



# MILENE COSTA DA SILVA, PhD

Scientist passionate about presenting scientific data and translational scientific research.  
Interested in nanotechnology, immuno-therapy, biotech and health industry.  
Excellent speaker; creative thinking and problem-solving enthusiast.

## FIELDS OF EXPERTISE

Iron metabolism  
Cancer biology  
Tumor immunology  
Macrophage biology  
Nanoparticle-based therapy  
Hematology

## LANGUAGES

### Portuguese

Native proficiency

### English

Full professional proficiency

### German

Basic working proficiency (B1 level)

### Spanish

Basic proficiency

### French

Basic proficiency

## EDUCATION

**PhD degree in Biology** - Approved with Distinction  
University of Porto and University of Heidelberg | 2011-2016

Graduate Program in Areas of Basic and Applied Biology (GABBA), Porto, Portugal  
The Hartmut Hoffmann-Berling International Graduate School of Molecular and Cellular Biology (HBIGS), Heidelberg Germany

Dissertation: "Heme and iron shape macrophage plasticity: a role in hemolytic disorders and cancer?"

Supervisors: Dr. Martina U. Muckenthaler and Dr. Adelheid Cerwenka

**Basic Certificate in Project Management (GPM/IPMA)**  
PM-Zert Nuremberg | 2015

**European Business Competence License, Level A (EBC\*L)**  
ABB Training Center, Heidelberg | 2015

**University Degree** (Licenciatura) in Pathological Anatomy, Cytology and Thanatology  
School of Allied Health Sciences, Polytechnic Institute of Porto | 2004 - 2008  
*16 values out of 20*

## WORK EXPERIENCE

**Research Fellow** | January 2019 - present  
INL – International Iberian Nanotechnology Laboratory

**Postdoctoral Fellow** | July 2018 – December 2018  
Helmholtz Zentrum München - Deutsches Forschungszentrum für Gesundheit und Umwelt

**Postdoctoral Fellow** | Nov 2016 - Dec 2017  
Molecular Medicine Partnership Unit (MMPU) University of Heidelberg / European Molecular Biology laboratory (EMBL) / German Cancer Research Center (DKFZ)

**PhD student** | Jan 2011 - Oct 2016  
Molecular Medicine Partnership Unit (MMPU) University of Heidelberg / European Molecular Biology laboratory (EMBL) / German Cancer Research Center (DKFZ), Heidelberg, Germany (Jan2012-Oct2016)

**Research Fellow** | Sep 2009 - Dec 2010  
Institute of Molecular Medicine, Lisbon, Portugal  
Project: "Regulation of ZAP-70 and PTEN activity and stability in chronic lymphocytic leukemia: prognostic and therapeutic implications"

**Research Fellow** | Oct 2008 - Jul 2009  
Institute for Molecular and Cell Biology, Porto, Portugal  
Project: "Profiling the ubiquitin protease activity of ataxin-3: a biochemical and structural approach"

**Laboratory Technician** | Oct 2007 - Sep 2008  
Laboratory Technician at Institute for Molecular and Cell Biology, Centre for Predictive and Preventive Genetics, Porto, Portugal

**Histology Technician** | Jul 2007 - Sep 2007  
Histology Technician at Serviço de Anatomia Patológica, Citológica e Tanatológica, Centro Hospitalar de Vila Nova de Gaia

## COMPETENCES AND SKILLS

### Scientific/Technical skills

Flow cytometry; Cell Culture; Mouse models for cancer; Mouse handling (FELASA B certificate); Histology; Microscopy; qRT-PCR; Western blot; Magnetic cell isolation; Immunohistochemistry; Immunofluorescence.

### Communication

Excellent speaker (won several awards for best presentation in international conferences).

INVITED SPEAKER at European Iron Club 2017, Münster, Germany

Attended courses in “Scientific Writing” and “Presenting Research Results” | HBIGS 2012

### Leadership/management

Supervision of a PhD student | Mar 2017 - Dec 2017

Supervision of a medical student | Sep 2016 - Dec 2017

Basic Certificate in Project Management (GPM/IPMA) |2015

### Teaching

Lecturer | Winter semester 2013 - 2014, 2014 - 2015, 2015 - 2016, 2016 – 2017 - University of Heidelberg:

“The Molecular Medicine Partnership Unit Teaching - From bench to bedside - and back” teaching module “Iron and Cancer”.

### Additional soft skills

Creativity | Teamwork | Problem solving | Fast learner | Proactivity | Goals and results-driven

## PUBLICATIONS

Scopus Author ID: 56288529500



<https://orcid.org/0000-0001-6951-2504>

ResearcherID: V-1976-2018

Ribeiro, D., Melao, A., van Boxtel, R., Santos, C.I., Silva, A., **Silva, M.C.**, Cardoso, B.A., Coffey, P.J., and Barata, J.T. (2018). STAT5 is essential for IL-7-mediated viability, growth, and proliferation of T-cell acute lymphoblastic leukemia cells. *Blood advances* 2, 2199-2213 DOI: 10.1182/bloodadvances.2018021063

**Costa da Silva, M.**, Breckwoldt, M.O., Vinchi, F., Correia, M.P., Stojanovic, A., Thielmann, C.M., Meister, M., Muley, T., Warth, A., Platten, M., Hentze, M.W., Cerwenka, A., and Muckenthaler, M.U. (2017). Iron Induces Anti-tumor Activity in Tumor-Associated Macrophages. *Frontiers in immunology* 8, 1479 DOI: 10.3389/fimmu.2017.01479

