

# André F. Rendeiro

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## Current position

2022/06 - **Principal Investigator**, CeMM Research Center for Molecular Medicine of the Austrian Academy of Sciences, Austria

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## Past positions and Education

2020/03 - 2022/04 **Postdoctoral Associate in Computational Biomedicine**, Institute of Computational Biomedicine, Engländer Institute for Precision Medicine, Weill Cornell Medicine, USA  
Supervisor: Olivier Elemento

2014/09 - 2020/01 **PhD**, Medical University of Vienna, Austria  
Supervisor: Christoph Bock, CeMM Research Centre for Molecular Medicine

2012/09 - 2014/06 **MSc in Molecular and Cell Biology**, University of Aveiro, Portugal

2008/09 - 2012/07 **BSc in Biology**, University of Aveiro, Portugal

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## Key research

1. Kim *et al.*, <sup>Ω</sup> **Unsupervised discovery of tissue architecture in multiplexed imaging**. Nature Methods (2022). doi:10.1038/s41592-022-01657-2
2. Rendeiro\*, Ravichandran\* *et al.*, **The spatial landscape of lung pathology during COVID-19 progression**. Nature (2021). doi:10.1038/s41586-021-03475-6
3. Datlinger\*, Rendeiro\*, *et al.* **Ultra-high throughput single-cell RNA sequencing by combinatorial fluidic indexing**. Nature Methods (2021). doi:10.1038/s41592-021-01153-z
4. Rendeiro\*, Krausgruber\* *et al.*, **Chromatin mapping and single-cell immune profiling define the temporal dynamics of ibrutinib drug response in CLL**. Nature Communications (2020). doi:10.1038/s41467-019-14081-6
5. Datlinger, Rendeiro\*, Schmidl\* *et al.*, **Pooled CRISPR screening with single-cell transcriptome readout**. Nature Methods (2017). doi:10.1038/nmeth.4177

\* equal first-author contributions; <sup>Ω</sup> joint corresponding authors

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## Grants, fellowships and awards

2022 - 2027 **Aging and Longevity research grant**, Angelini Ventures S.p.A. Rome, Italy, PI, 750k EUR

2020 - 2022 **Molecular and Translational Oncology Research (MTOR) training program**, National Cancer Institute, USA, Postdoc

2016 **Best artwork award - 'Illustrations and digital simulations' category**, Young Scientist Association of the Medical University of Vienna, PhD student

2016 **Best poster award - 'Malignant diseases' category**, Young Scientist Association of the Medical University of Vienna, PhD student

2013 - 2014 **Erasmus studies mobility program scholarship**, European Commission, Master studies

2011 - 2012 **Erasmus studies mobility program scholarship**, European Commission, Undergrad studies

2009 - 2010 **'Integration into Research' Grant**, Science and Technology Foundation, Portugal, Undergrad studies

## Publications

Publications: 42 (37 peer reviewed, 4 preprints, 12 first-author, 2 last-author)

Citations: 4846 (4619 last 5 years)

h-index: 25 (25 last 5 years)

Google Scholar Profile: <https://scholar.google.com/citations?user=lj17pqEAAAAJ>

\* *equal first-author contributions* <sup>Ω</sup> *joint corresponding authors*

Preprints (does not include preprints later published in peer-reviewed journals)

