

# Florian Scharf

## Curriculum Vitae

September 2020

📍 WWU Münster  
Institute for Psychology  
Statistics and Methods  
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### Education

2016 – 2019	Dr. rer. nat. in Psychology Thesis: <i>Advances in the analysis of event-related potential data with factor analytic methods</i>	University of Leipzig
2014 – 2016	M.Sc. Psychology	University of Leipzig
2011 – 2014	B.Sc. Psychology	University of Leipzig
2009 – 2010	B.Sc. Chemistry (studies not completed)	University of Leipzig
2009	Abitur [higher education entrance qualification]	Gymnasium Brandis

### Academic and Work Experience

04/2019 – present	<b>Postdoctoral research associate</b> , University of Münster, Statistics and Methods
10/2016 – 03/2019	<b>Research and teaching fellow, Doctoral Student</b> , University of Leipzig, Chair for Psychological Methods
01/2017 – 03/2019	<b>Guest researcher</b> , Max-Planck-Institute for Human Cognitive and Brain Sciences, Leipzig
01/2018 – 02/2018	<b>DAAD research stay</b> hosted by Dr. Urte Roeber and Prof. Robert O'Shea as part of a DAAD joint research cooperation granted to Prof. Erich Schröger and Prof. Robert O'Shea, Murdoch University
03/2017 – 12/2017	<b>Research fellow</b> , University of Leipzig, Chair for Cognitive & Biological Psychology, in partial replacement of Assistant Professor Dr. Sabine Grimm
09/2012 – 09/2016	<b>Student teaching assistant</b> , University of Leipzig, Chair for Experimental Psychology & Methods and Chair for Psychological Methods (from 04/2016)
03/2015 – 07/2016	<b>Student research &amp; teaching assistant</b> , University of Leipzig, Chair for Cognitive & Biological Psychology
09/2014	<b>Research stay</b> , Hungarian Academy of Sciences, Research Centre for Natural Sciences, Institute of Cognitive Neuroscience and Psychology
01/2014 – 03/2015	<b>Student research assistant</b> , Max-Planck-Institute for Human Cognitive and Brain Sciences, Leipzig, Otto-Hahn-Group "Neural Bases of Intonation in Speech and Music"
08/2013 – 10/2013	<b>Internship</b> , Max-Planck-Institute for Human Cognitive and Brain Sciences, Leipzig, Otto-Hahn-Group "Neural Bases of Intonation in Speech and Music"
07/2012 – 12/2013	<b>Student research assistant</b> , Leipzig University of Applied Sciences, Project TOPINUS

## Awards and Funding

- 2020 **3rd-best lecture** at the Institute for Psychology for the lecture *Statistik II*
- 2018 **Presentation award** for best junior scientist presentation for the talk "Orthogonal versus Oblique Rotation in Temporal EFA for Event-related Potentials" presented at the 8th European Congress of Methodology in Jena
- 2016 **Poster award** for the best poster prepared in the context of the "Projektmodul" [Student research project]
- 04/2015 – 09/2016 **Deutschlandstipendium**, German national scholarship for high-achieving and committed students
- 2015 **Wilhelm-Wundt Teaching Award** granted by the Fachschaftsrat Psychologie [student representatives] of the University of Leipzig

## Academic self-government

- 07/2020 – present **Alternate member of the appointment committee for professorship for psychology of entrepreneurship**
- 10/2019 – 06/2020 **Alternate member of the committee for teaching evaluations**

## Professional Memberships

German Society for Psychology (DGPs): Section Quantitative Methods and Evaluation

## Journal Reviewer (Ad-hoc)

Brain Research, Brain Topography, Child Development, International Journal of Statistics and Probability, Journal of Computational and Graphical Statistics, Psychological Methods, Psychophysiology, Scientific Reports, Structural Equation Modeling: A Multidisciplinary Journal

