

Susann Vorberg

PH.D. IN COMPUTATIONAL BIOLOGY

🏠 Tannenwaldstrasse 11, 81375 Munich 📞 31-01-1987 in Leipzig

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Education

PhD in Computational Biology (1.0 'magna cum laude')

GRADUATE SCHOOL OF QUANTITATIVE BIOSCIENCES MUNICH (QBM), LUDWIG-MAXIMILIANS UNIVERSITY, MAX-PLANCK
INSTITUTE FOR BIOPHYSICAL CHEMISTRY

Munich and Goettingen, Germany

4 yrs 3 mos: Oct. 2013 - Dec. 2017

- Thesis: Bayesian Statistical Approach for Protein Residue-Residue Contact Prediction in the Soeding lab
- Applying Bayesian statistical modeling and various machine learning approaches for prediction of physical contacts between amino acid side chains in the protein structure given only sequence data of the protein family
- participation in interdisciplinary formal course work in biophysics and statistics, softskill workshops and frequent journal clubs with renown speakers in the graduate school

Master of Science in Bioinformatics (1.1, among 10% best)

LUDWIG-MAXIMILIANS UNIVERSITY AND TECHNICAL UNIVERSITY

Munich, Germany

2 yrs: Oct. 2011 - Sep. 2013

- Master thesis in the Soeding lab (1.0):
Improving constraints from statistical coupling analysis for de-novo protein structure prediction using amino acid pair propensities

Bachelor of Science in Bioinformatics (1.1, among 10% best)

JOHANN-WOLFGANG-GOETHE UNIVERSITY

Frankfurt am Main, Germany

3 yrs: Oct. 2008 - Sep. 2011

- Bachelor thesis with Prof. Dr Ina Koch and Dr. Christian Buning @Sanofi-Aventis Deutschland GmbH (1.0):
Homologiemodellierung, Struktur-Wirkungsbeziehungen und Selektivitätsanalyse von SGLT Transportern

Abitur (1.0)

MAX-KLINGER GYMNASIUM AND LAMAR COUNTY HIGH SCHOOL

Leipzig, Germany

13 yrs: Sept. 1997 - Jun. 2006

- Taking advanced courses English and Math
- Obtaining a High School Diploma as an exchange student in Vernon, AL, USA (Sep 2003 - May 2004)

Work Experience

Research Assistant

TECHNICAL UNIVERSITY OF MUNICH (PROF. DR. IRIS ANTES)

Munich, Germany

3mos: Jan. 2013 - Mar. 2013

Generation and analysis of docking models with Dynadock software (Bash)

Research Assistant

HELMHOLTZ ZENTRUM MUNICH (DR. IGOR TETKO)

Munich, Germany

1yr 8mos: Mar. 2012 - Oct. 2013

Data generation, development and analysis of QSAR models for biodegradability data using OCHEM

Student Trainee in Software Engineering

BioSciTec GMBH

Frankfurt am Main, Germany

2 yrs 6 mos: Oct. 2008 - March 2011

- Development of a web portal for clients and an internal company Wiki
- Support in software development and establishment of automated software tests

Sports Soldier (parachuting)

BUNDESWEHR

Altenstadt Obb., Germany

2yrs 1mo: July 2006 - July 2008

National and international competitions, e.g. female junior world champion in accuray skydiving 2008

Skills

	BASIC	INTERMEDIATE	PRO	
Programming Frameworks	C++, SQL, Java, Matlab	HTML/CSS, Bash, R	Python	Programming Frameworks
Data Viz	D3	Git	Latex, Markdown	Data Viz
Environments	Windows	matplotlib	ggplot, Plotly, Dash, R-Shiny	Environments
Languages	French	Mac OS, Anaconda	Linux	Languages
			German, English	

Further Education and Softskills

SOFTSKILLS

- Apr 2017 **Proposal Writing**, two-day workshop offered by science-craft with Brian Cusack *Munich*
- Sep 2014 **Scientific Writing**, two-day workshop offered by science-craft with Brian Cusack *Munich*
- Feb 2014 **Presentation Skills**, two-day workshop offered by soft skills for science with Sabine Lerch *Munich*

MOOCs & CORRESPONDENCE COURSES

- Feb 2016 **Developing Data Products (100%)**, creating data products using Shiny, R packages and interactive graphics *John Hopkins*
- Nov 2015 **Statistical Inference (100%)**, fundamentals of inference in a practical approach *John Hopkins*
- Jun 2015 **Reproducible Research (98.8%)**, concepts and tools behind reporting modern data analyses *John Hopkins*
- May 2015 **Practical Machine Learning (100%)**, basic components of building and applying prediction functions *John Hopkins*
- April 2014 **Statistical Learning (91%)**, introduction to supervised learning, focusing on regression and classification *Stanford University*
- 2008 **Organisation of Databases (1.1)**, relational database schemes, normalisation, SQL queries *ILS*

Presentations

POSTER PRESENTATIONS AT CONFERENCES

- Dec 2016 **CASP12 Meeting**, MMseqs2, ultrafast and sensitive sequence comparison *Gaeta, Italy*
- Feb 2014 **Interact Munich Conference**, Predicting Contact Distance Probabilities Using Statistical Modeling of Amino Acid Pair Couplings *Munich, Germany*
- Oct 2012 **CADASTER Workshop**, Comparative Modeling of Biodegradability Data *Munich, Germany*
- Nov 2011 **German Conference on Chemoinformatics (GCC)**, Sodium Dependent Glucose Transporter (SGLT) 1 / 2 - Elucidating Inhibitor SAR and Selectivity using Homology Modelling and 3D QSAR Studies *Goslar, Germany*

ORAL PRESENTATIONS

- Feb 2017 **Data Visualization Meetup**, Interactive Visualization across boundaries: Plotly in R and Python *Stylight, München*
- Dec 2016 **CASP12 Meeting**, best poster award talk: MMseqs2, ultrafast and sensitive sequence comparison *Gaeta, Italy*
- Mar 2012 **26th Molecular Modelling Workshop**, Sodium Dependent Glucose Transporter (SGLT) 1 / 2 - Elucidating Inhibitor SAR and Selectivity using Homology Modelling and 3D QSAR Studies *Erlangen, Germany*

Publications

Modeling the Biodegradability of Chemical Compounds Using the Online CHEmical Modeling Environment (OCHEM)

SUSANN VORBERG, IGOR V. TETKO *2014*
Molecular Informatics 2014 33(1), 73-85

LocTree3 prediction of localization

TATYANA GOLDBERG, MAXIMILIAN HECHT, TOBIAS HAMP, TIMOTHY KARL, GUY YACHDAV, SUSANN VORBERG ET AL. *2014*
Nucleic acids research 2014 42 (W1): W350-W355

Scholarships

- 2013-2016 **QBM PhD Scholarship**, 3-year scholarship funded by German Research Foundation (DFG)
- 2012 **Deutschlandstipendium**, 1-year scholarship funded by Ludwig-Maximilians-University and IBM
- 2006 **E-fellows.net**, online Scholarship awarded for my my excellent Abitur certificate

Extracurricular

- hobbies** skydiving, badminton, hiking, travelling
- language partnership** with a syrian refugee family since beginning of 2016
- ecology volunteering** for the turtle conservation program La Tortuga Feliz in 2011



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