4. Everardo Hegewisch-Sollosa, Janine E Melsen, Hiranmayi Ravichandran, André F. Rendeiro, Aharon G Freud, Bethany Mundy-Bosse, Johannes C Melms, Shira E Eisman, Benjamin Izar, Eli Grunstein, Thomas J Connors, Olivier Elemento, Amir Horowitz, Emily Mace. **Mapping human natural killer cell development in tonsil**. *BioRxiv* (2023). doi:10.1101/2023.09.05.556371
3. Oleksandr Petrenko, Philipp Königshofer, Ksenia Brusilovskaya, Benedikt S Hofer, Katharina Bareiner, Benedikt Simbrunner, Michael Trauner, Stefan G Kauschke, Larissa Pfisterer, Eric Simon, André F. Rendeiro, Laura P M H de Rooij, Philipp Schwabl, Thomas Reiberger. **Transcriptomic signatures of progressive and regressive liver fibrosis and portal hypertension**. *bioRxiv* (2023). doi:10.1101/2023.07.22.550133
2. André F. Rendeiro\*, Hiranmayi Ravichandran\*, Junbum Kim, Alain C. Borczuk, Olivier Elemento, Robert E. Schwartz. **Persistent alveolar type 2 dysfunction and lung structural derangement in post-acute COVID-19**. *medRxiv* (2022). doi:10.1101/2022.11.28.22282811
1. Kentaro Ohara, André F. Rendeiro, Bhavneet Bhinder, Kenneth Wha Eng, Hiranmayi Ravichandran, David Pisapia, Aram Vosoughi, Evan Fernandez, Kyryllus Shohdy, Jyothi Manohar, Shaham Beg, David Wilkes, Brian Robinson, Francesca Khani, Rohan Bareja, Scott Tagawa, Andrea Sboner, Olivier Elemento, Bishoy Morris Faltas, Juan Miguel Mosquera. **The evolution of genomic, transcriptomic, and single-cell protein markers of metastatic upper tract urothelial carcinoma**. *BioRxiv* (2021). doi:10.1101/2021.11.16.468622

### Peer reviewed publications

37. David J. Falvo, Adrien Grimont, Paul Zumbo, William B. Fall, Julie L. Yang, Alexa Osterhoudt, Grace Pan, André F. Rendeiro, Yinuo Meng, John E. Wilkinson, Friederike Dünder, Olivier Elemento, Rhonda K. Yantiss, Erika Hissong, Richard Koche, Doron Betel, Rohit Chandwani. **A reversible epigenetic memory of inflammatory injury controls lineage plasticity and tumor initiation in the mouse pancreas**. *Developmental Cell* (2023). doi:10.1016/j.devcel.2023.11.008
36. Jin-Gyu Cheong, Arjun Ravishankar, Siddhartha Sharma, Christopher N Parkhurst, Simon Grassmann, Claire K Wingert, Paoline Laurent, Sai Ma, Lucinda Paddock, Isabella Miranda, Onur Karakaslar, Djamel Nehar-Belaid, Asa Thibodeau, Michael J Bale, Vinay K Kartha, Jim K Yee, Minh Y Mays, Chenyang Jiang, Andrew W Daman, Alexia Martinez de Paz, Dughan Ahimovic, Victor Ramos, Alexander Lercher, Erik Nielsen, Sergio Alvarez-Mullett, Ling Zheng, Andrew Earl, Alisha Yallowitz, Lexi Robbins, Elyse LaFond, Karissa Weidman, Sabrina Racine-Brzostek, He S Yang, David Price, André F. Rendeiro, Hiranmayi Ravichandran, Junbum Kim, Alain C Borczuk, Charles M Rice, R. Brad Jones, Edward J Schenck, Robert J Kaner, Amy Chadburn, Zhen Zhao, Virginia Pascual, Olivier Elemento, Robert E Schwartz, Jason Buenrostro, Rachel E Niec, Franck J Barrat, Lindsay Lief, Joe Sun, Duygu Ucar, Steven Z Josefowicz. **Epigenetic memory of coronavirus infection in innate immune cells and their progenitors**. *Cell* (2023). doi:10.1016/j.cell.2023.07.019
35. Evan K Noch, Laura N Palma, Isaiah Yim, Nayah Bullen, Yuqing Qiu, Hiranmayi Ravichandran, Junbum Kim, André F. Rendeiro, Melissa B Davis, Olivier Elemento, David J Pisapia, Kevin Zhai, H Carl LeKaye, Jason A Koutcher, Patrick Y Wen, Keith L Ligon, Lewis C Cantley. **Insulin feedback is a targetable resistance mechanism of PI3K inhibition in glioblastoma**. *Neuro-Oncology* (2023). doi:10.1093/neuonc/noad117
34. Samir Rustam, Yang Hu, Seyed Babak Mahjour, André F. Rendeiro, Hiranmayi Ravichandran, Andreacarola Urso, Frank D'Ovidio, Fernando J. Martinez, Nasser K. Altorki, Bradley Richmond, Vasiliy Polosukhin, Jonathan A. Kropski, Timothy S. Blackwell, Scott H. Randell, Olivier Elemento, Renat Shaykhiev. **A Unique Cellular Organization of Human Distal Airways and Its Disarray in Chronic Ob-**

