

Curriculum vitae – Carla Silva

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Academic appointments

2019-	PhD Researcher Unit of Medical Microbiology <i>Global Health and Tropical Medicine</i> , Instituto de Higiene e Medicina Tropical, Universidade NOVA de Lisboa	Lisbon, Portugal
2018-2019	Medical writer at News Farma Edif. Lisboa Oriente, Av. Infante D. Henrique, Nº 333 H, 37 1800 - 282 Lisbon, Portugal	Lisbon, Portugal
2017-2018	PhD Researcher, iMedULisboa Research Institute for Medicines, Universidade de Lisboa	Lisbon, Portugal
2011-2017	PhD Fellow, URIA/CPM Center of Molecular Pathogenesis, Faculdade de Farmácia da Universidade de Lisboa	Lisbon, Portugal
2012-2013	PhD Fellow, Departamento de Doenças Infecciosas Instituto Nacional de Saúde Dr. Ricardo Jorge	Lisbon, Portugal
2009-2011	Researcher Fellow, URIA/CPM Center of Molecular Pathogenesis, Faculdade de Farmácia da Universidade de Lisboa	Lisbon, Portugal

Education

2011-2017	PhD in Pharmacy – Microbiology , University of Lisbon Faculdade de Farmácia da Universidade de Lisboa (FFUL) Supervisors: Isabel Portugal (FFUL), Luisa Jordão (INSA) Grade: Approved with Distinction
2007-2009	Master's degree in Molecular Genetics and Biomedicine , Faculty of Science and Technology of the University Nova of Lisbon Supervisor: Isabel Portugal (FFUL) Grade: 17/20
2003-2007	Graduate degree in Thanatological, Cytological and Pathological Anatomy , Escola Superior de Saúde Egas Moniz (ESSEM) Grade: 15/20

Post-Graduation Studies

Professional course “Falar em Público”. 2019. Identity & Diversity Training. Lisboa. November 30th. Grade: Approved.

Specialization in Medical Affairs & Medical Marketing. 2019. Invictus Sciences. Lisboa. September 21st – November 23th. Grade: Approved.

Training Course in “Curso FFULisboa-SPCAL de Categoria B de Ciências em Animais de Laboratório”. 2018. Faculdade de Farmácia da Universidade de Lisboa. September 10 – 14th. Grade: Approved.

Training Course in “Fundamentos de Cultura Celular”. Escola de Ciências e Tecnologias da Saúde da Universidade Lusófona de Humanidades e Tecnologias, Lisboa. 2014. February 20th - March 1st. Grade: 17/20.

Training Course in “BSL2 and BSL3 Workshop”. Faculdade de Farmácia da Universidade de Lisboa. 2014. March 13th – 14th.

Training Course “Curso em Citometria”. ESTeSL - Escola Superior de Tecnologia da Saúde de Lisboa. 2009. March 27th - April 18th.

Training Course “II Curso Prático de PCR em tempo real”. ESTeSL - Escola Superior de Tecnologia da Saúde de Lisboa. 2008. March 31st - April 4th.

Scientific Production

Selected Publications

Perdigão J*, **Silva C**, Maltez F, Machado D, Couto I, Rabna P, Florez de Sessions P, Phelan J, Pain A, McNerney R, Hibberd M, Mokrousov I, Clark T, Viveiros M, Portugal I*. Emergence of Multidrug Resistant *Mycobacterium tuberculosis* of the Beijing Lineage in Portugal and Guinea-Bissau: a snapshot of moving clones by Whole Genome Sequencing. *Emerg. Microbes Infect.* 2020. *In press*. *Both authors share senior authorship and are co-corresponding authors.

Perdigão J*, **Silva C**, Diniz J, Pereira C, Machado D, Ramos J, Silva F, Brum C, Reis AJ, Macedo M, Scaini JL, Silva AB, Esteves L, Macedo R, Maltez F, Clemente S, Coelho E, Viegas S, Rabna P, Rodrigues A, Taveira N, Jordão L, Kritski A, Lapa e Silva J, Mokrousov I, Couvin D, Rastogi N, Couto I, Pain A, McNerney R, Clark TG, von Groll A, Dalla-Costa ER, Rossetti ML, Silva PEA, Viveiros M, Portugal I*. Clonal expansion across the seas and CPLP-TB: A Joint Effort in Cataloguing *Mycobacterium tuberculosis* Genetic Diversity in the Lusophone Space. 2019, *Infection, Genetics and Evolution*, *Infect Genet Evol* 2019. 72:44-58. DOI: 10.1016/j.meegid.2018.03.011 *Both authors share senior authorship and are co-corresponding authors.

