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.

Publications

Peer reviewed

Paul Datlinger, <u>André F Rendeiro</u>*, Christian Schmidl*, Thomas Krausgruber, Peter Traxler, Johanna Klughammer, Linda C Schuster, Amelie Kuchler, Donat Alpar, Christoph Bock. **Pooled CRISPR screening with single-cell transcriptome readout**. Nature Methods. (2017) doi:10.1038/nmeth.4177

Roman A Romanov, Amit Zeisel, Joanne Bakker, Fatima Girach, Arash Hellysaz, Raju Tomer, Alán Alpár, Jan Mulder, Frédéric Clotman, Erik Keimpema, Brian Hsueh, Ailey K Crow, Henrik Martens, Christian Schwindling, Daniela Calvigioni, Jaideep S Bains, Zoltán Máté, Gábor Szabó, Yuchio Yanagawa, Ming-Dong Zhang, <u>Andre Rendeiro</u>, Matthias Farlik, Mathias Uhlén, Peer Wulff, Christoph Bock, Christian Broberger, Karl Deisseroth, Tomas Hökfelt, Sten Linnarsson, Tamas L Horvath, Tibor Harkany. **Molecular interrogation of hypothalamic organization reveals distinct dopamine neuronal subtypes**. Nature Neuroscience. (2016) doi:10.1038/nn.4462

Clara Jana-Lui Busch, Tim Hendrikx, David Weismann, Sven Jäckel, Sofie M. A. Walenbergh, <u>André F. Rendeiro</u>, Juliane Weißer, Florian Puhm, Anastasiya Hladik, Laura Göderle, Nikolina Papac-Milicevic, Gerald Haas, Vincent Millischer, Saravanan Subramaniam, Sylvia Knapp, Keiryn L. Bennett, Christoph Bock, Christoph Reinhardt, Ronit Shiri-Sverdlov, Christoph J. Binder. **Malondialdehyde epitopes are sterile mediators of hepatic inflammation in hypercholesterolemic mice**. Hepatology. (2016) doi:10.1002/hep.28970

<u>André F Rendeiro</u>*, Christian Schmidl*, Jonathan C. Strefford*, Renata Walewska, Zadie Davis, Matthias Farlik, David Oscier, Christoph Bock. **Chromatin accessibility maps of chronic lymphocytic leukaemia identify subtype-specific epigenome signatures and transcription regulatory networks**. Nature Communications. 7:11938 (2016) doi:10.1038/ncomms11938

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

Michaela Schwaiger, Anna Schönauer, 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

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

Michaela Schwaiger, Anna Schönauer, 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

André F Rendeiro*, Christian Schmidl*, Jonathan C. Strefford*, Renata Walewska, Zadie Davis, Matthias Farlik, David Oscier, Christoph Bock. **Large-scale chromatin profiling uncovers heterogeneity of molecular phenotypes and gene regulatory networks of chronic lymphocytic leukemia**. *Young Scientist Association of the Medical University of Vienna PhD Symposia*, June 2016, Vienna, Austria. https://doi.org/10.6084/m9.figshare.3479528.v1 **Best poster award in "Malignant Diseases" category**.

André F Rendeiro*, Christian Schmidl*, Jonathan C. Strefford*, Renata Walewska, Zadie Davis, Matthias Farlik, David Oscier, Christoph Bock. **Large-scale chromatin profiling uncovers heterogeneity of molecular phenotypes and gene regulatory networks of chronic lymphocytic leukemia**. *Keystone Symposia on Chromatin and Epigenetics*, March 2016, Whistler, Vancouver, Canada. https://doi.org/10.6084/m9.figshare.3479528.v1

Anna Schönauer, 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

* *equal contributions*

Skills

Computational

Programming languages	Python, R
Bioinformatics	ATAC-seq/ChIP-seq/RNA-seq data analysis; single-cell RNA-seq analysis; Machine learning; Software development
Web development	Flask/Django, Javascript

Molecular Biology

Techniques	Chromatin imunoprecipitation (ChIP), library preparation, Western and Northern blotting, PCR, molecular cloning, chemical screening, zebrafish and *Nematostella* handling and microinjection, immunohistochemistry, fluorecence and confocal microscopy

Additional experience

Scientific Activity

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 **Transciptome 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, normalise and explore data programmatically to detect significant differential gene expression, clustering genes and exploring their ontology across treatments.

Associative/Administrative

2010-2012	Member of the Biology department counsel, University of Aveiro
2009-2011	Member of the undergraduate Biology committee, University of Aveiro

Advanced courses

September 2015	Summer School on Machine Learning for Personalised Medicine - Marie Curie Initial Training Network, Manchester, UK
September 2012	Scientific writing course - University of Aveiro

Awards/Scholarships

June 2016	**Best poster award - "Malignant diseases" category**, *YSA Symposium.* Young Scientist Association of the Medical University of Vienna
June 2016	**Best artwork award - "Illustrations and digital simulations" category**, *ScienceArt Competition of the YSA Symposium.* Young Scientist Association of the Medical University of Vienna
2013-2014	**Erasmus studies mobility program scholarship**. European Commission
2011-2012	**Erasmus intership mobility program scholarship**. European Commission
2009-2010	**"Integration into Research" Grant**. Science and Technology Foundation - Portugal

Languages

Portuguese	Native speaker	
English	Very good	
Spanish	Conversational	
German	Basic	*Basic words and phrases only*
French	Basic	*Basic words and phrases only*

Other interests

- Ballroom dancing
- Singing
- Choral conducting
- Cinema
- Opera
- Piano