

# Catarina Filipa Calixto Morais



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## Education

<b>2024/05/20</b>	<b>Course of Python Applied to Biomedical Sciences</b>
<b>2024/05/24</b>	28 hours NOVA University Lisbon - Instituto de Higiene e Medicina Tropical (Lisbon, Portugal)
<b>2024/01 – 2024/04</b>	<b>Study of bacterial genomes: from infection control to research for new molecules</b> University of Porto - Faculty of Pharmacy (Porto, Portugal)
<b>2017/10 – Present</b>	<b>PhD Biomedical Sciences – Specialization in Microbiology</b> NOVA University Lisbon - Instituto de Higiene e Medicina Tropical (Lisbon, Portugal) Experimental work for the Thesis project entitled “ <i>Antimicrobial resistance in staphylococci causing skin and soft-tissues infections</i> ”, under the orientation of Professor Doctor Isabel Couto and co-orientation of Professor Doctor Maria Constança Pomba and Doctor Sofia Santos Costa (since November 2018) <u>Financial support:</u> FCT doctoral grant (ref. UI/BD/151061/2021)
<b>2023/04/11</b>	E-learning course “Veterinary medicines and products”. LisbonPH (Lisbon, Portugal)
<b>2020/12/20</b>	E-learning course "Antimicrobial Stewardship in Veterinary Practice".
<b>2021/01/04</b>	British Society for Antimicrobial Chemotherapy (BSAC)
<b>2019/11/04</b>	E-learning course "The Role of Diagnostics in the Antimicrobial Resistance Response".
<b>2019/12/15</b>	London School of Hygiene & Tropical Medicine (London, United Kingdom)
<b>2011 - 2016</b>	<b>Integrated Master in Pharmaceutical Sciences</b> University of Lisbon - Faculty of Pharmacy (Lisbon, Portugal) "Aplicação de programas informáticos com doentes virtuais no ensino em ciências farmacêuticas" (Dissertation), under the orientation of Professor Doctor Afonso Cavaco

## Professional experience

<b>10/2019 – 09/2020</b>	<b>Assistant pharmacist</b> Farmácia Seixal (Seixal, Portugal)
<b>02/2019 – 09/2019</b>	<b>Assistant pharmacist</b> Farmácia Bento Lino (Seixal, Portugal)
<b>09/2017 – 02/2019</b>	<b>Pharmacist</b> Farmácia Bento Lino (Seixal, Portugal)

## I&D Projects

- 2023/06 – Present**      **Clarifying the role of efflux and mobilome on antimicrobial resistance and virulence in staphylococci**  
**(2022.15300.CBM)**
- NOVA University Lisbon - Instituto de Higiene e Medicina Tropical (Lisbon, Portugal)  
 Veterinary Centre for Resistance Research, Freie Universität Berlin (Berlin, Germany)
- Financial support:  
 Fundação para a Ciência e a Tecnologia (Portugal)  
 Deutscher Akademischer Austauschdienst (Germany)
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- 2018/09 – 2021/09**      **BIOSAFE - Preventing antimicrobial resistance in the community - the safe use of biocides**  
**(PTDC/CAL-EST/30713/2017)**
- NOVA University Lisbon - Instituto de Higiene e Medicina Tropical (Lisbon, Portugal)  
 University of Lisbon, Faculty of Veterinary Medicine (Lisbon, Portugal)
- Financial support:  
 Fundação para a Ciência e a Tecnologia (Portugal)  
 Fundo Europeu de Desenvolvimento Regional

## Publications

### Dissertations

**Morais, Catarina.** “Aplicação de programas informáticos com doentes virtuais no ensino em ciências farmacêuticas”. Integrated Master in Pharmaceutical Sciences. Faculty of Pharmacy, University of Lisbon, 2016.

