

André F. Rendeiro

Curriculum Vitae

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Current position

2014-present **PhD student**, CeMM Research Centre for Molecular Medicine of the Austrian Academy of Sciences, Vienna, Austria, Christoph Bock's lab.

Education

2012-2014 **Masters in Molecular and Cell Biology**, University of Aveiro, Portugal.

2008-2012 **Bachelor in Biology**, University of Aveiro, Portugal.

Experience

Scientific Activity

2014-present **PhD student**, CeMM Research Centre for Molecular Medicine of the Austrian Academy of Sciences, Vienna, Austria, Christoph Bock's lab.

2013-2014 **The role of E2F regulation and H3K79 methylation in *Oikopleura dioica*'s cell cycle modes**, Sars International Centre for Marine Molecular Biology, Bergen, Norway, Eric Thompson's lab.

I investigated the molecular mechanisms of alternative cell cycle modes (particularly endocycles) in the chordate *Oikopleura dioica* by performing ChIP-seq on transcription factors involved in cell cycle regulation (E2F). I also studied the role of H3K79me on cell cycle regulation through functional studies on its methyltransferase, Dot1.

2011-2012 **Identification of cis-regulatory elements in *Nematostella vectensis* using ChIP-seq**, Dept. of Molecular Evolution and Development, University of Vienna, Austria, Uli Technau's lab.

I performed ChIP-seq of chromatin modifications and other regulatory proteins over several developmental stages of *Nematostella vectensis*, constructed a map of chromatin states and predicted cis-regulatory elements genome-wide. I also tested the function of some of these regions *in vivo* in a reporter assay.

2010-2011 **Tol2-mediated zebrafish transgenesis for studies in protein mistranslation**, RNA Biology Laboratory, Biology Department, University of Aveiro, Portugal, Manuel Santos' lab.

I created transgenic zebrafish that were used as a model for studies in neurodegeneration through protein aggregation. This was caused by increasing the level of translational error (mistranslation) during endogenous protein synthesis. I learned to build plasmid constructs, microinject them in zebrafish and screen for phenotypes.

2009-2010 **Transcriptome studies with microarrays in heat-shocked yeast**, *RNA Biology Laboratory, Biology Department, University of Aveiro, Portugal*, Manuel Santos' lab.

I was involved in the analysis of microarray expression data from yeast under various treatments. I learned to pre-process, normalize and explore data programmatically to detect significant differential gene expression, clustering genes and exploring their gene ontology across treatments.

Publications

Peer
reviewed

1. Christian Schmidl*, André F. Rendeiro*, Nathan C Sheffield, Christoph Bock. 2015. **ChIPmentation: fast, robust, low-input ChIP-seq for histones and transcription factors**. *Nature Methods*. doi:10.1038/nmeth.3542
2. Michaela Schwaiger, Anna Schönaauer, André F. Rendeiro, Carina Pribitzer, Alexandra Schauer, Anna Gilles, Johannes Schinko, David Fredman, and Ulrich Technau. **Evolutionary conservation of the eumetazoan gene regulatory landscape**. *Genome Research*, 1–12. doi:10.1101/gr.162529.113

* *equal contributions*

Non-peer
reviewed

1. André F. Rendeiro, Pavla Navratilova, Eric Thompson (2014). **Chromatin preparation for ChIP-seq in *Oikopleura dioica***. figshare. <http://dx.doi.org/10.6084/m9.figshare.884562>

Communications

Conference
talks

1. Michaela Schwaiger, Anna Schönaauer, André F. Rendeiro, Carina Pribitzer, Alexandra Schauer, Anna Gilles, Johannes Schinko, David Fredman, and Ulrich Technau. **Evolutionary conservation of the eumetazoan gene regulatory landscape**. *XVIII Portuguese Genetics Society Meeting*, June 2013. Porto, Portugal

Conference
posters

1. Anna Schönaauer, André F. Rendeiro, Michaela Schwaiger, Ulrich Technau. **Identification of cis-regulatory elements in the sea anemone *Nematostella vectensis***. *Evonet Symposium*, September 2012, Vienna Austria. <http://dx.doi.org/10.6084/m9.figshare.107026>

Skills

Computational

Programming
languages

Python, R, Perl, C/C++

In this order of proficiency

Web
development

HTML, CSS, PHP, Javascript, Django, Wordpress

Bioinformatics ChIP-seq/ATAC-seq/DNase-seq data analysis; gene expression data analysis (microarray and RNA-seq); *de novo* transcriptome assembly and annotation; method implementation

Molecular Biology

Techniques Zebrafish chemical screening, Chromatin immunoprecipitation (ChIP), Library preparation, Western and Northern blotting, PCR, qRT-PCR, SDM PCR, molecular cloning, zebrafish and *Nematostella* microinjection, immunohistochemistry/fluorescence and confocal microscopy

Advanced courses

2011 Scientific writing course (Maria Dornelas - University of St. Andrews)

Awards/Scholarships

2013-2014 **Erasmus studies mobility program scholarship.**

European Commission

2011-2012 **Erasmus internship mobility program scholarship.**

European Commission

2009-2010 **'Integration into Research' Grant.**

Science and Technology Foundation - Portugal

Associative/Administrative positions

2010-2012 Member of the Biology department counsel, University of Aveiro

2009-2011 Member of the undergraduate Biology committee, University of Aveiro

Languages

Portuguese Native speaker

English Very good

Fluent

Spanish Conversational

German Basic

Basic words and phrases only

French Basic

Basic words and phrases only

Other interests

○ Classical singing

○ Opera

○ Choir conducting

○ Piano

○ Literature

○ Cinema

○ Coding websites and web apps