Dr. phil. Gidon Frischkorn

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University of Zurich, General Psychology (Cognition)
University of Lucerne, Faculty of Behavioral Sciences & Psychology

Psychometrician specializing in statistics, psychological research methods, and experimental psychology. My research focuses on model-based measurement of cognitive processes and individual differences, and on analyzing experimental effects with formal statistical models. SNSF Ambizione Fellow at the Department of Psychology, University of Zurich; teaching and research in statistics and methods at the Universities of Zurich and Lucerne.

Education

09/2015 – 03/2019 Germany
Dr. phil. (PhD), Psychology, with distinction: *summa cum laude*
Ruprecht-Karls Universität Heidelberg

10/2013 – 08/2015 Germany
Master of Science, Psychology
Ruprecht-Karls Universität Heidelberg | GPA 1.0 (top grade)

10/2009 – 08/2012 Germany
Bachelor of Science, Psychology
Ruprecht-Karls Universität Heidelberg | GPA 1.6 (equivalent: very good)

Professional experience

Since 08/2025
Lecturer and Research Associate in Statistics & Methods, University of Lucerne, Switzerland (20% appointment)

- Building and developing the statistics and research methods curriculum in the B.Sc. Psychology program
- Designing, teaching, and examining one statistics lecture with accompanying exercises per semester
- Developing interactive teaching and exercise materials for hands-on statistical methods training in R
- Contributing to the curricular design of the methods track

Since 01/2023
SNF Ambizione Fellow, University of Zurich (UZH), Switzerland
(100% appointment until 07/2025, 80% from 08/2025)
Junior group leader, research group "Cognitive Psychometrics"

- Leading an independent research group in psychological methods, statistics, and psychometrics
- Developing and applying predictive analysis and modeling approaches using hierarchical Bayesian statistics
- Designing and implementing an open-source software package for Bayesian measurement models (R package bmm)
- Responsible for budget, personnel planning, and scientific direction of an SNSF-funded research project (CHF 950,000, 4 years)
- Planning, conducting, and analyzing experimental studies (lab and online)
- Teaching advanced statistical methods

01/2019 – 12/2022
Postdoctoral Researcher, UZH, Switzerland
Senior researcher in the "Cognitive Psychology" research group at UZH

- Contributing to and leading international research projects at the intersection of psychometrics and cognitive psychology
- Publishing findings in international peer-reviewed journals and presenting at international conferences
- Securing and contributing to externally funded projects
- Teaching courses and supervising bachelor and master theses
- Coordinating and serving as point of contact for methodological and technical questions in science computing

09/2015 – 12/2018 **Ph.D. Student**, Heidelberg University, Germany
Junior researcher in the "Differential Psychology & Diagnostics" research group

- Independently conducting a research project on individual differences in intelligence
- Applying advanced statistical and psychometric modeling techniques
- Teaching programming and experimental methods
- Continuing training in cognitive modeling methods

09/2010 – 08/2015 **Research Assistant**, Heidelberg University, Germany

1) Conducting and analyzing behavioral experiments
2) Data management and preparation for empirical research projects

Shortlisted in appointment procedures

2024 **Ranked 2nd** on the appointment list for the W2 Professorship in *Psychological Research Methods* at Witten-Herdecke University, Germany.

Language skills

German Native speaker (Swiss German: excellent comprehension)

English Full professional proficiency, spoken and written (9 years of schooling + 10 years as working language)

French Basic proficiency (DELF A2 diploma)

Most significant research contributions

Publications most relevant to this position

1) **Frischkorn, G. T.**, & Oberauer, K. (2025). Is the antisaccade task a valid measure of inhibition? *Journal of Experimental Psychology: General*. https://doi.org/10.1037/xge0001808

   This paper combines experimental manipulations with a theoretically motivated analysis model to tease apart the different processes that contribute to behavioral performance in a manual version of the antisaccade task. It reflects my broader interest in bringing together different strands of psychological research methods, particularly experiments and modern statistical analysis, to properly separate and test theoretical constructs.