### Articles

Leal, Marta; **Morais, Catarina**; Ramos, Bárbara; Pomba, Constança; Abrantes, Patrícia; Santos Costa, Sofia; Couto, Isabel. "O impacto do efluxo na suscetibilidade reduzida a biocidas e resistência a fluoroquinolonas em *Staphylococcus pseudintermedius*". Anais do Instituto de Higiene e Medicina Tropical 22 2 (2024): 87-92.  
<https://anaisihmt.com/index.php/ihmt/article/view/460>

**Morais, Catarina**; Santos Costa, Sofia; Leal, Marta; Ramos, Bárbara; Andrade, Mariana; Ferreira, Carolina; Abrantes, Patrícia; Pomba, Constança; Couto, Isabel. "Genetic diversity and antimicrobial resistance profiles of *Staphylococcus pseudintermedius* associated with skin and soft-tissue infections in companion animals in Lisbon, Portugal". Frontiers in Microbiology. 2023; 14:1167834. doi: 10.3389/fmicb.2023.1167834

Leal, Marta; **Morais, Catarina**; Ramos, Bárbara; Pomba, Constança; Abrantes, Patrícia; Santos Costa, Sofia; Couto, Isabel. "Exploring efflux as a mechanism of reduced susceptibility towards biocides and fluoroquinolones in *Staphylococcus pseudintermedius*". Animals. 2023; 13:1270. doi: 10.3390/ani13071270

Andrade, Mariana; Oliveira, Ketlyn; **Morais, Catarina**; Abrantes, Patrícia; Pomba, Constança; Rosato, Adriana; Couto, Isabel; Santos Costa, Sofia. "Biofilm-producing *Staphylococcus pseudintermedius*, *Staphylococcus aureus* and *Staphylococcus coagulans* causing skin infections in companion animals". Antibiotics. 2022; 11:1339. doi: 10.3390/antibiotics11101339

Santos Costa, Sofia; Ferreira, Carolina; Ribeiro, Rute; Febler, Andrea T; Schink, Anne-Kathrin; Kadlec, Kristina; Kaspar, Heike; Amaro, Ana; Albuquerque, Teresa; Abrantes, Patrícia; **Morais, Catarina**; Pomba, Constança; Couto, Isabel. "Proposal of Epidemiological Cutoff Values for Apramycin 15 mg and Florfenicol 30 mg disks applicable to *Staphylococcus aureus*". *Microbial Drug Resistance*. 2021. 27; 11:1555-1559. <http://dx.doi.org/10.1089/mdr.2020.0402>.

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### **Communications at congresses and other scientific meetings**

#### ⇒ **Posters at international congresses**

**Morais, Catarina**; Santos Costa, Sofia; Hanke, Dennis; Krüger-Haker, Henrike; Santos, Ana; Pomba, Constança; Feßler, Andrea T., Schwarz, Stefan; Couto, Isabel. "Genomic analysis of *Staphylococcus pseudintermedius* associated with skin and soft tissue infections in companion animals" (poster 91). *19<sup>th</sup> International Symposium on Staphylococci and Staphylococcal Infections*. Perth, Western Australia, 2024.

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**Morais, Catarina**; Ferreira, Carolina; Zacharias, Paula; Abrantes, Patrícia; Pomba, Constança; Couto, Isabel. "Assessment of chlorhexidine activity against *Staphylococcus aureus* and *Staphylococcus pseudintermedius* from skin and soft-tissue infections in companion animals" (abstract 05232). *32<sup>nd</sup> ECCMID 2023*. Copenhagen, Denmark, 2023.

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Andrade, Mariana; Oliveira, Ketlyn; **Morais, Catarina**; Abrantes, Patrícia; Pomba, Constança; Rosato, Adriana E; Couto, Isabel; Santos Costa, Sofia. "Increased virulence potential of biofilm-producing coagulase-positive staphylococci associated with animal pyoderma" (Abstract n. 3021). *32<sup>nd</sup> European Congress on Clinical Microbiology and Infectious Diseases (ECCMID) 2022*. Webconference/Lisbon, Portugal, 2022.

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Leal Marta; Santos Costa, Sofia; Ramos, Bárbara; **Morais, Catarina**; Ferreira, Carolina; Pomba, Constança; Couto, Isabel. "Efflux and biocide reduced susceptibility in *Staphylococcus pseudintermedius*" (Abstract n. 3760). *32<sup>nd</sup> European Congress on Clinical Microbiology and Infectious Diseases (ECCMID) 2022*. Webconference/Lisbon, Portugal, 2022.