Silva C, Perdigão J, Jordão L, Portugal I. Mycobacterial Interspersed Repetitive Unit typing and mutational profile for multidrug and extensive drug resistant tuberculosis surveillance in Portugal: a three-year period overview. *Int J Antimicrob Agents*. 2014; 44(6): 546-51. DOI: 10.1016/j.ijantimicag.2014.06.021.

Silva C, Alverca E, Matos AP, Carvalho PA, Portugal I, Jordão L. “Morphologic characterization of *Mycobacterium tuberculosis* circulating strains in a Lisbon hospital”. *Microsc Microanal* 2013; 19 (Supplement S4 - SPMicros): 11-12. DOI: <https://doi.org/10.1017/S1431927613000676>.

Silva C, Perdigão J, Alverca E, Matos AP, Carvalho P, Portugal I, Jordão L. Exploring the contribution of mycobacteria characteristics in the interaction with human macrophages. *Microsc Microanal* 2013 19(5):1159-69. DOI: 10.1017/S1431927613001906.

Thesis

Silva, C. Caracterização de estirpes *Mycobacterium tuberculosis* da família Lisboa. Master Thesis, Faculty of Sciences and Technology of the University Nova of Lisbon, 2009.

Silva, C. Molecular and biological determinants associated with *Mycobacterium tuberculosis* strains prevalent in Portugal. PhD Thesis, Faculty of Pharmacy of the University of Lisbon, 2017.

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Publons: <https://publons.com/researcher/3424947/carla-silva/>

Google Scholar: https://scholar.google.com.br/citations?hl=pt-PT&user=xaQ1uWIAAAJ&view_op=list_works&gmla=AJsNF5nv_m9IID6SW_PJ7zBcxHUpBGBZ37-H4i1fKxedW4N0UxA2XDxS-NvAU8DUtKCzVTdcZ1mD4WVbnKNpEhkPiTxBQK

ResearchGate: https://www.researchgate.net/profile/Carla_Silva55

Scopus *h*-index: 6

Articles

Articles published in peer-reviewed international journals:

1. Perdigão J, Gomes P, Miranda A, Maltez F, Machado D, **Silva C**, Phelan JE, Brum L, Campino S, Couto I, Viveiros M, Clark TG, Portugal I. Using genomics to understand the origin and dispersion of multidrug and extensively drug resistant tuberculosis in Portugal. *Sci Rep*. 2020; 10(1): 2600. DOI: 10.1038/s41598-020-59558-3.
2. Pereira C, Gomes P, Taveira R, **Silva C**, Maltez F, Macedo R, Costa C, Couvin D, Rastogi N, Viveiros M, Perdigão J*, Portugal I*. Insights on the *Mycobacterium tuberculosis* population structure associated with migrants from Portuguese-speaking countries over a three-year period in Portugal: implications at the public health level. *Infect Genet Evol*. 2019; 71: 159-165. DOI: 10.1016/j.meegid.2019.03.025 *Both authors share senior authorship and are co-corresponding authors.
3. Perdigão J, Clemente S, Ramos J, Masakidi P, Machado D, **Silva C**, Couto I, Viveiros M, Taveira N, Portugal I. Genetic diversity, transmission dynamics and drug resistance of *Mycobacterium tuberculosis* in Luanda, Angola. *Int J Mycobacteriol*. 2016; 5 Suppl 1:S38-S39. DOI: 10.1016/j.ijmyco.2016.09.050
4. Perdigão J, Clemente S, Ramos J, Masakidi P, Machado D, **Silva C**, Couto I, Viveiros M, Taveira N, Portugal I. Genetic diversity, transmission dynamics and drug resistance of *Mycobacterium tuberculosis* in Angola. *Sci Rep*. 2017; 7: 42814. DOI: 10.1038/srep42814.
5. Perdigão J, Maltez F, Machado D, Silva H, Pereira C, **Silva C**, Couto I, Viveiros M, Portugal I. Beyond extensively drug-resistant tuberculosis in Lisbon, Portugal: a case of linezolid resistance acquisition presenting as an iliopsoas abscess. *Int J Antimicrob Agents*. 2016; 48(5): 569-570. DOI: 10.1016/j.ijantimicag.2016.07.026.
6. Perdigão J, Silva H, Machado D, Macedo R, Maltez F, **Silva C**, Jordão L, Couto I, Mallard K, Coll F, Hill-Cawthorne GA, McNerney R, Pain A, Clark TG, Viveiros M, Portugal I. Unraveling *Mycobacterium tuberculosis* genomic diversity and evolution in Lisbon, Portugal, a highly drug resistant setting. *BMC Genomics*. 2014 Nov 18; 15:991. DOI: 10.1186/1471-2164-15-991.