2) **Frischkorn, G. T.**, & Popov, V. (2025). A tutorial for estimating Bayesian hierarchical mixture models for visual working memory tasks: Introducing the Bayesian Measurement Modeling (bmm) package for R. *Behavior Research Methods*, *57*(5), 144. https://doi.org/10.3758/s13428-025-02643-0

   An introduction to estimating cognitive measurement models for visual working memory tasks, along with the R package "Bayesian Measurement Models (bmm)" that I developed for this purpose. This paper is a good example of what drives much of my work: making advanced and technically demanding methods accessible and easy to use for a wide range of researchers.

3) **Frischkorn, G. T.**, von Bastian, C. C., Souza, A. S., & Oberauer, K. (2022). Individual differences in updating are not related to reasoning ability and working memory capacity. *Journal of Experimental Psychology: General*. https://doi.org/10.1037/xge0001141

   Using latent change models and Bayesian hierarchical models, this study separated individual differences in working memory updating from general working memory capacity. The results showed that updating, once isolated from overall capacity, does not correlate with individual differences in cognitive ability.

4) **Frischkorn, G. T.**, Wilhelm, O., & Oberauer, K. (2022). Process-oriented intelligence research: A review from the cognitive perspective. *Intelligence*, 94, 101–681. https://doi.org/10.1016/j.intell.2022.101681

   This review article summarizes my current research program on process-oriented individual differences in cognitive ability. In particular, the article explains why combining cognitive modeling with traditional psychometric methods is central to better understanding the processes that underlie cognitive performance.

5) **Frischkorn, G. T.**, & Oberauer, K. (2021). Intelligence test items varying in capacity demands cannot be used to test the causality of working memory capacity for fluid intelligence. *Psychonomic Bulletin & Review*. https://doi.org/10/gjp3br

   This simulation study demonstrates how mathematical models can be used to test the predictions of theories and examines whether the interpretation of earlier findings actually follows from the underlying theoretical assumptions. It turns out that the hypotheses intuitively derived from these theories do not, in fact, follow from the theory itself. This makes a strong case for why formal models matter: they let us critically examine whether our intuitions about theoretical ideas actually hold up.

Research interests and planned research directions

Research profile

My research sits at the intersection of psychological methods, statistics, and psychometrics and focuses on developing and applying mathematical models to measure psychological processes, with a particular emphasis on individual differences. At its core, this work is about formally operationalizing theoretical assumptions about cognitive processes so that empirical findings can be analyzed and interpreted in a differentiated way.

As the publications listed in this application show, my research is characterized by systematically connecting psychometric modeling, modern statistical analysis, and experimental design. By using formal models – such as evidence accumulation models or process-oriented measurement models for memory processes – I translate observed behavioral data into theoretically interpretable process parameters. This allows me to analyze psychological processes beyond global performance scores and to explicitly account for individual differences.

Methodological focus and previous work

To advance this approach, I have published review and methods papers on applying cognitive measurement models in intelligence and cognition research. Alongside this, I develop software tools for the practical implementation of such models, including a freely available R package for estimating hierarchical Bayesian measurement models (*bmm,* downloads > 5,000). The goal is to make complex statistical methods accessible and to support their theory-driven application in psychological research.

Another major strand of my empirical work involves jointly modeling response times and accuracy to analyze processing speed, decision-making, and working memory functions. These studies combine experimental manipulations with model-based analysis of individual differences.

Current and future directions

In my current SNSF Ambizione project, I am developing mathematical models to analyze response selection and response time in declarative and procedural working memory tasks. The central question is whether working memory capacity for both procedural and declarative content is limited by the ability to encode and actively maintain bindings.

Going forward, I plan to extend the application of formal measurement models to other psychological processes, particularly emotional-motivational personality traits. I see clear connections to developmental and clinical psychology here. In the longer term, my research program aims to systematically link behavioral data, model-based process indicators, and questionnaire measures, in order to capture psychological processes consistently across different methods and content domains.

Contribution to Open Science

Transparent and reproducible research is central to how I work. I routinely share raw data, analysis scripts, and materials via OSF (OSF profile: https://osf.io/h4wrk/) and I am actively involved in initiatives at *PCI: Registered Reports* and *PCI: Psychology* as a Recommender, working to advance open publication formats. I also contribute to making reproducible analysis approaches more widely available through the development and documentation of open-source software tools.