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Andrade, Mariana; Oliveira, Ketlyn; **Morais, Catarina**; Abrantes, Patrícia; Pomba, Constança; Rosato, Adriana E; Couto, Isabel; Santos Costa, Sofia. "Increased virulence potential of biofilm-producing coagulase-positive staphylococci associated with animal pyoderma". *5<sup>th</sup> Annual Texas Medical Center Antimicrobial Resistance & Stewardship Conference*. Webconference, 2022.

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**Morais, Catarina**; Santos Costa, Sofia; Andrade, Mariana; Ramos, Bárbara; Leal, Marta; Abrantes, Patrícia; Pomba, Constança; Couto, Isabel. "Clonal lineages of *Staphylococcus pseudintermedius* associated with skin and soft tissue infections in pets, Portugal" (abstract 03395). *31<sup>st</sup> ECCMID 2021*. Webconference, 2021.

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**Morais, Catarina**; Santos Costa, Sofia; Abrantes, Patrícia; Pomba, Constança; Couto, Isabel. "Antibiotic resistance in *Staphylococcus pseudintermedius* associated with skin and soft tissue infections in dogs and cats" (abstract 6736). *30<sup>th</sup> ECCMID 2020*. Paris, France, 2020.

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Santos Costa, Sofia; Ribeiro, Rute; Oliveira, Valéria; Serrano, Maria; Ferreira, Carolina; **Morais, Catarina**; Pomba, Constança; Couto, Isabel. "Antibiotic and biocide resistance among staphylococci causing SSTIs in companion animals in Portugal" (Abstract n. 2556). *30<sup>th</sup> European Congress on Clinical Microbiology and Infectious Diseases (ECCMID) 2020*. Paris, France, 2020

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**Morais, Catarina**; Santos Costa, Sofia; Pomba, Constança; Couto, Isabel. "Antibiotic resistance in *Staphylococcus pseudintermedius* causing skin and soft tissue infections in pets" (abstract/page 99). *1<sup>st</sup> International Conference of the European College of Veterinary Microbiology*. Athens, Greece, 2019.

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Costa, Sofia Santos; Abrantes, Patrícia; **Morais, Catarina**; Viveiros, Miguel; Rosato, Adriana E.; Couto, Isabel. "Exploring the staphylococcal efflux-mediated response to ethidium bromide, an efflux pump substrate". *Gordon Conference "Multi-Drug Efflux Systems" 2019. Lucca, Italy, 2019.*

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⇒ **Posters at national congresses**

**Morais, Catarina**; Santos Costa, Sofia; Hanke, Dennis; Krüger-Haker, Henrike; Santos, Ana; Pomba, Constança; Feßler, Andrea T., Schwarz, Stefan; Couto, Isabel. "Plasmid profiling of *Staphylococcus pseudintermedius* associated with skin and soft tissue infections in companion animals" (poster P 4.49). *Congresso Nacional de Microbiologia e Biotecnologia (MicroBiotec 23). Covilhã, Portugal, 2023*

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Ferreira, Carolina; **Morais, Catarina**; Zacharias, Paula; Abrantes, Patrícia; Pomba, Constança; Couto, Isabel. "Chlorhexidine and benzalkonium chloride activity against *Staphylococcus aureus* and *Staphylococcus pseudintermedius* from skin and soft tissue infections in companion animals" (poster P 4.75). *Congresso Nacional de Microbiologia e Biotecnologia (MicroBiotec 23). Covilhã, Portugal, 2023*

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**Morais, Catarina**; Santos Costa, Sofia; Leal, Marta; Ramos, Bárbara; Andrade, Mariana; Ferreira, Carolina; Abrantes, Patrícia; Pomba, Constança; Couto, Isabel. "High antimicrobial resistance and genetic diversity in *Staphylococcus pseudintermedius* associated with skin and soft-tissue infections in companion animals in Lisbon, Portugal" (abstract ID39). *6º Congresso Nacional de Medicina Tropical. Lisbon, Portugal, 2023.*