- structive Pulmonary Disease.** American Journal of Respiratory and Critical Care Medicine (2023). doi:10.1164/rccm.202207-1384OC
33. Jiwoon Park, Junbum Kim, Tyler Lewy, Charles M. Rice, Olivier Elemento, André F. Rendeiro, Christopher E. Mason. **Spatial omics technologies at multimodal and single cell/subcellular level.** Genome Biology (2022). doi:10.1186/s13059-022-02824-6
  32. Junbum Kim, Samir Rustam, Juan Miguel Mosquera, Scott H. Randell, Renat Shaykhiev, André F. Rendeiro<sup>Ω</sup>, Olivier Elemento<sup>Ω</sup>. **Unsupervised discovery of tissue architecture in multiplexed imaging.** Nature Methods (2022). doi:10.1038/s41592-022-01657-2
  31. Paoline Laurent\*, Chao Yang\*, André F. Rendeiro\*, Benjamin E. Nilsson-payant, Lucia Carrau, Vasuretha Chandar, Yaron Bram, Benjamin R. Tenoever, Olivier Elemento, Lionel B. Ivashkiy, Robert E. Schwartz, Franck J. Barrat. **Sensing of SARS-CoV-2 by pDCs and their subsequent production of IFN-I contribute to macrophage-induced cytokine storm during COVID-19.** Science Immunology (2022). doi:10.1126/sciimmunol.add4906
  30. Lissenya B Argueta, Lauretta A Lacko, Yaron Bram, Takuya Tada, Lucia Carrau, André F. Rendeiro, Tuo Zhang, Skyler Uhl, Brienne C Lubor, Vasuretha Chandar, Cristianel Gil, Wei Zhang, Brittany J Dodson, Jeroen Bastiaans, Malavika Prabhu, Sean Houghton, David Redmond, Christine M Salvatore, Yawei J Yang, Olivier Elemento, Rebecca N Baergen, Benjamin R tenOever, Nathaniel R Landau, Shuibing Chen, Robert E Schwartz, Heidi Stuhlmann. **Inflammatory responses in the placenta upon SARS-CoV-2 infection late in pregnancy.** iScience (2022). doi:10.1016/j.isci.2022.104223
  29. Jiwoon Park, Jonathan Foox, Tyler Hether, David C. Danko, Sarah Warren, Youngmi Kim, Jason Reeves, Daniel J. Butler, Christopher Mozsary, Joel Rosiene, Alon Shaiber, Evan E. Afshin, Matthew MacKay, André F. Rendeiro, Yaron Bram, Vasuretha Chandar, Heather Geiger, Arryn Craney, Priya Velu, Ari M. Melnick, Iman Hajirasouliha, Afshin Beheshti, Deanne Taylor, Amanda Saravia-Butler, Urminder Singh, Eve Syrkin Wurtele, Jonathan Schisler, Samantha Fennessey, André Corvelo, Michael C. Zody, Soren Germer, Steven Salvatore, Shawn Levy, Shixiu Wu, Nicholas P. Tatonetti, Sagi Shapira, Mirella Salvatore, Lars F. Westblade, Melissa Cushing, Hanna Rennert, Alison J. Kriegel, Olivier Elemento, Marcin Imielinski, Charles M. Rice, Alain C. Boreczuk, Cem Meydan, Robert E. Schwartz, Christopher E. Mason. **System-wide transcriptome damage and tissue identity loss in COVID-19 patients.** Cell Reports Medicine (2022). doi:10.1016/j.xcrm.2022.100522
  28. Hussein Alnajar\*, Hiranmayi Ravichandran\*, André F. Rendeiro, Kentaro Ohara, Wael Al Zoughbi, Jyothi Manohar, Noah Greco, Michael Sigouros, Jesse Fox, Emily Muth, Samuel Angiuoli, Bishoy Faltas, Michael Shusterman, Cora N. Sternberg, Olivier Elemento, Juan Miguel Mosquera. **Tumor-Immune Microenvironment Revealed by Imaging Mass Cytometry in a Metastatic Sarcomatoid Urothelial Carcinoma with a Prolonged Response to Pembrolizumab.** Cold Spring Harbor Molecular Case Studies (2022). doi:10.1101/mcs.a006151
  27. André F. Rendeiro, Charles Kyriakos Vorkas, Jan Krumsiek, Harjot Singh, Shashi N Kapadia, Luca Vincenzo Cappelli, Maria Teresa Cacciapuoti, Giorgio Inghirami, Olivier Elemento, Mirella Salvatore. **Metabolic and immune markers for precise monitoring of COVID-19 severity and treatment.** Frontiers in Immunology (2021). doi:10.3389/fimmu.2021.809937
  26. Nathan C. Sheffield, Micha Stolarczyk, Vincent P. Reuter, André F. Rendeiro. **Linking big biomedical datasets to modular analysis with Portable Encapsulated Projects.** GigaScience (2021). doi:10.1093/gigascience/giab077
  25. Laurienne Edgar, Naveed Akbar, Adam T Braithwaite, Thomas Krausgruber, Héctor Gallart-Ayala, Jade Bailey, Alastair L Corbin, Tariq E Khoiratty, Joshua T Chai, Mohammad Alkhalil, André F. Rendeiro, Klemen Ziberna, Ritu Arya, Thomas J Cahill, Christoph Bock, Jurga Laurencikienė, Mark J Crabtree, Madeleine E Lemieux, Niels P Riksen, Mihai G Netea, Craig E Wheelock, Keith M Channon, Mikael Rydén, Irina A Udalova, Ricardo Carnicer, Robin P Choudhury. **Hyperglycaemia Induces Trained Immunity in Macrophages and Their Precursors and Promotes Atherosclerosis.** Circulation (2021). doi:10.1161/CIRCULATIONAHA.120.046464
  24. Paul Datlinger\*, André F. Rendeiro\*, Thorina Boenke, Thomas Krausgruber, Daniele Barreca, Christoph Bock. **Ultra-high throughput single-cell RNA sequencing by combinatorial fluidic indexing.** Nature Methods (2021). doi:10.1038/s41592-021-01153-z
  23. Peter Peneder, Adrian Stütz, Didier Surdez, Manuela Krumbholz, Sabine Semper, Mathieu Chicard, Nathan Sheffield, Gaele Pierron, Eve Lapouble, Marcus Tötzel, Bekir Ergüner, Daniele Barreca, André F. Rendeiro,