Complete list of publications & research contributions

Citation statistics	Total citations (Google Scholar): > 1,000 h-index (Google Scholar): 15 i-10 index (Google Scholar): 21
Publication overview	Total peer-reviewed articles: *Peer-review* : 33 Number of *preprints*: 5

* shared first authorships

Journal articles

preprints

5 Göttmann, J., **Frischkorn, G. T.**, Oberauer, K., Schaefer, S. B., & Schubert, A.-L. (under review at Journal of Mathematical Psychology). *Modeling Individual Differences in Working Memory: Subject-Level Parameter Recovery within the Memory Measurement Model Framework (M^3)*. Preprint available at PsyArXiv: https://doi.org/10.31234/osf.io/945d2_v1

4 **Frischkorn, G.**, Courage, I., Dames, H., Dignath, D., Pfeuffer, C., Schiltenwolf, M., Kiesel, A., & Oberauer, K. (invited for revision at Journal of Cognition). *Bindings for Action: Bridging the Gap Between Theories of Procedural Working Memory and Action Control Research*. Preprint available at PsyArXiv: https://doi.org/10.31234/osf.io/ut4e9_v1

3 Oberauer, K., Schubert, A.-L., **Frischkorn, G. T.**, Nunez, M. D., & Fieach, C. J. (Preprint). The Signal-To-Noise Ratio Hypothesis of Intelligence. Preprint available at PsyArXiv: https://doi.org/10.31219/osf.io/nkms3_v1

2 Rey-Mermet, A., Haaf, J., Donzallaz, M., **Frischkorn, G.**, Hedge, C., Kempkens, N., Oberauer, K., & Schubert, A.-L. (under review at Perspectives on Psychological Science). *How can we achieve a good measurement of attentional control?* Preprint available at PsyArXiv: https://doi.org/10.31234/osf.io/ugk4h_v1

1 Von Bastian, C. C., Blais, C., Brewer, G., Gyurkovics, M., Hedge, C., Kałamała, P., Meier, M., Oberauer, K., Rey-Mermet, A., Rouder, J. N., Souza, A. S., Bartsch, L. M., Conway, A. R. A., Draheim, C., Engle, R. W., Friedman, N. P., **Frischkorn, G. T.**, Gustavson, D. E., Koch, I., … Wiemers, E. (Preprint). Advancing the understanding of individual differences in attentional control: Theoretical, methodological, and analytical considerations. Preprint available at PsyArXiv: https://doi.org/10.31234/osf.io/x3b9k

In press

33 Li, C., **Frischkorn, G. T.**, & Oberauer, K. (accepted at JEP: LMC). Can We Process Information Without Encoding It into Working Memory?. Preprint available at PsyArXiv: https://doi.org/10.31234/osf.io/mcpf7_v1

2025

32 Löffler, C., Sadus, K., **Frischkorn, G. T.**, Hagemann, D., & Schubert, A.-L. (2025). The factor structure of executive functions measured with electrophysiological correlates: An event-related potential analysis. Journal of Experimental Psychology: Learning, Memory, and Cognition. https://doi.org/10.1037/xlm0001549

31 **Frischkorn, G. T.**, & Oberauer, K. (2025). Is the antisaccade task a valid measure of inhibition? *Journal of Experimental Psychology: General*. https://doi.org/10.1037/xge0001808

30 Li, C., **Frischkorn, G. T.**, Dames, H., & Oberauer, K. (2025). The Benefit of Removing Information from Working Memory: Increasing Available Cognitive

Resources or Reducing Interference? *Cognition*, *260*. https://doi.org/10.1016/j.cognition.2025.106134

29 Nunez, M. D., Schubert, A.-L., **Frischkorn, G. T.**, & Oberauer, K. (2025). Cognitive models of decision-making with identifiable parameters: Diffusion decision models with within-trial noise. *Journal of Mathematical Psychology*, *125*, 102917. https://doi.org/10.1016/j.jmp.2025.102917