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**Morais, Catarina**; Santos Costa, Sofia; Andrade, Mariana; Ramos, Bárbara; Leal, Marta; Abrantes, Patrícia; Pomba, Constança; Couto, Isabel "Molecular characterization of *Staphylococcus pseudintermedius* associated with skin and soft tissue infections in pets, Portugal". *Congresso Nacional de Microbiologia e Biotecnologia (MicroBiotec 21). Webconference/Lisbon, Portugal, online, 2021.*

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Ramos, Bárbara; Santos Costa, Sofia; Leal, Marta; **Morais, Catarina**; Pomba, Constança; Couto, Isabel. "Fluoroquinolone resistance and associated mechanisms in *Staphylococcus pseudintermedius*" (Abstract n. 416). *Congresso Nacional de Microbiologia e Biotecnologia (MicroBiotec 21). Webconference/Lisbon, Portugal, 2021.*

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Andrade Mariana; **Morais, Catarina**; Abrantes, Patrícia; Pomba, Constança; Couto, Isabel; Santos Costa, Sofia. "Biofilm production by *Staphylococcus pseudintermedius* associated with animal pyoderma" (Abstract n. 54). *Congresso Nacional de Microbiologia e Biotecnologia (MicroBiotec 21). Webconference/Lisbon, Portugal, 2021.*

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Leal, Marta; Santos Costa, Sofia; Ramos, Bárbara; **Morais, Catarina**; Ferreira, Carolina; Pomba, Constança; Couto, Isabel. "Evaluation of efflux activity in *Staphylococcus pseudintermedius* and its contribution for biocide decreased susceptibility" (Abstract n. 52). *Congresso Nacional de Microbiologia e Biotecnologia (MicroBiotec 21). Webconference/Lisbon, Portugal, 2021.*

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**Morais, Catarina**; Santos Costa, Sofia; Pomba, Constança; Couto, Isabel. "Molecular characterization of *Staphylococcus pseudintermedius* associated with skin and soft tissue infections in pets, Portugal". *12<sup>th</sup> edition of Jornadas Científicas do IHMT-NOVA. Lisbon, Portugal, 2021.*

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**Morais, Catarina**; Santos Costa, Sofia; Pomba, Constança; Couto, Isabel. "Resistência aos antibióticos em *Staphylococcus pseudintermedius* responsáveis por infeções de pele e tecidos moles em animais de companhia". *10ª edition of Jornadas Científicas do IHMT-NOVA. Lisbon, Portugal, 2019.*

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**Morais, Catarina**; Santos Costa, Sofia; Pomba, Constança; Isabel Couto. "Antibiotic resistance in *Staphylococcus pseudintermedius* associated with skin and soft tissue infections in companion animals" (abstract P237). *Congresso Nacional de Microbiologia e Biotecnologia (MicroBiotec 19). Coimbra, Portugal, 2019.*

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Santos Costa, Sofia; Abrantes, Patrícia; **Morais, Catarina**; Viveiros, Miguel; Rosato, Adriana; Couto, Isabel. "Exploring the staphylococcal efflux-mediated response to ethidium bromide" (abstract P154). *Congresso Nacional de Microbiologia e Biotecnologia (MicroBiotec19)*. Coimbra, Portugal, 2019.

Ferreira, Carolina; Santos Costa, Sofia; **Morais, Catarina**; Pomba, Constança; Isabel Couto. "Resistance to biocides and antibiotics in *Staphylococcus aureus* associated with SSTIs in ambulatory patients" (abstract P234). *Congresso Nacional de Microbiologia e Biotecnologia (MicroBiotec19)*. Coimbra, Portugal, 2019.

**Morais, Catarina**; Santos Costa, Sofia; Pomba, Constança; Couto, Isabel. "Antibiotic resistance in *Staphylococcus pseudintermedius* causing skin and soft tissue infections in pets" (Poster 7). *IV NOVA Genetics Workshop*. Lisbon, Portugal, 2019.

