

ADRIEN JOLLY – Computational biologist

Address : Rennbahnstr. 20, 60528 Frankfurt am Main, Germany

E-mail : a.jolly@dkfz.de

GitHub : <https://github.com/AdrienJolly>

Education

PhD in Sytems Biology (2015-2020)
University of Heidelberg, Germany

Master in molecular and cellular biology (2013-2015)
Université Pierre et Marie Curie (UPMC) and École Normale Supérieure (ENS), Paris France
Major in immunology (Pasteur course Advanced Immunology) and systems biology (ENS)

Bachelor in life sciences (2010-2013)
Université Pierre et Marie Curie, Paris, France

Legal education

Master in European business Law (2006-2007)
Université Paris XI, France

Integrated Programme in European Law (2004-2006)
University of Warwick (England), Universität des Saarlandes (Germany)
Université de Lille 2 (France)

Bachelor in French Law (2001-2004)
Université de Lille 2 (France)

Experience

April 2022- present : Medical scientist (computational) at Universitätsklinikum Frankfurt: shared position between the research groups Machine Learning in Oncology (DKTK) and Basic Mechanisms in Stem Cell Biology (Uniklinikum Frankfurt)

September 2020- March 2022 : postdoctoral researcher at the German Cancer Research Center, Division of Theoretical Systems Biology

September 2015- September 2020 : PhD at the German Cancer Research Center, Division of Theoretical Systems Biology (80% computational / 20% experimental work)

Supervision : Prof. Thomas Höfer

Impact of the microenvironment on mouse hematopoiesis and T cell development

January-June 2015 : Master thesis at Université de Versailles St Quentin en Yvelines

Supervision : Prof. Henri-Jean Garchon,

Characterization of Human Monocyte Derived Dendritic Cells activation in Ankylosing Spondylitis from Microarray data

July-August 2014 : Internship at hospital Pitié Salpêtrière in Paris, France

Supervision : Dr. Encarnita Mariotti-Ferrandiz, and Prof. Adrien Six

High throughput sequencing and bioinformatic analysis of T Cell Receptor repertoire

As a legal adviser :

2007 to 2012 : legal adviser in the Asset Management and Investment Banking industries

Research Interests

- Mechanistic modeling of biological systems
- determination of cell population dynamics in vivo
- deciphering the interactions between hematopoietic/leukemic cells with their microenvironment
- Immune repertoire analysis

Programming languages and computational skills

- R (bulk and single Omics data analysis, machine learning)
- Python (Numerical computing, package development, NGS data analysis)
- Matlab (simulation of mathematical models, parameter estimation)
- Julia (simulation of mathematical models, parameter estimation)
- Linux commands (regular usage of a computing cluster)

Experimental skills

- Mammalian Cell culture, Flow Cytometry, Cell Sorting
- Animal experiments (FELASA B Certificate)
- NGS Library Preparation and sequencing (Illumina)

Fellowships

- 2022 – present : Medical scientist fellowship from the Mildred-Scheel-Nachwuchszentrum Frankfurt (4 years postdoc salary + funding for consumables and travel)

Publications

Carvajal Ibañez D, Skabkin M, Hooli J, Cerrizuela S, Göpferich M, **Jolly A**, Volk K, Zumwinkel M, Bertolini M, Figlia G, Höfer T, Kramer G, Anders S, Teleman AA, Marciniak-Czochra A, Martin-Villalba A. Interferon regulates neural stem cell function at all ages by orchestrating mTOR and cell cycle. *EMBO Mol Med.* 2023

Jolly A, Fanti AK, Kongsaysak-Lengyel C, Claudino N, Gräßer I, Becker NB, Höfer T. CycleFlow simultaneously quantifies cell-cycle phase lengths and quiescence in vivo. *Cell Rep Methods.* 2022

Grassmann S., Mihatsch L., Mir J., Kazeroonian A., Rahimi R., Flommersfeld S., Schober K., Hensel I., Leube J., Pachmayr L. O., Kretschmer L, Zhang Q., **Jolly A.**, Chaudhry M. Z., Schiemann M., Cicin-Sain L., Höfer T., Busch D. H., Flossdorf M. & Buchholz V.R *Nature Immunology* 2020; Early emergence of T central memory precursors programs clonal dominance during chronic viral infection

Mende N*, **Jolly A***, Percin GI*, Günther M, Rostovskaya M, Krishnan SM, Oostendorp RAJ, Dahl A, Anastassiadis K, Höfer T, Waskow C. *Blood* 2019; Prospective isolation of nonhematopoietic cells of the niche and their differential molecular interactions with HSCs.

Becker NB, Günther M, Li C, **Jolly A**, Höfer T. *Journal of Theoretical Biology* 2019 ; Stem cell homeostasis by integral feedback through the niche

Arndt K, Kranz A, Fohgrub J, **Jolly A**, Bledau AS, Di Virgilio M, Lesche M, Dahl A, Höfer T, Stewart AF, Waskow C. *Blood* 2018 ; SETD1A protects HSCs from activation-induced functional decline in vivo.