- Abbas Agaimy, Heidrun Boztug, Gernot Engstler, Michael Dworzak, Marie Bernkopf, Sabine Taschner-Mandl, Inge Ambros, Ola Myklebost, Perrine Marec-Berard, Susan Burchill, Bernadette Brennan, Sandra Strauss, Jeremy Whelan, Gudrun Schleiermacher, Christiane Schaefer, Uta Dirksen, Caroline Hutter, Kjetil Boye, Peter Ambros, Olivier Delattre, Markus Metzler, Christoph Bock, Eleni Tomazou. **Multimodal analysis of cell-free DNA whole genome sequencing for pediatric cancers with low mutational burden.** Nature Communications (2021). doi:10.1038/s41467-021-23445-w
22. Johannes C. Melms\*, Jana Biermann\*, Huachao Huang\*, Yiping Wang\*, Ajay Nair\*, Somnath Tagore\*, Igor Katsyv\*, André F. Rendeiro\*, Amit Dipak Amin\*, Denis Schapiro, Chris J. Frangieh, Adrienne M. Luoma, Aveline Filliol, Yinshan Fang, Hiranmayi Ravichandran, Mariano G. Clausi, George A. Alba, Meri Rogava, Sean W. Chen, Patricia Ho, Daniel T. Montoro, Adam E. Kornberg, Arnold S. Han, Mathieu F. Bakhoun, Niroshana Anandasabapathy, Mayte Suárez-Fariñas, Samuel F. Bakhoun, Yaron Bram, Alain Borczuk, Xinzhen V. Guo, Jay H. Lefkowitz, Charles Marboe, Stephen M. Lagana, Armando Del Portillo, Emmanuel Zorn, Glen S. Markowitz, Robert F. Schwabe, Robert E. Schwartz, Olivier Elemento, Anjali Saqi, Hanina Hibshoosh, Jianwen Que, Benjamin Izar. **A molecular single-cell lung atlas of lethal COVID-19.** Nature (2021). doi:10.1038/s41586-021-03569-1
  21. André F. Rendeiro\*, Hiranmayi Ravichandran\*, Yaron Bram, Vasuretha Chandar, Junbum Kim, Cem Meydan, Jiwoon Park, Jonathan Fook, Tyler Hether, Sarah Warren, Youngmi Kim, Jason Reeves, Steven Salvatore, Christopher E. Mason, Eric C. Swanson, Alain C. Borczuk, Olivier Elemento, Robert E. Schwartz. **The spatial landscape of lung pathology during COVID-19 progression.** Nature (2021). doi:10.1038/s41586-021-03475-6
  20. Sandra Schick, Sarah Grosche, Katharina Eva Kohl, Danica Drpic, Martin G. Jaeger, Nara C. Marella, Hana Imrichova, Jung-Ming G. Lin, Gerald Hofstätter, Michael Schuster, André F. Rendeiro, Anna Koren, Mark Petronczki, Christoph Bock, André C. Müller, Georg E. Winter, Stefan Kubicek. **Acute BAF perturbation causes immediate changes in chromatin accessibility.** Nature Genetics (2021). doi:10.1038/s41588-021-00777-3