7. Perdigão J, Macedo R, Machado D, **Silva C**, Jordão L, Couto I, Viveiros M, Portugal I. GidB mutation as a phylogenetic marker for Q1 cluster *Mycobacterium tuberculosis* isolates and intermediate-level streptomycin resistance determinant in Lisbon, Portugal. *Clin Microbiol Infect Epub* 2014 May; 20(5):O278-84. DOI: 10.1111/1469-0691.12392.
8. Perdigão J, Macedo R, **Silva C**, Machado D, Couto I, Viveiros M, Jordão L, Portugal I. From Multidrug-Resistant to Extensively Drug-Resistant Tuberculosis in Lisbon, Portugal: the stepwise mode of resistance acquisition. *J Antimicrob Chemother* 2013. 68(1):27-33. DOI: 10.1093/jac/dks371.
9. Perdigão J, Macedo R, **Silva C**, Pinto C, Furtado C, Brum L, Portugal I. Tuberculosis drug-resistance in Lisbon, Portugal: a 6-year overview. *Clin Microbiol Infect* 2010. 17(9):1397–1402. DOI: 10.1111/j.1469-0691.2010.03351.x.

Under Preparation:

Silva C, Pereira C, Macedo R, Machado D, Couto I, Viveiros M, Jordão L, Perdigão J, Portugal I. *Mycobacterium tuberculosis* genotypes present divergent metabolic activity under distinct growth environments. Manuscript in preparation.

Oral Communications

1. João Perdigão, **Carla Silva**, Jaciara Diniz, Catarina Pereira, Diana Machado, Jorge Ramos, Fernanda da Silva, Clarice Brum, Ana J. Reis, Maíra Macedo, João L. Scaini, Ana B. Silva, Leonardo Esteves, Rita Macedo, Sofia Clemente, Elizabeth Coelho, Sofia Viegas, Paulo Rabna, Amabélia Rodrigues, Nuno Taveira, Luisa Jordão, Isabel Couto, Arnab Pain, Ruth McNerney, Taane G. Clark, Andrea von Groll, Elis R. Dalla-Costa, Maria Lúcia Rossetti, Pedro A. da Silva, Miguel Viveiros, Isabel Portugal. Genetic diversity and mapping of *M. tuberculosis* strains in Portuguese Speaking Countries. VI National Workshop – REDE TB. 2017. 22th – 23th June. Rio de Janeiro, Brazil.
2. João Perdigão, **Carla Silva**, Jaciara Diniz, Catarina Pereira, Diana Machado, Jorge Ramos, Fernanda da Silva, Clarice Brum, Ana J. Reis, Maíra Macedo, João L. Scaini, Ana B. Silva, Leonardo Esteves, Rita Macedo, Sofia Clemente, Elizabeth Coelho, Sofia Viegas, Paulo Rabna, Amabélia Rodrigues, Nuno Taveira, Luisa Jordão, Isabel Couto, Arnab Pain, Ruth McNerney, Taane G. Clark, Andrea von Groll, Elis R. Dalla-Costa, Maria Lúcia Rossetti, Pedro A. da Silva, Miguel Viveiros, Isabel Portugal. Tracking *Mycobacterium tuberculosis* across the seas: CPLP-TB and genetic diversity in the Lusophone space. Translational Research and Innovation in Human and Health Sciences – 2nd International Congress of CiiEM. 11th – 13th June 2017. Monte da Caparica, Portugal.
3. Perdigão J, **Silva C**, Diniz J, Pereira C, Machado D, Ramos J, Silva F, Brum L, Reis AJ, Macedo M, Scaini JL, Silva AB, Esteves L, Macedo R, Clemente S, Coelho E, Viegas S, Rabna P, Rodrigues A, Taveira N, Jordão L, Couto I, Pain A, McNerney R, Clark TG, von Groll A, Dalla-Costa ER, Rossetti ML, Silva PEA, Viveiros M, Portugal I. Clonal expansion across the seas and CLP-TB: a joint effort in cataloguing *Mycobacterium tuberculosis* genetic diversity in the Lusophone Space. 4^o Congresso de Medicina Tropical/ 1^o Encontro Lusófono de SIDA, Tuberculose e Doenças Oportunistas. 19th – 21st April 2017. Lisboa, Portugal.
4. João Perdigão, Sofia Clemente, Jorge Ramos, Pedro Masakidi, Diana Machado, **Carla Silva**, Isabel Couto, Miguel Viveiros, Nuno Taveira, Isabel Portugal. 2017. Genetic diversity, transmission dynamics and drug resistance of *Mycobacterium tuberculosis* in Luanda, Angola. 2nd Asian-African Congress of Mycobacteriology. 25th – 28th February 2017. Isfahan, Iran.
5. **Silva C**. Estudo dos determinantes genéticos e biológicos associados às estirpes de *Mycobacterium tuberculosis* predominantes em Portugal. Outubro 2012. *Journal club – Departamento de Doenças Infecciosas, Instituto Nacional de Saúde Dr. Ricardo Jorge*. 2012. Lisboa. Portugal.