28 **Frischkorn, G. T.**, & Popov, V. (2025). A tutorial for estimating Bayesian hierarchical mixture models for visual working memory tasks: Introducing the Bayesian Measurement Modeling (bmm) package for R. *Behavior Research Methods*, *57*(5), 144. https://doi.org/10.3758/s13428-025-02643-0

27 Li, C., **Frischkorn, G. T.**, & Oberauer, K. (2025). Updating of information in working memory: Time course and consequences. Cognitive Psychology, 156, 101702. https://doi.org/10.1016/j.cogpsych.2024.101702

2024 26 Schubert, A.-L., **Frischkorn, G. T.**, Sadus, K., Welhaf, M. S., Kane, M. J., & Rummel, J. (2024). The brief mind wandering three-factor scale (BMW-3). *Behavior Research Methods*. https://doi.org/10.3758/s13428-024-02500-6

25 Dames, H., Li, C., **Frischkorn, G. T.**, & Oberauer, K. (2024). Removing information from working memory with a delay: Effective but not beneficial. *Psychonomic Bulletin & Review*. https://doi.org/10.3758/s13423-024-02550-z

24 Souza, A. S., **Frischkorn, G. T.**, & Oberauer, K. (2024). Older yet sharp: No general age-related decline in focusing attention. *Journal of Experimental Psychology: General*. https://doi.org/10.1037/xge0001649

23 Bartsch, L. M., **Frischkorn, G. T.**, & Shepherdson, P. (2024). When Load is Low, Working Memory is Shielded From Long-Term Memory's Influence. *Journal of Cognition* 7(1), Typeicle 1. https://doi.org/10.5334/joc.368

22 Löffler, C., **Frischkorn, G. T.**, Hagemann, D., Sadus, K., & Schubert, A.-L. (2024). The common factor of executive functions measures nothing but speed of information uptake. *Psychological Research*. https://doi.org/10.1007/s00426-023-01924-7

21 **Frischkorn, G. T.** (2024). Responsible Research Assessment requires structural more than procedural reforms. *Meta-Psychology*, 8. https://doi.org/10.15626/MP.2023.3734

20 Dames, H., Musfeld, P., Popov, V., Oberauer, K., & **Frischkorn, G. T.** (2024). Responsible Research Assessment Should Prioritize Theory Development and Testing Over Ticking Open Science Boxes. *Meta-Psychology*, 8. https://doi.org/10.15626/MP.2023.3735

2023 19 Souza, A. S., & **Frischkorn, G. T.** (2023). A diffusion model analysis of age and individual differences in the retro-cue benefit. *Scientific Reports*, 13(1), Typeicle 1. https://doi.org/10.1038/s41598-023-44080-z

2022 18 **Frischkorn, G. T.**, Wilhelm, O., & Oberauer, K. (2022). Process-oriented intelligence research: A review from the cognitive perspective. *Intelligence*, 94, 101–681. https://doi.org/10.1016/j.intell.2022.101681

17 **Frischkorn, G. T.**, Hilger, K., Kretzschmar, A., & Schubert, A.-L. (2022). Intelligenzdiagnostik der Zukunft. [The future of intelligence assessment] *Psychologische Rundschau*, 73(3), 173–189. https://doi.org/10.1026/0033-3042/a000598

16 **Frischkorn, G. T.**, von Bastian, C. C., Souza, A. S., & Oberauer, K. (2022). Individual differences in updating are not related to reasoning ability and

working memory capacity. *Journal of Experimental Psychology: General.* https://doi.org/10.1037/xge0001141

15 Löffler, C., **Frischkorn, G. T.**, Rummel, J., Hagemann, D., & Schubert, A.-L. (2022). Do Attentional Lapses Account for the Worst Performance Rule? *Journal of Intelligence*, 10(1), 2. https://doi.org/10.3390/jintelligence10010002

2021 14 **Frischkorn, G. T.**, & Oberauer, K. (2021). Intelligence test items varying in capacity demands cannot be used to test the causality of working memory capacity for fluid intelligence. *Psychonomic Bulletin & Review*. https://doi.org/10/gjp3br

13 **Frischkorn, G. T.**, & von Bastian, C. C. (2021). In Search of the Executive Cognitive Processes Proposed by Process-Overlap Theory. *Journal of Intelligence*, 9(3), 43. https://doi.org/10/gmm7dz

