Julian Dominik Stamp

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Experience

TNG Technology Consulting GmbH
May 2019 – November 2020

Software Consultant

Member of the **build management** team for several software projects of an insurance company

Setting up build infrastructure and automation with cloud technologies

Technologies: Groovy, Shell, Docker, Git, Maven, Openshift, Cloudfoundry, Jenkins, Nexus

Education

Brown University, USA
2020 – present

PhD Computer Science

Modules included: Statistical Inference I, Algorithms CompBio & Bioinfomatics, Bayesian Statistical Methods, Inference in Genomics and Molecular Biology, Foundations Population Genetics, Linear Models, Scientific Communication

Research Interests: Statistical Methods for studying nonlinear contributions to trait variance, genetic architecture of complex traits, epistasis and gene by environment interactions

Advisor: Lorin Crawford, Daniel Weinreich

Ludwig-Maximilians-Universität München, Germany
2016 - 2018

MSc Physics/Biophysics (GPA 1.29, scale 1.0 - 4.0 with 1.0 highest mark)

Modules included: Nonlinear dynamics and pattern formation, stochastic processes in physics and biology, biophysics of systems, biophysics of the cell, advanced solid state physics, advanced quantum mechanics, advanced statistical physics, C-programming

Master Thesis: Nonequilibrium Conditions for Molecular Evolution: EDC-based Ligation in Thermal Traps (**graded with 1.0** , scale 1.0 - 4.0 with 1.0 highest mark)

Advisor: Prof. Dieter Braun

University Konstanz, Germany
2012 - 2016

BSc Physics (GPA 1.5, scale 1.0 - 4.0 with 1.0 highest mark)

Modules included: Integrated course physics I-IV (comprises mechanics, hydrodynamics, electrodynamics, thermodynamics, analytical mechanics, optics, special relativity, quantum mechanics, etc.), beginner laboratory course I-IV, calculus I-III, linear algebra, complex analysis, computer course for mathematicians, solid state physics, statistical mechanics, advanced laboratory course

Bachelor Thesis: Comparison between Mechanically Controlled Break Junctions and Scanning Tunnelling Microscope-based Break Junctions for Characterizing Single-Molecule Contacts

Advisor: Prof. Elke Scheer

Research Experience

Ludwig-Maximilians-Universität München, Germany
Oct 2017 - Nov 2018

Thesis Research at the Systems Biophysics laboratory of **Prof. Dieter Braun**

Topic: DNA ligation with EDC in thermal traps

- Comsol Simulations of thermal traps, LabView Simulations of random motion of particles in flow fields and temperature gradients
- Experimental Realization of simulations
- HPLC-MS, Bioanalyzer, UV-spectroscopy

Max Planck Institute for Neurobiology, Munich
March 2017 – Dec 2017

Research Assistant at department of **Prof. Winfried Denk** under supervision of **Dr. Shawn Mikula**

Topic: image registration and tile stitching of anatomical EM images

- Translating existing code from Matlab to Python, literature review of image registration methods

Columbia University, USA
May 2016 – Sept 2016

Visiting Scholar at the Molecular Electronics laboratory of **Dr. Latha Venkataraman**

Topic: single-molecule junction characterization with MCBJ and STM-BJ

- Optimization of measurement technology and data acquisition for the MCBJ
- Data acquisition with MCBJ and STM-BJ
- Coding and conducting the analysis of data of single-molecule break junctions with IGOR Pro

Stony Brook University, USA
Dec 2014 – May 2015

Research assistant at the Cognitive Neuroscience laboratory of **Dr. Hoi-Chung Leung**

Topic: spatial working memory maintenance

- Coded and conducted the analysis of behavioural data in MATLAB, conducted experiments with human subjects
- Poster presentation at the 2015 URECA Undergraduate Research Symposium: **Stamp JD***, Lee AS*, Manza P, O'Rawe J, Leung HC. (2015). Exploring the neurochemical basis of human spatial working memory maintenance with eye blink activity. *2015 URECA Undergraduate Research Symposium*, Stony Brook, NY, April 29. **Authors contributed equally to this work.*