6. **Silva C**, Alverca E, Matos AP, Carvalho PA, Portugal I, Jordão L. Morphologic characterization of *Mycobacterium tuberculosis* circulating strains in a Lisbon hospital. *XLVI Congresso da Sociedade Portuguesa de Microscopia*. 24th-25th September 2012. Lisboa, Portugal.
7. **Perdigão J**, **Silva C**, Macedo R, **Portugal I**. *Mycobacterium tuberculosis* family LISBOA. *Workshop Phage and Mycobacterial Molecular Biology*. June 2011. Faculty of Pharmacy, University of Lisbon. 2011. Lisboa, Portugal.
8. **Perdigão J**, Macedo R, **Silva C**, Pinto C, Furtado C, Brum L, Portugal I. Six-year laboratory data report on drug-resistant tuberculosis in Lisbon Health Region, Portugal. *21st ECCMID/ 27th ICC*. 7th – 10th May 2011. Milan, Italy.
9. **Perdigão J**, Macedo R, **Silva C**, Pinto C, Furtado C, Brum L, Portugal I. Perspectiva laboratorial da tuberculose resistente na Região de Saúde de Lisboa. *X & VIII Congresso Nacional de Doenças Infecciosas e Microbiologia Clínica & sobre SIDA*. 6th – 9th October 2010. Coimbra, Portugal.
10. **Silva C**. Caracterização de estirpes *Mycobacterium tuberculosis* da família Lisboa: análise de Regiões de Diferença e *Single Nucleotide Polymorphisms*. Dezembro 2009. *Centro de Patogénese Molecular – URIA, Faculdade de Farmácia da Universidade de Lisboa*. 2009. Lisboa, Portugal.
11. **Silva C**. Caracterização de *Large Sequence Polymorphisms* em estirpes *Mycobacterium tuberculosis* da Família Lisboa. Maio 2009. *Centro de Patogénese Molecular – URIA, Faculdade de Farmácia da Universidade de Lisboa*. 2009. Lisboa Portugal.