  19. André F. Rendeiro, Joseph Casano, Charles Kyriakos Vorkas, Harjot Singh, Ayana Morales, Robert A DeSimone, Grant B Ellsworth, Rosemary Soave, Shashi N Kapadia, Kohta Saito, Christopher D Brown, JingMei Hsu, Christopher Kyriakides, Steven Chui, Luca Cappelli, Maria Teresa Cacciapuoti, Wayne Tam, Lorenzo Galluzzi, Paul D Simonson, Olivier Elemento, Mirella Salvatore, Giorgio Inghirami. **Profiling of immune dysfunction in COVID-19 patients allows early prediction of disease progression.** Life Science Alliance (2020). doi:10.26508/lsa.202000955
  18. Alexander Swoboda, Robert Soukup, Oliver Eckel, Katharina Kinslechner, Bettina Wingelhofer, David Schörghofer, Christina Sternberg, Ha T T Pham, Maria Vallianou, Jaqueline Horvath, Dagmar Stoiber, Lukas Kenner, Lionel Larue, Valeria Poli, Friedrich Beermann, Takashi Yokota, Stefan Kubicek, Thomas Krausgruber, André F. Rendeiro, Christoph Bock, Rainer Zenz, Boris Kovacic, Fritz Aberger, Markus Hengstschläger, Peter Petzelbauer, Mario Mikula, Richard Moriggl. **STAT3 promotes melanoma metastasis by CEBP-induced repression of the MITF pathway.** Oncogene (2020). doi:10.1038/s41388-020-01584-6
  17. Thomas Krausgruber, Nikolaus Fortelny, Victoria Fife-Gernedl, Martin Senekowitsch, Linda C. Schuster, Alexander Lercher, Amelie Nemc, Christian Schmidl, André F. Rendeiro, Andreas Bergthaler, Christoph Bock. **Structural cells are key regulators of organ-specific immune responses.** Nature (2020). doi:10.1038/s41586-020-2424-4
  16. Rainer Hubmann, Susanne Schnabl, Mohammad Araghi, Christian Schmidl, André F. Rendeiro, Martin Hilgarth, Dita Demirtas, Farghaly Ali, Philipp B. Staber, Peter Valent, Christoph Zielinski, Ulrich Jäger, Medhat Shehata. **Targeting Nuclear NOTCH2 by Gliotoxin Recovers a Tumor-Suppressor NOTCH3 Activity in CLL.** Cells (2020). doi:10.3390/cells9061484
  15. Elizabeth C Rosser, Christopher J.M. Piper, Diana E Matei, Paul A. Blair, André F. Rendeiro, Michael Orford, Dagmar G. Alber, Thomas Krausgruber, Diego Catalan, Nigel Klein, Jessica J. Manson, Ignat Drozdov, Christoph Bock, Lucy R Wedderburn, Simon Eaton, Claudia Mauri. **Microbiota-Derived Metabolites Suppress Arthritis by Amplifying Aryl-Hydrocarbon Receptor Activation in Regulatory B Cells.** Cell Metabolism (2020). doi:10.1016/j.cmet.2020.03.003
  14. André F. Rendeiro\*, Thomas Krausgruber\*, Nikolaus Fortelny, Fangwen Zhao, Thomas Penz, Matthias Farlik, Linda C. Schuster, Amelie Nemc, Szabolcs Tasnády, Marienn Réti, Zoltán Mátrai, Donat Alpar, Csaba Bödör, Christian Schmidl, Christoph Bock. **Chromatin mapping and single-cell immune profiling define the temporal dynamics of ibrutinib drug response in CLL.** Nature Communications (2020).