2020 12 Lerche, V., von Krause, M., Voss, A., Frischkorn, G. T., Schubert, A.-L., & Hagemann, D. (2020). Diffusion modeling and intelligence: Drift rates show both domain-general and domain-specific relations with intelligence. *Journal of Experimental Psychology: General*, 149, 2207–2249. https://doi.org/10/ggt8r7

11 Schubert, A.-L.*, & **Frischkorn, G. T.*** (2020). Neurocognitive Psychometrics of Intelligence: How Measurement Advancements Unveiled the Role of Mental Speed in Intelligence Differences. *Current Directions in Psychological Science*. https://doi.org/10/ggkz9b

10 Schubert, A.-L., Hagemann, D., Löffler, C., & **Frischkorn, G. T.** (2020). Disentangling the Effects of Processing Speed on the Association between Age Differences and Fluid Intelligence. *Journal of Intelligence*, 8(1), 1. https://doi.org/10/ggj5hm

2019 9 Schubert, A.-L., **Frischkorn, G. T.**, & Rummel, J. (2019). The validity of the online thought-probing procedure of mind wandering is not threatened by variations of probe rate and probe framing. *Psychological Research*. https://doi.org/10/gfz6s4

8 **Frischkorn, G. T.**, Schubert, A.-L., & Hagemann, D. (2019). Processing speed, working memory, and executive functions: Independent or inter-related predictors of general intelligence. *Intelligence*, 75, 95–110. https://doi.org/10/gf3sxs

2018 7 Schubert, A.-L., Hagemann, D., **Frischkorn, G. T.**, & Herpertz, S. C. (2018). Faster, but not smarter: An experimental analysis of the relationship between mental speed and mental abilities. *Intelligence*, 71, 66–75. https://doi.org/10/gffjb9

6 **Frischkorn, G. T.***, & Schubert, A.-L.* (2018). Cognitive Models in Intelligence Research: Advantages and Recommendations for Their Application. *Journal of Intelligence*, 6(3), 34. https://doi.org/10/gd3vqn

2017 5 Schubert, A.-L., Hagemann, D., & **Frischkorn, G. T.** (2017). Is general intelligence little more than the speed of higher-order processing? *Journal of Experimental Psychology: General*, 146(10), 1498-1512. https://doi.org/10/gch83n

2016 4 **Frischkorn, G. T.**, Schubert, A.-L., Neubauer, A., & Hagemann, D. (2016). The Worst Performance Rule as Moderation: New Methods for Worst Performance Analysis. *Journal of Intelligence*, 4(3), 9. https://doi.org/10/gd3vsz

3 Schubert, A.-L., **Frischkorn, G. T.**, Hagemann, D., & Voss, A. (2016). Trait Characteristics of Diffusion Model Parameters. *Journal of Intelligence*, 4(3), 7. https://doi.org/10/gd3vs3

2 Meißner, A., Greiff, S., **Frischkorn, G. T.**, & Steinmayr, R. (2016). Predicting Complex Problem Solving and school grades with working memory and ability self-concept. *Learning and Individual Differences*, 49, 323–331. https://doi.org/10/f82798

2014 1 **Frischkorn, G. T.**, Greiff, S., & Wüstenberg, S. (2014). The development of complex problem solving in adolescence: A latent growth curve analysis. *Journal of Educational Psychology*, 106(4), 1007–1020. https://doi.org/10/gd3vsg

Software

bmm (R package) — *Lead author. R package for Easy and Accessible Bayesian Measurement Models Using 'brms'. Available at: https://cran.r-project.org/web/packages/bmm/index.html*

Talk series

2021 — *Organizer of the Distributed Working Memory Series (DWMS). A virtual talk series aimed at bringing together researchers interested in working memory all around the globe. https://www.world-wide.org/Psychology/Distributed-WM-Series/*

Talks

Invited

5 Analyzing data on the level of psychological processes. (2024, July). Colloquium of the Psychological Institute, Johannes-Gutenberg University Mainz.

4 The *bmm* R package: Easy and Accessible Bayesian Measurement Models using 'brms'. (2024, May). Department of Statistics, Computational Statistics Lab, TU Dortmund.