Posters

1. Serra D, Machado D, **Silva C**, Viveiros M. Detection and inhibition of β -lactamase activity in clinical isolates of *Escherichia coli* combining β -lactamase and efflux inhibitors using an MTT-based method: phenotypic and genotypic validation. *MicroBiotec'19*, 5th – 7th December 2019. Coimbra, Portugal.
2. Pereira B, Machado D, **Silva C**, Viveiros M, Exploring the contribution of efflux on the resistance to antibiotics, biocides and dyes in clinical isolates of *Escherichia coli*. *MicroBiotec'19*, 5th – 7th December 2019. Coimbra, Portugal.
3. Machado D, Neves I, **Silva C**, Viveiros M. Tackling bacterial infections by eliminating persister cells with efflux inhibitors. *MicroBiotec'19*, 5th – 7th December 2019. Coimbra, Portugal.
4. **Perdigão J**, **Silva C**, Diniz J, Pereira C, Machado D, Ramos J, Silva F, Brum C, Reis AJ, Macedo M, Scaini JL, Silva AB, Esteves L, Macedo R, Maltez F, Clemente S, Coelho E, Viegas S, Rabna P, Rodrigues A, Taveira N, Jordão L, Kritski A, Lapa e Silva J, Mokrousov I, Couvin D, Rastogi N, Couto I, Pain A, Mc Nerney R, Clark TG, von Groll A, Dalla-Costa ER, Rossetti ML, Silva PEA, Viveiros M, Portugal I. *Mycobacterium tuberculosis* genetic diversity and drug resistance across Portuguese-speaking countries and CPLP-TB: a novel framework and surveillance tool for the Lusophone community. 29th ECCMID. 13th – 16th April 2019. Amsterdam, Netherlands.
5. João **Perdigão**, **Carla Silva**, Jaciara Diniz, Catarina Pereira, Diana Machado, Jorge Ramos, Hugo Silva, Fernanda Abilleira, Clarice Brum, Ana J. Reis, Maíra Macedo, João L. Scaini, Ana B. Silva, Leonardo Esteves, Rita Macedo, Fernando Maltez, Sofia Clemente, Elizabeth Coelho, Sofia Viegas, Paulo Rabna, Amabélia Rodrigues, Nuno Taveira, Luísa Jordão, Afrânio Kritski, José Lapa e Silva, Igor Mokrousov, David Couvin, Nalin Rastogi, Isabel Couto, Arnab Pain, Ruth Mc Nerney, Taane G. Clark, Andrea von Groll, Elis R. Dalla-Costa, Maria Lúcia Rossetti, Pedro E. A. da Silva, Miguel Viveiros, Isabel Portugal. 2018. CPLP-TB: a novel framework and surveillance tool for tracing *Mycobacterium tuberculosis* strains across Lusophone countries. 1^o Simpósio de Investigação em Tuberculose e Micobactérias Não Tuberculosas em Portugal. 18th June 2018. Coimbra, Portugal.
6. Pereira C, Macedo R, **Silva C**, **Perdigão J**, Portugal I. Molecular epidemiological perspective on the *Mycobacterium tuberculosis* population structure among immigrants in Lisbon, Portugal. 27th ECCMID. 22nd – 25th April 2017. Austria, Vienna.