13. Michael Delacher, Charles D Imbusch, Agnes Hotz-Wagenblatt, Jan-Philipp Mallm, Katharina Bauer, Malte Simon, Dania Riegel, André F. Rendeiro, Sebastian Bittner, Lieke Sanderink, Asmita Pant, Lisa Schmidleithner, Kathrin L Braband, Bernd Echtenachter, Alexander Fischer, Valentina Giunchiglia, Petra Hoffmann, Matthias Edinger, Christoph Bock, Michael Rehli, Benedikt Brors, Christian Schmidl, Markus Feuerer. **Precursors for Nonlymphoid-Tissue Treg Cells Reside in Secondary Lymphoid Organs and Are Programmed by the Transcription Factor BATF**. *Immunity* (2020). doi:10.1016/j.immuni.2019.12.002
12. Christopher JM Piper, Elizabeth C Rosser, Kristine Oleinika, Kiran Nistala, Thomas Krausgruber, André F. Rendeiro, Aggelos Banos, Ignat Drozdov, Matteo Villa, Scott Thomson, Georgina Xanthou, Christoph Bock, Brigitta Stockinger, Claudia Mauri. **Aryl Hydrocarbon Receptor Contributes to the Transcriptional Program of IL-10-Producing Regulatory B Cells**. *Cell Reports* (2019). doi:10.1016/j.celrep.2019.10.018
11. Florian Puhm, Taras Afonyushkin, Ulrike Resch, Georg Obermayer, Manfred Rohde, Thomas Penz, Michael Schuster, Gabriel Wagner, André F. Rendeiro, Imene Melki, Christoph Kaun, Johann Wojta, Christoph Bock, Bernd Jilma, Nigel Mackman, Eric Boilard, Christoph J Binder. **Mitochondria are a subset of extracellular vesicles released by activated monocytes and induce type I IFN and TNF responses in endothelial cells**. *Circulation Research* (2019). doi:10.1161/CIRCRESAHA.118.314601
10. Sandra Schick, André F. Rendeiro, Kathrin Runggatscher, Anna Ringler, Bernd Boidol, Melanie Hinkel, Peter Májek, Loan Vulliard, Thomas Penz, Katja Parapatics, Christian Schmidl, Jörg Menche, Guido Boehmelt, Mark Petronczki, André C. Müller, Christoph Bock, Stefan Kubicek. **Systematic characterization of BAF mutations provides insights into intracomplex synthetic lethalties in human cancers**. *Nature Genetics* (2019). doi:10.1038/s41588-019-0477-9
9. Sara Sdelci, André F. Rendeiro, Philipp Rathert, Wanhui You, Jung-Ming G. Lin, Anna Ringler, Gerald Hofstätter, Herwig P. Moll, Bettina Gürtl, Matthias Farlik, Sandra Schick, Freya Klepsch, Matthew Oldach, Pisanu Buphamalai, Fiorella Schischlik, Peter Májek, Katja Parapatics, Christian Schmidl, Michael Schuster, Thomas Penz, Dennis L. Buckley, Otto Hudecz, Richard Imre, Shuang-Yan Wang, Hans Michael Maric, Robert Kralovics, Keiryn L. Bennett, Andre C. Müller, Karl Mechtler, Jörg Menche, James E. Bradner, Georg E. Winter, Kristaps Klavins, Emilio Casanova, Christoph Bock, Johannes Zuber, Stefan Kubicek. **MTHFD1 interaction with BRD4 links folate metabolism to transcriptional regulation**. *Nature Genetics* (2019). doi:10.1038/s41588-019-0413-z
8. Christian Schmidl\*, Gregory I Vladimer\*, André F. Rendeiro\*, Susanne Schnabl\*, Thomas Krausgruber, Christina Taubert, Nikolaus Krall, Tea Pemovska, Mohammad Araghi, Berend Snijder, Rainer Hubmann, Anna Ringler, Kathrin Runggatscher, Dita Demirtas, Oscar Lopez de la Fuente, Martin Hilgarth, Cathrin Skrabs, Edit Porpaczy, Michaela Gruber, Gregor Hoermann, Stefan Kubicek, Philipp B Staber, Medhat Shehata, Giulio Superti-Furga, Ulrich Jäger, Christoph Bock. **Combined chemosensitivity and chromatin profiling prioritizes drug combinations in CLL**. *Nature Chemical Biology* (2019). doi:10.1038/s41589-018-0205-2
7. Tahsin Stefan Barakat, Florian Halbritter, Man Zhang, André F. Rendeiro, Christoph Bock, Ian Chambers. **Functional dissection of the enhancer repertoire in human embryonic stem cells**. *Cell Stem Cell* (2018). doi:10.1016/j.stem.2018.06.014
6. Paul Datlinger, André F. Rendeiro\*, 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
5. 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, André F. Rendeiro, 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
4. Clara Jana-Lui Busch, Tim Hendriks, David Weismann, Sven Jäckel, Sofie M. A. Walenbergh, André F. Rendeiro, 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* (2017). doi:10.1002/hep.28970
3. André F. Rendeiro\*, Christian Schmidl\*, Jonathan C. Strefford\*, Renata Walewska, Zadi 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
  2. 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* (2015). doi:10.1038/nmeth.3542
  1. 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* (2014). doi:10.1101/gr.162529.113

