Dr. Paul Schmidt

Data Scientist / Biostatistician

Hamburg, Germany

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Professional experience

BioMath - Applied Statistics and Informatics in Life Sciences

Rostock & Hamburg, Germany

Data scientist

Jan 2019 - Present

- Various statistical analyses from raw data to final report for e.g. yearly post-market monitoring (survey; agriculture), risk assessment (meta-analysis; epidemiology), a long-term field trial (experiment; environment), geographic distribution (geospatial; administrative office)
- Implement new / streamline existing SOPs (for e.g. systematic literature reviews and meta-analyses) by making better use of in-depth functionality of established software and additionally via introducing complementing software/tools
- Supervise project communication and time management
- Conduct in-depth research, write scientific reports and proofread especially English tender application, report and publication drafts

Freelancer (part-time)

see 'Teaching' section below

Workshop Instructor

Nov 2018 - Present

- Develop and teach workshops on statistics in R; specific content and language according to the contractor
- Provide corresponding material on my websites (see 'Other skills' section below)

University of Hohenheim

Stuttgart, Germany

Research associate

Sep 2015 - Dec 2018

- Personalized consulting (ranging from single-appointment to project-accompanying) for students and research associates in terms of experimental design, data handling, statistical analyses and/or presentation of results
- Develop, conduct and manage yearly statistical analysis of yield stability data for external company
- Develop, organize and teach workshops in statistics, R and SAS
- Supervise student writing his MSc thesis

BioMath - Applied Statistics and Informatics in Life Sciences

Rostock, Germany

Junior Data scientist

Jan 2015 - Aug 2015

- Streamline statistical analyses of monitoring data
- Implement SOP for systematic literature reviews

Education

University of Hohenheim

Stuttgart, Germany

Dr. sc. agr.

Sep 2015 - Nov 2019

- DFG-funded PhD student in the biostatistics unit of Prof. Dr. Hans-Peter Piepho
- Cumulative doctoral thesis: 'Estimating heritability in plant breeding programs' graded 'magna cum laude'

Purdue University

West Lafayette, IN, USA

Visiting PhD student

Sep 2015 - Dec 2015

- Visiting PhD student in the statistical bioinformatics unit of Prof. Dr. Rebecca Whitbeck Doerge
- Arranged on personal initiative, this collaboration allowed for scientific exchange and inspiration at the beginning of my PhD

University of Hohenheim

Stuttgart, Germany

MSc Crop Science: Plant Breeding

Oct 2012 - Dec 2014

- Specialization in biostatistics and plant breeding (final grade 1.4)
- MSc Thesis: 'Statistical Evaluation and Analysis of PACTS trials as a series of on-farm strip trials without replicates' graded 1.0

University of Hohenheim

Stuttgart, Germany

BSc Agribiology (in german)

Oct 2009 - Sep 2012

- Specialization in plant sciences and genetics (final grade 1.9)
- BSc Thesis: 'Cumulative effects of glyphosate trace concentrations during root exposition of winter wheat' graded 1.0

Alexander Central High School

Taylorsville, NC, USA

Student exchange year

Aug 2006 - Jul 2007

- Completed senior year and obtained high school diploma

Other skills

General	collaboration, communication, structure, time management, strategic oversight, problem solving
Languages	German (native), English (effective operational proficiency)
Software	R, SAS, SPSS, ASReml, Excel, Word, PowerPoint, Citavi, Adobe Acrobat Pro, Latex, C#, SQL
Statistics	(generalized) linear (mixed) models, exploratory & descriptive data analysis, experimental design
Presentation	data visualization, data analysis reports, scientific publications, presentations
Websites	https://schmidtpaul.github.io/

Teaching

Mar 2022 **Instructor** Data science for experimental life sciences with R (part 2)	*Thünen Inst. Braunschweig (via zoom), 3d*
Mar 2022 **Instructor** Data science for experimental life sciences with R (part 2)	*Thünen Inst. Braunschweig (via zoom), 3d*
Mar 2022 **Instructor** Data science for experimental life sciences with R (part 1)	*Thünen Inst. Braunschweig (via zoom), 3d*
Mar 2022 **Instructor** Data science for experimental life sciences with R (part 1)	*Thünen Inst. Braunschweig (via zoom), 3d*
Dec 2021 **Instructor** Statistics with R (Beginner)	*Kassel Univ., 4d*
Jul 2021 **Instructor** Data science for life sciences with R (part 2)	*Thünen Inst. Braunschweig (via zoom), 3d*
May 2021 **Instructor** Data science for life sciences with R (part 1)	*Thünen Inst. Braunschweig (via zoom), 3d*
Mar 2021 **Instructor** Data science for life sciences with R (part 2)	*Thünen Inst. Braunschweig (via zoom), 3d*
Nov 2020 **Instructor** Planning exp. designs, rep. measures, and their analyses in R	*Kassel Univ. (via zoom), 2d*
Nov 2020 **Instructor** Data science for life sciences with R (part 1)	*Thünen Inst. Braunschweig (via zoom), 3d*
Oct 2020 **Instructor** Experimental Design - Practicals in R	*CIHEAM Zaragoza (via zoom), 2d*
Mar 2020 **Instructor** Real-time consultation on statistics and mixed models in R	*Kassel Univ., 2d*
Dec 2019 **Instructor** Basics of applied statistics	*Rostock Univ., 2d*
Nov 2019 **Instructor** Data science for life sciences with R (part 2)	*Thünen Inst. Braunschweig, 3d*
Oct 2019 **Instructor** Data science for life sciences with R (part 1)	*Thünen Inst. Braunschweig, 3d*
Sep 2019 **Instructor** Essential basics of statistics	*Rostock Univ., 2d*
Nov 2018 **Instructor** Mixed models with R	*Thünen Inst. Braunschweig, 3d*
May 2018 **Instructor** Implementation of yield stability assessment with ASReml-R	*Bangladesh Rice Research Inst., Gazipur, 3h*
2016-2018 **Instructor** Statistical analysis with SAS (monthly)	*Univ. of Hohenheim, Stuttgart, 3d*
2016-2018 **Instructor** Statistical analysis with R (monthly)	*Univ. of Hohenheim, Stuttgart, 3d*
2016-2018 **Teaching Assistant** Biometrics / Statistics (weekly)	*Univ. of Hohenheim, Stuttgart, 4h*

