Alexander Thiemicke

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SUMMARY OF QUALIFICATIONS

Quantitative Biochemist with 8 years of experience in Biomedical Research

- Experience in Writing code in R and Matlab since 3 years and in Python since 1 year
- Demonstrating 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 **05/2020**
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

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

- Russell G. Hamilton Graduate Leadership Development Institute Travel Grant……**2019**
- American Heart Association 2-year Predoctoral Fellowship……**2018**
- German Academic Exchange Service (DAAD) RISE-Scholarship……**2011**
- Erasmus Scholarship……**2010**

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**

LEADERSHIP AND MENTORING

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

PRESENTATIONS

MBTP/CSB Seminar Series, **Vanderbilt University**……03/2019
Chemical and Physical Biology Retreat 2016, **Vanderbilt University**……05/2017

POSTERS

NSF 'Finding your inner modeler" Workshop 2019, , **University of Alabama, Birmingham**……06/2019
Chemical and Physical Biology Program Retreat 2015-2016, 2017-2019, **Vanderbilt University**……05/2019
CSH meeting on Systems Immunology 2019, **CSHL, Cold Spring Harbor**……03/2019
Southeastern Immunology Symposium 2018, **University of Alabama, Birmingham**……06/2018
Cell Dynamics Symposium, **Vanderbilt University**……05/2018
Data Science Symposium, **Vanderbilt University**……03/2018
Cell Biology and Development Dept. Retreat 2017, **Vanderbilt University**……09/2017
Molecular Physiology and Biophysics Dept. Retreat 2016/2017, **Vanderbilt University**……08/2017
Q-Bio conference, **Vanderbilt University**……07/2016
Molecular Physiology and Biophysics Dept. Retreat 2015, **Vanderbilt University**……08/2015

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.**