7. Perdigão J, Clemente S, Ramos J, Masakidi P, Machado D, **Silva C**, Couto I, Viveiros M, Taveira N, Portugal I. First Insights on the Drug resistance and Genetic Diversity of *Mycobacterium tuberculosis* in Luanda, Angola. 26th ECCMID. 9th – 12th April 2016. Amsterdam, Netherlands.
8. Perdigão, J., Maltez F., Macedo, R., Machado, D., Silva H, Pereira C, **Silva, C.**, Couto, I., Viveiros, M., Portugal, I. Extensively Drug Resistant Tuberculosis plus Linezolid Resistance: the first report of Linezolid resistance development in Lisbon, 26th ECCMID. 9th – 12th April 2016. Amsterdam, Netherlands.
9. **Silva, C.**, Perdigão, J., Jordão, L., Portugal, I. Studying the metabolic activity of *Mycobacterium tuberculosis* through a new resazurin reduction based assay. 36th Annual Congress of the European Society of Mycobacteriology. 28th June – 1st July 2015. Riga, Latvia.
10. **Silva C**, Perdigão J, Jordão L, Portugal I. Identification of the best MIRU-VNTR set technique for MDR-TB and XDR-TB surveillance in Lisbon, Portugal. 36th Annual Congress of the European Society of Mycobacteriology. 28th June – 1st July 2015. Riga, Latvia.
11. Perdigão J, Clemente S, Ramos J, Masakidi P, Machado D, **Silva C**, Couto I, Viveiros M, Taveira N, Portugal I. Drug resistance and genetic diversity of *Mycobacterium tuberculosis* in Luanda, Angola: a Molecular Epidemiological Perspective. 36th Annual Congress of the European Society of Mycobacteriology. 28th June – 1st July 2015. Riga, Latvia.
12. **Silva, C.**, Perdigão, J., Jordão, L., Portugal, I. MIRU-VNTR typing and mutational profile for multidrug and extensive drug resistant tuberculosis in Portugal. 6th iMed.Ulisboa Postgraduate Students Meeting. Faculdade de Farmácia da Universidade de Lisboa. 2nd July 2014. Lisboa, Portugal.
13. João Perdigão, Hugo Silva, Diana Machado, Rita Macedo, Fernando Maltez, **Carla Silva**, Luísa Jordão, Isabel Couto, Kim Mallard, Francesc Coll, Grant A. Hill-Cawthorne, Ruth McNerney, Arnab Pain, Taane G. Clark, Miguel Viveiros, Isabel Portugal. 2013. Genomic diversity of drug-resistant *Mycobacterium tuberculosis* isolates in Lisbon Portugal: towards tuberculosis genomic epidemiology. MicroBiotec'13. 6th – 8th December 2013. Aveiro, Portugal.
14. Perdigão J, Macedo R, Machado D, **Silva C**, Jordao L, Couto I, Viveiros M, Portugal I. Polymorphism in *gidB* gene as a genetic marker for the *Mycobacterium tuberculosis* Q1 cluster and implications for the streptomycin resistance level. MicroBiotec'13, 6th – 8th December 2013. Aveiro, Portugal.
15. **Silva C**, Perdigão J, Jordao L, Portugal I. Novel mutations in *pncA*, associated with catalytic centre, might be related with PZA high resistance profile. MicroBiotec'13, 6th – 8th December 2013. Aveiro, Portugal.
16. **Silva C**, Perdigão J, Alverca E, Matos AP, Carvalho P, Portugal I, Jordao L. Exploring a link between mycobacteria structure and virulence. Molecular Biology in Portugal and EMBL (and EMBL Alumni), Lisbon. 18th July 2013. Lisboa, Portugal.
17. João Perdigão, Rita Macedo, Diana Machado, **Carla Silva**, Luísa Jordão, Isabel Couto, Miguel Viveiros, Isabel Portugal. Correlation between streptomycin intermediate level resistance and *gidB* mutation in an endemic multidrug-resistant tuberculosis cluster. 34th Annual Congress of the European Society of Mycobacteriology. 30th June – 3rd July 2013. Florence, Italy.
18. Perdigão J, Macedo R, **Silva C**, Portugal I. Laboratory data on drug-resistant tuberculosis in Lisbon Health Region. Tuberculosis 2012: Biology, pathogenesis, intervention strategies. 11th – 15th September 2012. Paris, France.
19. Perdigão J, Silva D, Pereira V, Macedo R, **Silva C**, Machado D, Couto I, Viveiros M, Jordão L, Portugal I. Dynamics and development of extensively drug-resistant tuberculosis, Portugal. Tuberculosis 2012: Biology, pathogenesis, intervention strategies. 11th – 15th September 2012. Paris, France.
20. **Silva C**, Perdigão J, Jordão L, Portugal I. Molecular analysis on resistant TB isolates in Portugal. Tuberculosis 2012: Biology, pathogenesis, intervention strategies. 11th – 15th September 2012. Paris, France.

21. Perdigão J, João I, Portugal I, **Silva C**, Jordão L, Characterization of *Mycobacterium tuberculosis* resistant strains circulating in a Lisbon hospital: a 2-year study. *8th International Conference on the Pathogenesis of Mycobacterial Infections*. 30th June – 3th July 2011. Saltsjobaden, Sweden.
22. **Silva C**, Perdigão J, Couto I, Viveiros M, Jordão L, Portugal I. Deletion analysis on multidrug-resistant *Mycobacterium tuberculosis* in Portugal. *32nd Annual Congress of the European Society of Mycobacteriology*. 26th – 29th June 2011. Lübeck, Germany.
23. Perdigão J, **Silva C**, Macedo R, Brum L, Portugal I. Mutational analysis of *eis* gene in injectable second-line *Mycobacterium tuberculosis* drug-resistant strains. *32nd Annual Congress of the European Society of Mycobacteriology*. 26th – 29th June 2011. Lübeck, Germany.
24. Perdigão J, Macedo R, **Silva C**, Pinto C, Furtado C, Brum L, Portugal I. Perspectiva Laboratorial da Tuberculose Resistente na Região de Saúde de Lisboa. *X & VIII Congresso Nacional de Doenças Infecciosas e Microbiologia Clínica & sobre SIDA*. 6th – 9th October 2010. Coimbra, Portugal.
25. Perdigão J, **Silva C**, Portugal I. Phylogenetic characterization of *Mycobacterium tuberculosis* Lisboa strains by Single Nucleotide Polymorphism analysis. *31st Annual Congress of the European Society of Mycobacteriology*. 4th-7th July 2010. Bled, Slovenia.
26. Perdigão J, Macedo R, **Silva C**, Pinto C, Furtado C, Brum L, Portugal I. Laboratory data report on drug-resistant tuberculosis in Lisbon Health Region between 2001-2006. *31st Annual Congress of the European Society of Mycobacteriology*. 4th-7th July 2010. Bled, Slovenia.
27. Perdigão J, **Silva C**, Portugal I. Deletion and Single Nucleotide Polymorphism typing of *Mycobacterium tuberculosis* Lisboa family strains in Portugal. *20th ECCMID*. 10th-13th April 2010. Vienna, Austria.
28. Perdigão J, **Silva C**, Portugal I. Genomic characterization of Lisboa family strains by deletion analysis. *30th Annual Congress of the European Society of Mycobacteriology*. 5th-8th July 2009. Porto, Portugal.

