

# Christian H. Holland

PHD STUDENT

BioQuant, Heidelberg University

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*Data scientist tackling biomedical challenges*

## Education

### Bielefeld University

Bielefeld, Germany

BACHELOR OF SCIENCE - MOLECULAR BIOTECHNOLOGY

2011-14

- Thesis: Effect of overexpression of xanA on the growth and xanthan production of *Xanthomonas campestris* pv. *Campestris* in the laboratory and in the model

### Bielefeld University

Bielefeld, Germany

MASTER OF SCIENCE - GENOME BASED SYSTEMS BIOLOGY

2014-17

- Thesis: Coupling of Metabolism and Gene Regulation to identify Gene Targets in Living Cells

### RWTH Aachen

Aachen, Germany

PHD

2017-19

- From gene expression to pathway and transcription factor activities to acquire functional and mechanistic insight into chronic liver diseases

### Heidelberg University

Heidelberg, Germany

CONTINUATION OF PHD

2019-now

- From gene expression to pathway and transcription factor activities to acquire functional and mechanistic insight into chronic liver diseases

## Working Experience

### Research Center Jülich

Jülich, Germany

INTERNSHIP

2015 (3 month)

- Studying *Escherichia coli* metabolism with focus on the uncertainties of the biomass equation

### Alacris Theranostics GmbH

Berlin, Germany

INTERNSHIP

2016 (3 month)

- Application of a mechanistic model and an artificial neural network for simulation and parameter optimization of the drug response model in the context of personalized medicine

### Insilico Biotechnology AG

Stuttgart, Germany

MASTER STUDENT

2016-2017 (9 month)

- Coupling of Metabolism and Gene Regulation to identify Gene Targets in Living Cells

## Teaching Experience

### Bielefeld University

Bielefeld, Germany

STUDENT ASSISTANT JOB - MATHEMATICS FOR BIOLOGISTS

2013-15

### Bielefeld University

Bielefeld, Germany

STUDENT ASSISTANT JOB - STATISTICS/INFORMATICS FOR BIOLOGISTS

2013-15

## Skills

### Programming

R, PYTHON, MATLAB, BASH

### Packages

TIDYVERSE, SHINY, BOOKDOWN, PKGDOWN, TESTTHAT, PANDAS, NUMPY

### Tools

GIT, TRAVIS CI, LATEX

## Conferences Attended

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### SBMC

TALK: UNVEILING OF CONSERVED TRANSCRIPTOMICS PERTURBATION RESPONSES IN MICE AND HUMAN

Bremen, Germany

2018

### RECOMB/ISCB

POSTER: UNVEILING OF CONSERVED TRANSCRIPTOMICS PERTURBATION RESPONSES IN MICE AND HUMAN

New York City, USA

2018

### ISBM/ECCB

POSTER: ROBUSTNESS AND APPLICABILITY OF FUNCTIONAL GENOMIC TOOLS ON SCRNA-SEQ DATA

Basel, Switzerland

2019

## Selected Publications

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1. Holland, C, J Tanevski, J Perales-Patón, J Gleixner, M Kumar, E Mereu, and ... (2020). Robustness and applicability of transcription factor and pathway analysis tools on single-cell RNA-seq data. *Genome Biology*.
2. Tajti, F, C Kuppe, A Antoranz, M Ibrahim, H Kim, F Ceccarelli, and ... (2020). A functional landscape of CKD entities from public transcriptomic data. *Kidney International Reports*.
3. Garcia-Alonso, L, C Holland, M Ibrahim, D Turei, and J Saez-Rodriguez (2019). Benchmark and integration of resources for the estimation of human transcription factor activities. *Genome research*.
4. Holland, C, B Szalai, and J Saez-Rodriguez (2019). Transfer of regulatory knowledge from human to mouse for functional genomics analysis. *Biochimica et Biophysica Acta (BBA)-Gene Regulatory Mechanisms*.
5. Ghallab, A, M Myllys, CH Holland, A Zaza, W Murad, R Hassan, and ... (2019). Influence of Liver Fibrosis on Lobular Zonation. *Cells*.
6. Szalai, B, V Subramanian, C Holland, R Alföldi, L Puskás, and ... (2019). Signatures of cell death and proliferation in perturbation transcriptomics data—from confounding factor to effective prediction. *Nucleic acids research*.