## Publications

### Peer-reviewed articles

- Scharf, F., & Nestler, S. (2019). A Comparison of Simple Structure Rotation Criteria in Temporal Exploratory Factor Analysis for Event-Related Potential Data. *Methodology*, 15(Supplement 1), 43 – 60.  
DOI: 10.1027/1614-2241/a000175
- Scharf, F., & Nestler, S. (2019). Should regularization replace simple structure rotation in Exploratory Factor Analysis? *Structural Equation Modeling: A Multidisciplinary Journal*.  
DOI: 10.1080/10705511.2018.1558060
- Scharf, F., & Nestler, S. (2019). Exploratory structural equation modeling for event-related potential data – an all-in-one approach? *Psychophysiology*. DOI: 10.1111/psyp.13303.
- Wetzel, N., Scharf, F. & Widmann, A. (2018). Can't ignore –distraction by task-irrelevant sounds in early and middle childhood. *Child Development*. DOI: 10.1111/cdev.13109
- Scharf, F., & Nestler, S. (2018). Principles behind variance misallocation in temporal exploratory factor analysis for ERP data: Insights from an inter-factor covariance decomposition. *International Journal of Psychophysiology*, 128, 119-136. DOI: 10.1016/j.ijpsycho.2018.03.019.
- Bianco, R., Novembre, G., Keller, P. E., Kim, S.-G., Scharf, F., Friederici, A. D., et al. (2016). Neural networks for harmonic structure in music perception and action. *NeuroImage*, 142, 454-464.  
DOI: 10.1016/j.neuroimage.2016.08.025.
- Bianco, R., Novembre, G., Keller, P. E., Scharf, F., Friederici, A. D., Villringer, A., et al. (2016). Syntax in action has priority over movement selection in piano playing: An ERP study. *Journal of Cognitive Neuroscience*, 28(1), 41-54.  
DOI: 10.1162/jocn\_a\_00873

### Conference Posters

- Pförtner, J., Jacobucci, R., Nestler, S., & Scharf, F. (2019). *A comparison of exploratory and regularized structural equation models*. Poster presented at the 14th meeting of the methods and evaluation section of the German Psychological Society in Kiel, Germany.
- Scholz, L., Nestler, S., & Scharf, F. (2019). *Comparing robust tests for mean differences between two independent samples*. Poster presented at the 14th meeting of the methods and evaluation section of the German Psychological Society in Kiel, Germany.
- Scharf, F., & Nestler, S. (2019). *Exploratory structural equation modeling for event-related potential data*. Poster presented at 45th annual meeting of the biological psychology and neuropsychology section of the German Psychological Society (DGPs), Dresden, Germany.
- Scharf, F., & Nestler, S. (2018). *Temporal EFA for ERP data generally results in correlated factors*. Poster presented at 51st meeting of the German Psychological Society (DGPs), Frankfurt, Germany.
- Scharf, F., & Nestler, S. (2018). *Can regularization replace simple structure rotation in Exploratory Factor Analysis?* Poster presented at ZIB [Centre for International Student Assessment] Summer Academy 2018, Kiel, Germany.
- Scharf, F., & Nestler, S. (2018). *Temporal EFA for ERP data generally results in correlated factors*. Poster presented at 8th IMPRS NeuroCom Summer School, Leipzig, Germany.
- Scharf, F., Pförtner, J., & Nestler, S. (2017). *Loading recovery in Maximum Likelihood and Bayesian Exploratory Factor Analysis*. Poster presented at 13th Conference of the Expert Group of Methods and Evaluation of the German Psychological Society, Tübingen, Germany.
- Scharf, F., Müller, D., Marzecová, A., Schröger, E., & Grimm, S. (2017). *Can repetition priming explain sequential effects in temporal preparation*. Poster presented at 59th Conference of Experimental Psychologists (TEAP), Dresden, Germany.
- Bianco, R., Novembre, G., Keller, P. E., Scharf, F., Friederici, A. D., Villringer, A., et al. (2015). *Musical syntax in perception and action: An fMRI study*. Poster presented at 21st Annual Meeting of the Organization for Human Brain Mapping (OHBM), Honolulu, HI, USA.

### Conference Talks

- Scharf, F., & Nestler, S. (2019). *Should regularization replace simple structure rotation in exploratory factor analysis?* Talk presented at the 14th meeting of the methods and evaluation section of the German Psychological Society in Kiel, Germany.
- Scharf, F., & Nestler, S. (2018). *Orthogonal versus Oblique Rotation in Temporal EFA for Event-related Potentials Analysis*. Talk presented at the 8th European Congress of Methodology in Jena, Germany.