Fellowships

PhD fellowship (2011-2015). Fundação para a Ciência e Tecnologia, reference SFRH/BD/73579/2010.

PhD Researcher position, Scientific Employment (2019-2022). Fundação para a Ciência e Tecnologia, reference PTDC/BIA-MIC/30692/2017.

Membership of International and National Scientific Societies

Sociedade Portuguesa de Microscopia, since 2012

European Society of Mycobacteriology, since 2011

Languages

Portuguese native speaker

English: advanced reading, writing and conversation skills

Impact of the Scientific Activity

The scientific activity developed in the past decade, allowed the characterization of two unusual phylogenetic clades associated with primary multidrug and extensively drug resistant tuberculosis, resulting in a deeper understanding on the epidemiological and transmission dynamics of *Mycobacterium tuberculosis* multidrug resistant strains in Portugal.

The characterization of the regions of difference (RDs), single nucleotide polymorphisms (SNP) and SNP cluster analysis of the *M. tuberculosis* strains circulating in Lisbon were the starting point to establish the evolutionary pathway of the two unusual phylogenetic clades associated with primary MDR and XDR tuberculosis.

Moreover, C. Silva contributed to the first description of the morphologic and the physiologic traits of these two clades, unmasking features involved in *M. tuberculosis* pathogenesis with consequences for host infection and transmission dynamics. Additionally, she developed the first host-pathogen interaction study of Q1 and Lisboa3 clades, demonstrating the existence of distinct infection dynamic and different patterns of survival throughout the length of the infection. These shows the relative selective advantage of these clades over other *M. tuberculosis* strains circulating in Portugal.

Furthermore, C. Silva assisted in the development of an online platform (available at <http://cplp-tb.ff.ulisboa.pt>) aiming to provide an unprecedented resolution to track *M. tuberculosis* strain dissemination across the Lusophone space (CPLP-TB), with a vast network of collaborations spanning across five Portuguese-speaking countries. This is the first international molecular epidemiological database purposely developed to track strains across the Lusophone space.

Presently, C. Silva is a researcher of the Unit of Medical Microbiology, at the FCT GHTM Research Center at IHMT/UNL, where she is studying drug resistance mechanisms on Gram-negative bacteria for the development of new drugs.

Current Research Interests

Presently, C. Silva is a researcher of the Unit of Medical Microbiology, at the FCT GHTM Research Center at IHMT/UNL. Given the high prevalence of MDR- and XDR-tuberculosis and nosocomial infections (i.e. *Klebsiella pneumoniae*) infections nationwide, along with the alarming numbers of resistance to almost all antimicrobial agents available, C. Silva current research interests include the study of drug resistance mechanisms on *Mycobacterium tuberculosis* and Gram-negative bacteria (i.e. *Escherichia coli* and *Klebsiella pneumoniae*) for the development of new drugs, specifically focus on study efflux pumps and development of efflux inhibitors as adjuvants of treatment of these infections.

Other Relevant Activities

C. Silva had developed scientific activities as Medical writer in the Portuguese editorial magazine News Farma, Coloquialform Comunicação, Lda., specialized in health communications for medical doctors, nurses and pharmacists. C. Silva has produced several articles and brochures regarding different medical specialties; she had covered national and international scientific meetings and interviews with experts. C. Silva had also coordinated a special edition of Médico News magazine (<https://www.store.newsfarma.pt/medico-news/item/1742-especial-semana-digestiva-2019.html>). Given her expertise as Medical writer, C. Silva was invited to integrate the IHMT/NOVA Communication Office, where she has been written about IHMT research and daily activities.