)*, Faculty of Sciences of the University of Lisbon, 26-28 March, Lisbon, Portugal.

Guimaraes, S., Pruvost, M., Schwarz, R., Hofreiter ML, Bertrand, B., Liouville, M., Bessa Correia, V., Meyer, M., Wiechmann, I., et al., 2011. "Phylogeography of *B. primigenius* during the Holocene based on ancient mitochondrial DNA data". *Comparing Ancient and Modern DNA Variability in Human Populations, International Conference (Oral presentation)*, 23-25 November, Porto, Portugal.

Pruvost, M., **Guimaraes, S.**, Gautier, M., Simon, H., et al., 2011. "Palaeogenetic Analysis of the Phylogeography and Domestication of the Aurochs: Methodological Difficulties". *11th International Conference for the International Council for Archaeozoology (ICAZ), (Poster presentation)*, 23-28 August, Paris, France.

Pruvost, M., **Guimaraes, S.**, Schwarz, R., Hofreiter, M., Bertrand, B., et al. 2011. "Analysis of mitochondrial DNA from ancient bovine remains to elucidate Holocene phylogeography of *B. primigenius*". *ECM 2011, VI European Congress of Mammalogy (Poster presentation)*, Natural History Museum, 19-23 July, Paris, France.

Guimaraes, S., Schwarz, R., Hofreiter M., Bertrand, B., Liouville M., et al. 2011. "Phylogeography and Domestication of the Aurochs". Paper presented in *10th International ASWA Meeting (Poster presentation)*, Institut Royal des Sciences Naturelles de Belgique, 28 June - 1 July, Brussels, Belgium.

Guimaraes S., Ghiretto S., Benazzo A., Pecchioli E., Mallegni F., Lippi B., Bertoldi F., Gelichi S., Casoli A., Belle E., Caramelli D., Barbujani G., 2010. "The Etruscans". *International Union of anthropological and ethnological sciences, IUAES, (Oral presentation)*, 3-6 October, Antalya, Turkey.

Guimaraes S., Ghiretto S., Benazzo A., Milani L., Lari M., Pilli E., Pecchioli E., Mallegni F., Lippi B., Bertoldi F., Gelichi S., Casoli A., Belle E., Caramelli D., Barbujani G., 2009. "Genealogical discontinuities among Etruscan, Medieval and contemporary Tuscans". *International Meeting of the Research Network in Palaeogenetics of the CNRS (Oral presentation)*, Institut Jacques Monod, 14-16 September, Paris, France.

Guimaraes S., Caramelli D., 2007. "Ancient DNA studies". *Working group on the Etruscan Origin: New and Multidisciplinary Methods, Italian-Turkish cooperation (Oral presentation)*, 3-6 June, Bodrum, Turkey.

Pilli E., Lalueza-Fox C., Capelli C., Lari M., Sampietro L., Gigli E., Milani L., **Guimaraes S.**, et al., 2007. "Genetic analysis of the skeletal remains attributed to Francesco Petrarca". *22nd Congress of the International Society for Forensic Genetics (Poster presentation)*, 21-25 August, Copenhagen, Denmark.

Caramelli, D., Milani, L., Manfredini A., Adoni F., Catalano G., **Guimaraes, S.**, Conzato A., et al. 2005. "Genetic typing of a Neanderthal fossil from Italy". *XVI Congress of the Italian Anthropologists (Poster presentation)*, 29-31 October, Genova, Italy.

Catalano, G., Milani, L., Manfredini, A., Adoni, F., **Guimaraes, S.**, Pilli, E., Conzato, A., et al. 2005. "Degradation phenomena and repairing mechanisms of the ancient DNA (aDNA)". *XVI Congress of the Italian Anthropologists (Poster presentation)*, 29-31 October, Genova, Italy.

Cappellini E., **Guimaraes S.**, Lari M., Sanna S., Chiarelli B., Casoli A., Caramelli D., 2003. "Analysis of ancient DNA on human remains from the Necropolis of Fossa (AQ) and Matelica (MC)", *Proceedings of the XV Congress of the Italian Anthropologists (Oral presentation)*, pg. 143-151, Chieti, Italy.

Participation in events

2019

Organization and teaching of the "Advanced Course: Archaeogenetics Approaches to Investigate Domestication and Evolution", 20-24 May, BIODIV doctoral programme, CIBIO-InBIO, University of Porto, Portugal.

2019

Advanced course: "Introductory Population Genomics: From Data to Inference", 13-17 May, Physalia courses, Berlin, Germany.

2018

Advanced course: "Paleogenomics - from metagenomics to phylogenomics", 07-11 May, Physalia courses, Berlin, Germany.

2011

"Short course in Zooarchaeology", 1-3 February, Department of Archaeology, University of Sheffield, England.

2011

"Palaeogenomics Summer School", 17-21 October, Cargèse, Corse.

2008

"European Workshop in Forensic Anthropology", 01-04 May, School of Legal Medicine, Complutense University of Madrid, Spain.

2006

Visiting student at the Wellcome Trust Sanger Institute, September-December, Cambridge, England.

2006

"European Course on Biotechnology Ethics", 01-06 July, Masaryk University in Brno, Czech Republic.

2005

“Paleoparasitology”, 25-26 July, Oswaldo Cruz Foundation, National School of Public Health Sérgio Arouca, Rio de Janeiro, Brazil.

2004

“Statistical Inference in Biologic and Human Sciences”, 21-25 June, Asti, Italy.

2004

“Human Population Genetics and Genetic Epidemiology”, 15-16 November, Rome, Italy.

2002

Workshop on “Methodologies of the excavation and pre-historic research”, Palaeolithic site of Isérnia La Pineta, 20-27 July, Molise, Italy.

2000

“Internal Ambiental Consulent (ISO 14001)”, Portuguese Electrotechnical Institute, Porto, Portugal.

1999

“Hygienic Principles in the Alimentary Industry”, Biotechnology School, Portuguese Catholic University, Porto, Portugal.

1999

Post-graduation course in “Criminal Sciences”, Health Sciences School, Monte da Caparica, Lisbon, Portugal.

Language skills

	Understanding	Speaking	Written
English	C2	C2	C1
French	C2	C2	B2
Italian	C2	C2	C1
Spanish	C2	B2	A2
Portuguese	Mother tanguue		
	(Common European Framework of Reference for Languages)		

Molecular Biology skills

- DNA extraction (ancient and modern biological samples)
- DNA amplification (standard PCR; real-time PCR; pyrosequencing)
- Genomic library preparation for Next Generation Sequencing (Ion Torrent; Illumina HiSeq X and NovaSeq S4)
- Quality control and quantification of biomolecules (Bioanalyser)

Informatic skills

- Primers design: Oligo, Primer 3

- Bioinformatic tools for Next Generation Sequencing data analysis: adapter removal, bwa, samtools, picard, qualimap, mapDamage
- Population genetic analyses: Geneious, Phylogenetic trees (Neighbor-joining, PhyML, RAxML)