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**Prof. Dr. Carolin Strobl**

Psychological Methods, Evaluation and Statistics

Department of Psychology

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## Research interests

### Psychometrics

Methods for testing measurement invariance in models from Item Response Theory

### Machine Learning

Unbiased variable selection and variable importance, stability, interpretable Machine Learning

### Meta Science

Quality standards for simulation studies in methodological research

Anonymization and synthetic data for sharing sensitive research data

## Academic positions and degrees

since 08/2011	<b>Full professor of Psychological Methods, Evaluation and Statistics</b> (part-time during selected periods due to caregiving responsibilities) Department of Psychology, University of Zurich, Switzerland Head of the statistical consulting unit of the Department of Psychology Head of the continuing education program <i>Zurich R Courses</i>
07/2011	<b>Habilitation in Statistics</b> Ludwig-Maximilians-University Munich, Germany
10/2009 – 07/2011	Scientific coordinator of the <i>Center for Empirical Studies: Data Analysis, Modelling &amp; Knowledge Discovery in Social Sciences, Economics and Humanities</i> Department of Statistics, Ludwig-Maximilians-University Munich, Germany
7/2008	<b>PhD in Statistics</b> Ludwig-Maximilians-University Munich, Germany
10/2002 – 04/2005	<b>Masters degree in Statistics</b> Ludwig-Maximilians-University Munich, Germany
10/1998 – 09/2002	<b>Diploma degree in Psychology</b> University of Regensburg, Germany

## Board memberships

### (selection from recent years)

Chair of the task force on quality standards for simulation studies (together with Björn Siepe), Psychometric Society

Head of the IT and Data Management committee of the Department of Psychology, University of Zurich

Member of the panel of experts *Familienfreundliche Wissenschaft [Family-friendly Science]* of the DGPs [German Psychological Society] and the Fakultätentag Psychologie

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Prof. Dr. Carolin Strobl, Psychological Methods, University of Zurich, Switzerland

Member of the Steering Committee of the *Center for Reproducible Science*, University of Zurich  
Member of the Scientific Advisory Board of the *Institut für Bildungsevaluation [Institute for Educational Evaluation]*,  
University of Zurich  
Member of the Scientific Advisory Board of the *Centre for Educational Measurement*, University of Oslo

## Teaching (selection from recent years)

BA/MA study program Psychology at the University of Zurich:  
Lecture and tutorials *Statistics 1* (Introduction)  
Lecture *Statistics 2* (Multivariate Statistics)  
Master theses group and research colloquium  
Plenary Lecture on *Open Science* as part of the experimental psychology course  
Studium Digitale at the University of Zurich:  
Module *Statistics*  
Current Pre-Conference Workshops and Tutorials:  
*Machine Learning and Interpretable Machine Learning with R*  
with Mirka Henninger, Yannick Rothacher and Rudolf Debelak  
*Planning and Conducting Simulation Studies in R*  
with Mirka Henninger and Rudolf Debelak  
*Sample Size Planning* with Rudolf Debelak

## Conference organization (selection from recent years)

Annual *International Workshop on Psychometric Computing (Psychoco)*  
Program committee and partly head of the local host team  
  
2019 and 2022 *UZH Reproducibility Day* of the *Center for Reproducible Science*  
Program committee und workshops  
  
9/2019 *Scientifica* exhibition  
Booth of the *Center for Reproducible Science* and *Science Café „Therapien für die krankende Wissenschaft“*  
  
2019–22 *International Meeting of the Psychometric Society (IMPS)*  
Program committee  
  
7/2017 *International Meeting of the Psychometric Society (IMPS)*  
Head of the local host team

## Membership in editorial boards and reviewer (selection from recent years)

Associate Editor for *British Journal of Mathematical and Statistical Psychology*  
Associate Editor for *Quantitative and Computational Methods in Behavioral Sciences*

Associate Editor of the book series *Statistics for Social and Behavioral Sciences*, Springer

Associate Editor of the book series *Sozialwissenschaftliche Forschungsmethoden* [Research methods for social sciences], Nomos

Ad hoc reviewer for, e.g., *Algorithms for Molecular Biology*; *The American Statistician*; *Annals of Applied Statistics*; *Annals of Human Genetics*; *Biometrical Journal*; *Biometrics*; *BMC Bioinformatics*; *British Journal of Mathematical and Statistical Psychology*; *Computational Statistics*; *Computational Statistics & Data Analysis*; *Diagnostica*; *Educational and Psychological Measurement*; *Electronic Journal of Statistics*; *European Journal of Personality*; *European Journal of Psychological Assessment*; *Genetic Epidemiology*; *International Journal of Approximate Reasoning*; *International Journal of Public Health*; *International Journal of Quantitative Research in Education*; *International Journal of Uncertainty, Fuzziness and Knowledge-Based Systems*; *International Statistical Review*; *Journal of the American Statistical Association*; *Journal of Computational and Graphical Statistics*; *Journal of Consulting and Clinical Psychology*; *Journal of Educational and Behavioral Statistics*; *Journal of Machine Learning Research*; *Journal of Statistical Software*; *Personality and Individual Differences*; *PLOS ONE*; *Psychology Science Quarterly*; *Psychometrika*; *Psychological Methods*; *Psychological Test and Assessment Modeling*; *R News*; *Statistical Analysis and Data Mining*; *Statistics and Computing*; *Statistics in Medicine*; *Statistica Sinica*.

## Awards

### (selection from recent years)

2018 and 2022 *Teaching award of the Fachverein Psychologie (FAPS) [student body for Psychology]*, University of Zurich

## Invited talks

### (selection from recent years)

4/2025 *Against the “one method fits all data sets” philosophy for comparison studies in methodological research.*  
*Symposium in Memory of Fritz Leisch*, BOKU Vienna, Austria

4/2025 *Detecting parameter heterogeneity in psychometric models by means of model-based recursive partitioning with psychotree, stablelearner & co.* WU Vienna, Austria

1/2025 *Anonymization and related approaches to sharing sensitive data.*  
with Fabio Molo, *Data Protection Week* of the University of Zurich, Switzerland

7/2024 *Quality Standards for Simulation Studies in Psychometrics.*  
Podiumsdiskussion, *International Meeting of the Psychometric Society IMPS*, Prague, Czech Republic

9/2023 *Neutral comparison studies in methodological research.*  
Symposium, *Conference of the Central European Network (CEN) of the International Biometric Society*, Basel, Switzerland

7/2023 *Bringing owls to Athens: Some thoughts on what makes a good simulation study in methodological research.*  
Keynote, *European Congress of Methodology (EAM)*, Gent, Belgium

2/2023 *The botanical garden of Machine Learning – Understanding the ideas behind decision trees and random forests.*  
Invited talk, *First Winter Congress of the International Psychology Students Initiative*, Zurich, Switzerland

12/2022 *(How) can we interpret the predictions of machine learning methods?*  
Invited talk, *Centre for Educational Measurement (CEMO)*, Oslo, Norway

5/2021 *Are we expecting too much from machine learning?*  
Keynote, *Research Synthesis & Big Data Conference des Leibniz-Institut für Psychologie (ZPID)*, Trier, Germany

Prof. Dr. Carolin Strobl, Psychological Methods, University of Zurich, Switzerland

(virtual)

## **Publications**

see <https://www.psychology.uzh.ch/en/areas/nec/methoden/publikationen>