Publications

I. E. Kim Jr., Cliff Oduor, **J. Stamp**, M. A Luftig, A. M Moormann, L. Crawford, J. Bailey (2024). Incorporation of Epstein-Barr viral variation implicates significance of LMP1 in survival prediction and prognostic subgrouping in Burkitt lymphoma. *biorXiv (preprint)*

Pattillo Smith S., Darnell G., Udwin, D., **Stamp J.,** Harpak, A., Ramachandran S., Crawford L. (2024). Discovering non-additive heritability using additive GWAS summary statistics. *biorXiv (preprint)*

Stamp J., DenAdel A., Weinreich D., Crawford L. (2023). *Leveraging the Genetic Correlation between Traits Improves the Detection of Epistasis in Genome-wide Association Studies. G3 Genes|Genomes|Genetics*

Stamp J., Crawford L. (2023). *mvMAPIT: Multivariate Genome Wide Marginal Epistasis Test*. https://github.com/lcrawlab/mvMAPIT, https://lcrawlab.github.io/mvMAPIT/. (R Package)

Edeleva, E., Salditt, A., **Stamp, J.**, Schwintek, P., Boekhoven, J., & Braun, D. (2019). Continuous nonenzymatic cross-replication of DNA strands with in situ activated DNA oligonucleotides. *Chemical Science*.

Grants and Conferences

ISMB 2023
Lyon, Jul. 2023
J. Stamp, A. DenAdel, D. Weinreich, L. Crawford (2023). Leveraging the Genetic Correlation between Traits Improves the Detection of Epistasis in Genome-wide Association Studies.

A multidisciplinary approach to epistasis detection
Leiden, Jul. 2023
J. Stamp, L. Crawford (2023). Partitioning the non-additive variation of complex traits.

Vartan Gregorian Fellowship
Endowed Fellowship for the Academic Year 2021-2022.

Erasmus Stipend
Ludwig-Maximilians-Universität, 2018
Grant for the exchange with Universidad de Granada, funded by the European Union

Molecular Origins of Life CAS Conference
Munich, Oct. 2018
P. Schwintek, **J. Stamp**, C. Mast, and Dieter Braun* (2018). Monitoring the accumulation of molecules inside hydrothermal chambers via UV-Spectroscopy.

Neurostorm Hackathon
Woods Hole, Massachusets, Oct. 2017
Conference on the **processing of large-scale neuroimaging data**. Participation sponsored by the Grossman Institute for Neuroscience (University of Chicago), travel sponsored by the Max-Planck Institute of Neurobiology, Munich

PROMOS Stipend
University of Konstanz, 2016
Grant for conducting **thesis research at Columbia University**, funded by the DAAD and sponsored by Bundesministerium für Bildung und Forschung

Community Service

Fundación Alalay, Bolivia
June 2015 – July 2015

Working for the Fundación Alalay in La Paz, Bolivia
Working in an orphanage, working with street children, problem solving, mediation, communication with administrative staff
Self organised community service

École Perceval, France
Sept 2011 – July 2012

Educational assistant at École Perceval in Paris, France
Assisting the educators with the day-to-day work, teamwork, problem solving, mediation, communication with parents or guardians
Federal Volunteer Community Service, sponsored by Freunde der Erziehungskunst Rudolf Steiners

Exchange Programs

Universidad de Granada, Spain
Sep 2018 - Jan 2019

Modules included: Numerical Analysis of PDE and Approximation, Colloids and Interfaces

Stony Brook University, USA
2014 - 2015

Modules included: applied real analysis, data analysis, nuclear and particle physics, logic and critical reasoning, moral reasoning
Research methods included: Eye Link software, MATLAB

IT Skills and Languages

Languages: Proficient in **German** and **English**, fluent in **French**, good knowledge of **Spanish**

Technologies: R, Python, Groovy, Shell, Docker, Git, LaTeX, Maven, Openshift, Cloudfoundry, Jenkins, Nexus, MATLAB, Comsol, Mathematica, IGOR Pro, C++, LabView