### Software Development

- Contributor to *lavaan* [R-package for structural equation modeling]
- Contributor to *regsem* [R-package for regularized structural equation modeling]

## Teaching & Supervision

### Lectures, Seminars, Tutorials & Workshops

- 2019 – present **Lecture: Statistik I + II [Introduction to statistics]**  
Lecture for 1st year bachelor students
- 2016 – 2019 **Seminar: Computer gestützte Datenanalyse in R I & II [Statistical analyses using R]**  
Statistics exercise for 1st year bachelor students
- 2019 **Introduction to Linear Mixed Models (with Richard Rau)**  
3-day workshop about linear mixed models
- 2018 **Seminar: Evaluation und Forschungsmethodik [Statistical analyses using R (Advanced course)]**  
Statistics exercise for master students
- 2018 **Steuerung psychologischer Experimente [Programming psychological experiments]**  
MATLAB and Psychophysics Toolbox course for master students
- 2018 **Seminar: Perzeptive Prozesse [Perception]**  
Master course about the state of psycho-physiological research on perception
- 2017 & 2018 **Introduction to Big Data (with Steffen Nestler)**  
2-day workshop about Big Data analyses
- 2017 – 2018 **Auswertung und Interpretation von Daten aus Hirnstrommessungen [Analysis and interpretation of EEG data]**  
Introduction to the event-related potential technique for master students
- 2016 **Introduction to R**  
2-day workshop for beginners
- 2016 **Tutorial: Statistik für Fortgeschrittene [Advanced Statistics]**  
Accompanying tutorial for master students
- 2016 **Steuerung psychologischer Experimente [Programming psychological experiments]**  
Tutor assistant during practical sessions for master students
- 2015 **Auswertung und Interpretation von Daten aus Hirnstrommessungen [Analysis and interpretation of EEG data]**  
Tutor assistant during practical sessions for master students
- 2015 **Empiriepraktikum: Station EEG-Ableitung [Experimental practicals: EEG recording]**  
Teaching assistant during laboratory sessions for bachelor students
- 2013 – 2015 **Tutorial: Multivariate Statistik [Multivariate Statistics]**  
Accompanying tutorial for master students
- 2013 – 2015 **Tutorial: Multivariate Statistik [Multivariate Statistics]**  
Accompanying tutorial for bachelor students
- 2012 – 2016 **Tutorial: Deskriptive & Inferenzstatistik [Descriptive & Inferential Statistics]**  
Accompanying tutorial for bachelor students

### Bachelor theses

- 2020 **Timo Gloe, B.Sc. Psychology, University of Münster**  
[A performance comparison of post-selection inference methods in the context of a multiple lasso regression]
- 2019 **Lena Scholz, B.Sc. Psychology, University of Leipzig**  
[Comparing tests for mean differences between two independent samples under conditions of non-normality and heteroscedasticity]
- 2019 **Marie-Louise Barth, B.Sc. Psychology, University of Leipzig**  
[Relationship between musical ability and the mismatch negativity]
- 2018 **Katja Moldt, B.Sc. Psychology, University of Leipzig**  
[The auditory MMN to predictable pitch deviants –a replication study]
- 2018 **Juliane Feiler, B.Sc. Psychology, University of Leipzig**  
[Reliability and stability of the auditory MMN elicited by pitch deviants across different SOAs]
- 2017 **Jana Pförtner, B.Sc. Psychology, University of Leipzig**  
[Comparing loading and correlation estimates of EFA and PCA –a replication study]

### Master theses

- 2020 **Jana Pförtner, M.Sc. Psychology, University of Leipzig**  
[Dealing with cross-loadings in the structural equation modelling framework - a comparison of exploratory and regularized structural equation models]
- 2020 **Christine Telle, M.Sc. Psychology, University of Leipzig**  
[Proportion- versus pattern-based processing: The auditory MMN in the context of competing predictions]

### Interns

- 2020 **Rebecca Seggewiß**
- 2020 **Anna Nikolei**
- 2020 **Maximilian Neises**
- 2019 **Dominik Strutz**
- 2018 **Lena Scholz**