

Alexander Thiemicke

Department of Molecular Physiology and Biophysics Vanderbilt University, Nashville, TN, USA
alexander.thiemicke@vanderbilt.edu (510) 684-2530 Github: *alexthie*

SUMMARY OF QUALIFICATIONS

Quantitative Biochemist with 8 years of experience in Biomedical Research

- Experience in Writing code in R and Matlab for 4 years and in Python for 2 years
- Demonstrated proficiency in experimental design and mentoring
- Strengths in Quantitative Systems Biology, Molecular Biology, Immunology and R Programming

EDUCATION

Vanderbilt University

PhD in Chemical and Physical Biology.....expected **06/2020**

PhD Thesis: "The effect of temporal NaCl inputs on immune cells", Neuert lab, Vanderbilt University

Friedrich Schiller University (FSU) Jena (Germany)

Master of Science in Molecular Medicine.....**05/2014**

Master Thesis: "Regulation of antisense RNA in *Saccharomyces cerevisiae*", Brem lab, UC Berkeley

Bachelor of Science in Biochemistry.....**09/2011**

Bachelor Thesis: "Preparation and activity studies of the intramembranous-cleaving protease FlaK of *Methanococcus maripaludis*", Fritz-Lipmann-Institute for Age Research, Jena

PUBLICATIONS

- Alexander Thiemicke, Gregor Neuert "Linearly increasing hypertonicity changes cell death by apoptosis, but not activation of inflammation in human immune cells." (in preparation), **August 2019**.
- Alexander Thiemicke, Hossein Jashnsaz, Guoliang Li, Gregor Neuert "Generating kinetic environments to study dynamic cellular processes in single cells." Scientific Reports, **July 2019**.
- Benjamin Kesler, Guoliang Li, Alexander Thiemicke, Rohit Venkat, Gregor Neuert "Automated cell boundary and 3D nuclear segmentation of cells in suspension." Scientific Reports, **July 2019**.
- Guoliang Li, Benjamin K. Kesler, Alexander Thiemicke, Dustin C. Rogers, Gregor Neuert, "Linearly changing stress environment causes cellular growth phenotype." BioRxiv 155267 [Preprint], **June 25, 2017**.
- Yulia Mostovoy, Alexander Thiemicke, Tiffany Y. Hsu and Rachel Brem "The Role of Transcription Factors at Antisense-Expressing Gene Pairs in Yeast." Genome Biology and Evolution, **June 27, 2016**.

EXPERIENCE

PhD candidate, Vanderbilt University (Neuert lab).....**08/2014-present**

- Set up Fluorescently labeled barcoded Flow cytometry for human immune cells
- Wrote software in R to debarcode and analyze data obtained from flow cytometry experiments
- Deployed Shiny apps for interactive data visualization and as user interface for flow cytometry software
- Conceptualized experiments to understand the systems biology of immune cells
- Developed experimental setup to study temporally varying environments on effect on mammalian cells
- Performed Western Blots and immunofluorescence
- Developed Natural language processing pipeline for literature review

Master Thesis student, University of California, Berkeley (Brem lab).....**03/2013-04/2014**

- Performed molecular cloning and qPCR studies in yeast
- Identified novel effects of non-coding RNAs on gene expression

Research Assistant, Max-Planck-Institute for Chemical Ecology Jena (Gershenzon lab).....**04/2012-12/2012**

- Analyzed plant-fungus interactions
- Performed fungus cultivation, RNA extractions, qPCRs

Research assistant, Department of Chemistry, University of Pittsburgh (X. Liu lab).....**07/2011-10/2011**

- Studied and researched the biosynthesis of natural products in *Aspergillus sp.*
- Performed molecular cloning, sterile techniques and protein overexpression

Bachelor Thesis student, Fritz-Lipmann-Institute for Age Research Jena (Than lab).....**03/2011-07/2011**

- Purified membrane proteins
- Performed Western Blot based studies
- Research Assistant, Department of Chemistry, **University of Oslo** (Krengel lab).....08/2010-12/2010
- Carried out x-ray crystallography experiments
- Developed expertise in protein crystallization
- Research Assistant, **Fungal Reference Center Jena** (Voigt lab).....02/2010-07/2010
- Identified interactions between different Zygomycota,
- Assisted in classification of fungal strains

HONORS

- CMCF Annual Symposium Travel Award.....2019
- Russell G. Hamilton Graduate Leadership Development Institute Travel Grant.....2019
- VICTR Research Fund.....2019
- NSF Travel support.....2019
- American Heart Association 2-year Predoctoral Fellowship.....2018
- German Academic Exchange Service (DAAD) RISE-Scholarship.....2011
- Erasmus Scholarship.....2010

PRESENTATIONS

- CMCF Annual Symposium, **University of California, Irvine** (poster).....06/2019
- NSF ‘Finding your inner modeler” Workshop 2019, **University of Alabama, Birmingham** (poster).....06/2019
- Chemical and Physical Biology Program Retreat 2015-2016, 2017-2019, **Vanderbilt University** (poster)...05/2019
- CSH meeting on Systems Immunology 2019, **CSHL, Cold Spring Harbor** (poster).....03/2019
- MBTP/CSB Seminar Series, **Vanderbilt University** (talk).....03/2019
- Southeastern Immunology Symposium 2018, **University of Alabama, Birmingham** (poster).....06/2018
- Cell Dynamics Symposium, **Vanderbilt University** (poster).....05/2018
- Data Science Symposium, **Vanderbilt University** (poster).....03/2018
- Cell Biology and Development Dept. Retreat 2017, **Vanderbilt University** (poster).....09/2017
- Molecular Physiology and Biophysics Dept. Retreat 2016/2017, **Vanderbilt University** (poster).....08/2017
- Chemical and Physical Biology Retreat 2016, **Vanderbilt University** (talk).....05/2017
- Q-Bio conference, **Vanderbilt University** (poster).....07/2016
- Molecular Physiology and Biophysics Dept. Retreat 2015, **Vanderbilt University** (poster).....08/2015

LEADERSHIP AND MENTORING

- Mentoring of a QCB rotation student, **Vanderbilt University**.....09/2019-12/2019
- Member of the 2019 Chemical and Physical Biology Dept. Retreat planning committee.....08/2018-05/2019
- Organize invitation of keynote speaker, speaker schedule and logistic organization
- Mentoring of a QCB rotation student, **Vanderbilt University**.....05/2017-08/2017
- Mentoring of a Mechanical Engineering Undergraduate Student, **Vanderbilt University**.....05/2017-08/2017
- Board member of the **btS e.V. Jena**, a biotechnological student organization.....02/2010-04/2013
- Cofounded the btS in Jena and contacted companies to organize informational lectures for life science students
- Assisted and supported the organization of a life science company contact fair (ScieCon Munich 2011)
- Tutor for international students, **Friedrich Schiller University Jena**.....03/2012-03/2013
- Guided and informed international students about Germany, Jena, common financial and legal questions
- Facilitated socialization of international students
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PROFESSIONAL DEVELOPMENT

- Data Essentials in Python and Networking communication, **Vanderbilt University**.....09/2018-present
- Machine Learning in Python and Tensorflow, **Vanderbilt University**.....08/2018
- Machine Learning in R, **Vanderbilt University**.....08/2018
- Practical Strategies for Strong Writing, **Vanderbilt University**.....03/2017
- Effective Oral Communication Methods, **Vanderbilt University**.....09/2016