**Morais, Catarina**; Santos Costa, Sofia; Pomba, Constança; Couto, Isabel. "Resistência antimicrobiana em estafilococos causadores de infeções de pele e tecidos moles". *9ª edition of Jornadas Científicas do IHMT-NOVA*. Lisbon, Portugal, 2018.

## Activities

### Oral communications

**2023/12/14** Plasmid carriage of *Staphylococcus pseudintermedius* collected from skin and soft tissue infections in companion animals

XIV Jornadas Científicas do IHMT-NOVA

NOVA University Lisbon - Instituto de Higiene e Medicina Tropical (Lisbon, Portugal)

**2022/09/12** Antimicrobial resistance among *Staphylococcus pseudintermedius* causing SSTIs in companion animals

**2022/09/15** Summer School on Antimicrobial Resistance

NOVA University Lisbon - Instituto de Higiene e Medicina Tropical (Lisbon, Portugal)

**2019/11/21** Antimicrobial resistance among *Staphylococcus pseudintermedius* causing SSTIs in companion animals

Third GHTM Antimicrobial Resistance Awareness Day

NOVA University Lisbon - Instituto de Higiene e Medicina Tropical (Lisbon, Portugal)

### Participation in events

**22/07/2024** 2<sup>nd</sup> Summer School on Antimicrobial and Biocide Resistance

**26/07/2024** NOVA University Lisbon - Instituto de Higiene e Medicina Tropical (Lisbon, Portugal)

**2019/09/27** Noite Europeia dos Investigadores - European Researchers' Night – Scientific dissemination action "Antimicrobial resistance: the role of biocides and the new weapon to the fight against superbugs" in the scope of BIOSAFE project.

Noite Europeia dos Investigadores 2019

University of Lisbon - Museu Nacional de História Natural (Lisbon, Portugal)

**2019/03/14** 3<sup>rd</sup> Meeting of the ONEIDA Consortium - An Omics network to prevent and control Infectious Diseases and Antimicrobial Resistance

3<sup>rd</sup> ONEIDA Meeting

NOVA University Lisbon - Instituto de Tecnologia Química e Biológica (Lisbon, Portugal)

**2019/12/03** I International Conference NOVAhealth on Chronic Disease and Infection with the theme "Resistance to antibiotics: from prevention to control of infection in "One Health"

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I International Conference NOVAhealth on Chronic Disease and Infection  
NOVA University Lisbon (Lisbon, Portugal)

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**2022/09/12** Summer School on Antimicrobial Resistance  
**2022/09/15** NOVA University Lisbon - Instituto de Higiene e Medicina Tropical (Lisbon, Portugal)

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**2018/04/04** – Writing for publication: a doctoral skills workshop  
**2018/04/05** Workshop with Karine Kielmann (Queen Margaret University – Institute for Global Health and development)  
NOVA University Lisbon - Instituto de Higiene e Medicina Tropical (Lisbon, Portugal)

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### **Participation in GHTM and IHMT center activities**

**2019/12/19** Representative of GHTM students in the external evaluation of teaching/research in Public Health area by the ASPHER panel.

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**2019/05/06** Representative of GHTM students in the external evaluation of GHTM center.

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### **Other activities**

**22/07/2024** Monitors DNA extraction and sequencing laboratory activities  
**26/07/2024** 2<sup>nd</sup> Summer School on Antimicrobial and Biocide Resistance  
NOVA University Lisbon - Instituto de Higiene e Medicina Tropical (Lisbon, Portugal)

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**2023/10/09** – Experimental work on the laboratory of the Faculty of Veterinary Medicine of Freie Universität Berlin (Berlin, Germany)  
**2023/10/27** Supervisor: Professor Stefan Schwarz  
Financial support: Bilateral PT-Germany (FCT/DAAD) mobility project 2022.15300.CBM

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## **Scientific Societies and Professional Orders**

**2019 – Present** Member of the Portuguese Society of Microbiology

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**2017 – Present** Member of I&D Global Health and Tropical Medicine Center

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**2016 – Present** Member of the Pharmaceutical order

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