#### Additional publications

1. Fabian J. Theis, Daniel Dar, Roser Vento-Tormo, Sanja Vickovi, Linghua Wang, Luciane T. Kagohara, André F. Rendeiro, Johanna A. Joyce. **What do you most hope spatial molecular profiling will help us understand? Part 1.** *Cell Systems* (2023). doi:10.1016/j.cels.2023.05.009

## Communications

#### Conference talks

11. **Unsupervised discovery of tissue architecture with graphs.** *Biological Data Science Meeting, Cold Spring Harbour Laboratory*, October 2022.
10. **Spatial Analysis of Tissues and Organs.** *VBC PhD Symposium "Pushing Boundaries", Vienna, Austria*, October 2022.
9. **The spatial landscape of lung pathology during COVID-19 progression.** *IMC Summit*, October 2021, Singapore.
8. **Chromatin mapping and single-cell immune profiling define the temporal dynamics of Ibrutinib response in CLL.** *Young Scientist Association of the Medical University of Vienna PhD Symposia*, June 2019, Vienna, Austria.
7. **Chromatin mapping and single-cell immune profiling define the temporal dynamics of Ibrutinib response in CLL.** *Frontiers in Single Cell Genomics Meeting - Cold Spring Harbour Asia*, November 2018, Suzhou, China.
6. **CRISP-seq: updates on the single cell CRISPR screening method.** *10X User Group Meeting 2018*, April 2018, EMBL, Heidelberg, Germany.
5. **Pooled CRISPR screening with single-cell transcriptome readout.** *SLAS 2018*, February 2018, San Diego, USA.
4. **Pooled CRISPR screening with single-cell transcriptome readout.** *Illumina User Group Meeting 2017*, February 2018, Bern, Switzerland.
3. **Large-scale ATAC-seq profiling to identify disease subtypes, regulatory networks and monitoring treatment in CLL.** *Illumina User Group Meeting 2017*, February 2018, Cologne, Germany.
2. **Pooled CRISPR screening with single-cell transcriptome readout.** *Ascona Workshop 2017*, May 2017, Ascona, Switzerland.
1. **Evolutionary conservation of the eumetazoan gene regulatory landscape.** *XVIII Portuguese Genetics Society Meeting*, June 2013. Porto, Portugal

#### Conference posters

5. **Chromatin mapping and single-cell immune profiling define the temporal dynamics of ibrutinib drug response in chronic lymphocytic leukemia.** *SCOG Workshop Computational Single Cell Genomics*, May 2019. Munich, Germany. doi:10.6084/m9.figshare.7892663.v1
4. **Combined chromatin accessibility and chemosensitivity profiling identifies targetable pathways and rational drug combinations in Ibrutinib-treated chronic lymphocytic leukemia.** *Young Scientist Association of the Medical University of Vienna PhD Symposia*, June 2017. Vienna, Austria.