Kirschbaum, K., Sonner, J.K., Zeller, M.W., Deumelandt, K., Bode, J., Sharma, R., Kruwel, T., Fischer, M., Hoffmann, A., **Costa da Silva, M.**, Muckenthaler, M.U., Wick, W., Tews, B., Chen, J.W., Heiland, S., Bendszus, M., Platten, M., and Breckwoldt, M.O. (2016). In vivo nanoparticle imaging of innate immune cells can serve as a marker of disease severity in a model of multiple sclerosis. *Proceedings of the National Academy of Sciences of the United States of America* 113, 13227-13232 DOI: 10.1073/pnas.1609397113

Vinchi, F., **Costa da Silva, M.\***, Ingoglia, G., Petrillo, S., Brinkman, N., Zuercher, A., Cerwenka, A., Tolosano, E., and Muckenthaler, M.U. (2016). Hemopexin therapy reverts heme-induced proinflammatory phenotypic switching of macrophages in a mouse model of sickle cell disease. *Blood* 127, 473-486 DOI: 10.1182/blood-2015-08-663245

\*First equal contribution

Vinchi, F., Muckenthaler, M.U., **Da Silva, M.C.**, Balla, G., Balla, J., and Jeney, V. (2014). Atherogenesis and iron: from epidemiology to cellular level. *Frontiers in pharmacology* 5, 94 DOI: 10.3389/fphar.2014.00094

Zenatti, P.P., Ribeiro, D., Li, W., Zuurbier, L., **Silva, M.C.**, Paganin, M., Tritapoe, J., Hixon, J.A., Silveira, A.B., Cardoso, B.A., Sarmiento, L.M., Correia, N., Toribio, M.L., Kobarg, J., Horstmann, M., Pieters, R., Brandalise, S.R., Ferrando, A.A., Meijerink, J.P., Durum, S.K., Yunes, J.A., and Barata, J.T. (2011). Oncogenic IL7R gain-of-function mutations in childhood T-cell acute lymphoblastic leukemia. *Nature genetics* 43, 932-939 DOI: 10.1038/ng.924

Martins, L.R., Lucio, P., **Silva, M.C.**, Gameiro, P., Silva, M.G., and Barata, J.T. (2011). On CK2 regulation of chronic lymphocytic leukemia cell viability. *Molecular and cellular biochemistry* 356, 51-55 DOI: 10.1007/s11010-011-0947-6

Martins, L.R., Lucio, P., **Silva, M.C.**, Anderes, K.L., Gameiro, P., Silva, M.G., and Barata, J.T. (2010). Targeting CK2 overexpression and hyperactivation as a novel therapeutic tool in chronic lymphocytic leukemia. *Blood* 116, 2724-2731 DOI: 10.1182/blood-2010-04-277947

## AWARDS

### **Best oral communication** | 2015

“6th Meeting of the International Bioiron Society”, Hangzhou, China

### **Best poster presentation** | 2015

2015 TLRC Lung Conference/ 4th DZL International Symposium, Heidelberg, Germany

### **Fellowship “Stiftungen und Preise”** | 2012

Prize of 10.000€ awarded by the Faculty of Medicine, Heidelberg for the project “The role of iron metabolism in cancer and in the polarization of Tumor-associated macrophages”

### **Fellowship GABBA** | 2010

Recipient of a highly competitive PhD Fellowship awarded to 12 students each year. The fellowship covers full-stipend for 4 years and it is awarded by the Graduate Program in Areas of Basic and Applied Biology (GABBA), Porto, Portugal and Foundation for Science and Technology (FCT) Lisbon, Portugal

### **Best oral communication** | 2010

“Congress: XI Congresso Técnico de Anatomia Patológica, Évora 2010” with the presentation “Targeting CK2 overexpression and hyperactivation as a novel therapeutic tool in chronic lymphocytic leukemia”

## CONFERENCE PARTICIPATION AND PRESENTATIONS

**INVITED SPEAKER** European Iron Club 2017, Münster, Germany

**Poster presentation** Bioiron 2017, Los Angeles, USA

**Oral communication** European iron Club 2016, Innsbruck, Austria

**Oral communication** Bioiron 2015, Hangzhou, China

**Poster presentation** TLRC Lung Conference 2015 / 4th DZL International Symposium, Heidelberg, Germany

**Oral communication** European Iron Club 2014, Verona, Italy

**Poster presentation** Bioiron 2013, London, UK

**Poster presentation** European Iron Club 2012, Rennes, France

**Attendance** National Meeting on Signal Transduction – SINAL 2010, Faro, Portugal

**Oral communication** 2010 XI Congresso Técnico de Anatomia Patológica, Évora, Portugal

## EXTRACURRICULAR ACTIVITIES

### **Artistic skills**

Performer in theater and jazz singer

## REFERENCES

### **Prof. Dr. phil. nat.**

#### **Martina U. Muckenthaler**

Otto-Meyerhof-Zentrum (OMZ)  
Im Neuenheimer Feld 350  
69120 Heidelberg Germany  
+49 6221 56 6923

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### **Prof. Dr. Adelheid Cerwenka**

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### **Dr. João T. Barata, PhD**

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