Scientific publications

1. Friedrichs, P., Schmidt, P., & Schmidt, K. (2021). Protanopie und protanomalie bei berufskraftfahrern und berufskraftfahrerinnen - prävalenz und unfallrisiko: = protanopia and protanomaly among professional drivers: Prevalence and accident risk. In *-: Vols. Heft 319* (Issue -, p. –). https://doi.org/-

2. Schmidt, K., Friedrichs, P., Cornelsen, H. C., Schmidt, P., & Tischer, T. (2021). Musculoskeletal disorders among children and young people: Prevalence, risk factors, preventive measures: A scoping review. In *-: Vol.* - (Issue -, p. –). https://doi.org/10.2802/511243

3. Buntaran, H., Piepho, H.-P., Schmidt, P., Rydén, J., Halling, M., & Forkman, J. (2020). Cross–validation of stagewise mixed–model analysis of swedish variety trials with winter wheat and spring barley. *Crop Science*, *60*(5), 2221–2240. https://doi.org/10.1002/csc2.20177

4. Kukowski, S., Schmidt, P., Piepho, H.-P., Röhl, M., Hauffe, H.-K., & Streck, T. (2020). Auswirkungen atmosphärischer stickstoffeinträge auf magere flachland-mähwiesen in baden-württemberg. *Natur Und Landschaft*, *95*(2), 58–67. https://doi.org/10.17433/2.2020.50153773.58-67

5. Schmidt, P. (2019). Estimating heritability in plant breeding programs. In *-: Vol.* - (Issue -, p. –). https://doi.org/-

6. Schmidt, P., Hartung, J., Bennewitz, J., & Piepho, H.-P. (2019). Heritability in plant breeding on a genotype-difference basis. *Genetics*, *212*(4), 991–1008. https://doi.org/10.1534/genetics.119.302134

7. Schmidt, P., Hartung, J., Rath, J., & Piepho, H.-P. (2019). Estimating broad-sense heritability with unbalanced data from agricultural cultivar trials. *Crop Science*, *59*(2), 525–536. https://doi.org/10.2135/cropsci2018.06.0376

8. Schmidt, P., Möhring, J., Koch, R. J., & Piepho, H.-P. (2018). More, larger, simpler: How comparable are on-farm and on-station trials for cultivar evaluation? *Crop Science*, *58*(4), 1508–1518. https://doi.org/10.2135/cropsci2017.09.0555

9. Tulinská, J., Adel-Patient, K., Bernard, H., Líšková, A., Kuricová, M., Ilavská, S., Horváthová, M., Kebis, A., Rollerová, E., Babincová, J., Alácová, R., Wal, J.-M., Schmidt, K., Schmidtke, J., Schmidt, P., Kohl, C., Wilhelm, R., Schiemann, J., & Steinberg, P. (2018). Humoral and cellular immune response in wistar han RCC rats fed two genetically modified maize MON810 varieties for 90 days (EU 7th framework programme project GRACE). *Archives of Toxicology*, *92*(7), 2385–2399. https://doi.org/10.1007/s00204-018-2230-z

10. Schmidt, K., Schmidtke, J., Schmidt, P., Kohl, C., Wilhelm, R., Schiemann, J., van der Voet, H., & Steinberg, P. (2017). Variability of control data and relevance of observed group differences in five oral toxicity studies with genetically modified maize MON810 in rats. *Archives of Toxicology*, *91*(4), 1977–2006. https://doi.org/10.1007/s00204-016-1857-x

11. Zeljenková, D., Alácová, R., Ondrejková, J., Ambrušová, K., Bartušová, M., Kebis, A., Kovrižnych, J., Rollerová, E., Szabová, E., Wimmerová, S., Cernák, M., Krivošíková, Z., Kuricová, M., Líšková, A., Spustová, V., Tulinská, J., Levkut, M., Révajová, V., Ševcíková, Z., … Steinberg, P. (2016). One-year oral toxicity study on a genetically modified maize MON810 variety in wistar han RCC rats (EU 7th framework programme project GRACE). *Archives of Toxicology*, *90*(10), 2531–2562. https://doi.org/10.1007/s00204-016-1798-4