3. **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. 10.6084/m9.figshare.3479528.v1 **Best poster award in "Malignant Diseases" category.**
2. **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>
1. **Identification of cis-regulatory elements in the sea anemone *Nematostella vectensis*.** *Evonet Symposium*, September 2012, Vienna Austria. doi:10.6084/m9.figshare.107026

## Additional experience

### Teaching

- 2022/10 "Spatial Analysis of Tissues and Organs" lecture, CeMM PhD Program, Vienna
- 2022/06, 2023/04 Invited lecture: "Spatial Analysis of Tissues and Organs", course "Biomedical Informatics & Genomic Medicine", MSc Molecular Precision Medicine, Medical University of Vienna

### Supervision and Mentoring

- 2023/10 - Yimin Zheng, Postdoc - CeMM
- 2023/09 - Tamas Veres, PhD student - CeMM
- 2023/07 - 2023/07 Alessandro Rodia, High school student intern - CeMM
- 2023/05 - Gabriel Meca Laguna, Master student - SENS Research Foundation, co-supervisor
- 2022/09 - Ernesto Abila, PhD student - CeMM
- 2022/09 - Iva Buljan, PhD student - CeMM
- 2022/01 - 2022/04 Zhuoran (Karen) Xu, Data Science Statistician - Weill Cornell Medical College
- 2021/07 - 2022/10 Kelsey Chetnik, Staff Associate - Weill Cornell Medical College
- 2020/09 - Junbum (June) Kim, Graduate student - Weill Cornell Graduate School of Medical Sciences

### Courses attended

- 2023/06 ERC grant writing masterclass - EU-Life
- 2022/11 EMBO Lab Leadership Course - EMBO
- 2022/10 Motivation and Guidance of students during diploma or PhD thesis - Medical University of Vienna, Austria
- 2022/01 PI Crash Course: Skills for Future or New Lab Leaders - Columbia University, NY, USA
- 2021/04 Probabilistic Modeling in Genomics, Virtual meeting - Cold Spring Harbor, NY, USA
- 2015/09 Summer School on Machine Learning for Personalised Medicine - Marie Curie Initial Training Network, Manchester, UK
- 2012/09 Scientific writing course - University of Aveiro, Portugal

### Associative/Administrative

- 2010/09 - 2012/06 Member of the Biology department counsel, University of Aveiro, Portugal
- 2009/09 - 2011/06 Member of the undergraduate Biology committee, University of Aveiro, Portugal

### Software

- IMC A package for the analysis of imaging mass cytometry data:  
<https://github.com/ElementoLab/imc>
- imcpipeline A pipeline for the preprocessing of imaging mass cytometry data:  
<https://github.com/ElementoLab/imcpipeline>
- imctransfer Program for the robust, parallel transfer of raw IMC data between machines:  
<https://github.com/ElementoLab/imctransfer>
- page-enrichment A Python implementation of the Parametric Analysis of Gene Set Enrichment (PAGE):  
<https://github.com/afrendeiro/page-enrichment>

- ngs-toolkit A toolkit for the analysis of NGS data:  
<https://github.com/afrendeiro/toolkit>
- peppy A package to work with Portable Encapsulated Projects (PEP) in Python:  
<https://github.com/pepkit/peppy>
- looper A job controller for Portable Encapsulated Projects (PEP):  
<https://github.com/pepkit/looper>
- open\_pipelines Pipelines for a variety of NGS data:  
[https://github.com/epigen/open\\_pipelines](https://github.com/epigen/open_pipelines)
- ngstk A collection of CLI tools for bioinformatics workflows:  
<https://github.com/pepkit/ngstk>

## --- Licenses and certifications

- 2021/04 - 2025/04 **Biomedical Research Investigators and Key Personnel**, *Credential ID: 41194853*  
CITI Program
- 2021/04 - 2025/04 **Good Clinical Practice**, *Credential ID: 41194854*  
CITI Program
- 2020/06 - 2026/01 **Responsible Conduct of Research for Faculty**  
Weill Cornell Medical College
- 2020/12 - 12-2025 **Responsible Conduct of Research**  
Tri-Institutional program: MSK Cancer Center, Weill Cornell Medical College, Rockefeller University

## --- Associations

- 2023- Austrian Association of Molecular Life Sciences and Biotechnology (ÖGMBT)
- 2022- Vienna Cell Network
- 2020-2022 New York Academy of Sciences
- 2015-2018 European Hematology Association (EHA)

*Updated on 2023-12-06*