3 Measuring psychological theories requires formal theories. (2024, May). Faculty for Psychology, Sigmund Freud University Vienna.

2 Measuring & dissociating cognitive processes: Problems and pitfalls exemplified with the Anti-Saccade Task. (2022, May) Working Memory, Cognition, and Development Laboratory, University of Geneva.

1 Implications from cognitive psychology for measuring cognitive processes: The example of the anti-saccade task. (2021, May). Chair of General Psychology: Cognition, Action, and Sustainability. University of Freiburg

Conference contributions — More than 30 contributions (18 as talks) at international conferences, including:

- Annual Meeting of the Psychonomic Society
- Conference of the European Society of Cognitive Psychology
- Congress of the German Psychological Society
- European Working Memory Symposium
- Annual Meeting Psychology & Brain
- Conference of Experimental Psychologists (TeaP)
- Conference of the European Mathematical Psychology Group
- International Workshop on Psychometric Computing

Teaching

Overview of teaching (since *2015*, summarized)

6) 4 lecture courses; more than 10 seminars; 6 workshops

List of courses taught (selection: last 5 years, 2021–2025)

Unless stated otherwise, I was solely responsible for the design & examination of the listed courses.

Lectures

Fall semester (HS) 2025	*Statistics I* (B.Sc. Psychology, approx. 150 students), University of Lucerne (3 contact hours/week; 5 ECTS) **Evaluation**: Overall course rating: 3.0; Instructor: 3.4
Spring semester (FS) 2021	*Cognitive Psychology I* (B.Sc. Psychology, approx. 800 students), University of Zurich. (2 contact hours/week; 3 ECTS; co-taught with Dr. Lea Bartsch; fully responsible for 6 of 12 lectures and 50% of the exam.)

Seminars

FS 2024	*Introduction to Bayesian Statistics* (M.Sc. Psychology, 15 students), University of Zurich. (2 SWS; 4 ECTS; co-taught with Philipp Musfeld; fully responsible for 6 of 12 sessions and 50% of the exam)
FS 2023	*Using simulations to challenge your intuitions about cognitive theories* (M.Sc. Psychology, 20 students), University of Zurich. (2 SWS; 4 ECTS) **Evaluation**: Overall course rating: 4.9; Instructor: 5.7
FS 2022	*Using simulations to challenge your intuitions about statistics and cognitive theories* (M.Sc. Psychology, 5 students), University of Zurich. (2 SWS; 4 ECTS)
HS 2021	*Cutting Edge Research in Human Cognition* (M.Sc. Psychology, 25 students), University of Zurich. (2 SWS; 4 ECTS; co-taught with Dr. Lea Bartsch; fully responsible for 6 of 12 sessions and 50% of the exam) **Evaluation**: Overall course rating: 5.6; Instructor: 5.7

Workshops

September 2025	*Analyzing data on the level of cognitive processes* Two-day workshop at the 24th Conference of the European Society of Cognitive Psychology, Sheffield, United Kingdom.
June 2025	*Introduction to Structural Equation Modeling in R* Two-day course for PhD students of the Graduate School of the Faculty of Arts and Social Sciences at University of Zurich, Zurich, Switzerland.
April 2024	*Bayesian Modelling for Observational Data* Workshop for the R group at the Institute of Psychology at University of Zurich, Zurich, Switzerland.
September 2023	*Improving Inference About Cognitive Processes Using Mixture Models* Workshop at the 23rd Conference of the European Society of Cognitive Psychology, Porto, Portugal.
October 2022	*Structural equation modeling in R & lavaan.* Workshop for PhD & MSc students, University of Porto.

Higher education professional development

HS 2025	*Foundation course: University teaching* 2-day workshop on evidence-based structuring of lectures and seminars & designing rubrics for exams and written assignments
June 2025	*Supervision Training* 2-day workshop as part of the postdoctoral professional development program of the Graduate School at the Faculty of Arts, University of Zurich

Thematic breadth of teaching experience

Beyond the courses listed for the last five years, my teaching has covered a broad range of formats and topics over the course of my academic career. These include:

- Introductory and intermediate courses in statistics and research methods
- Advanced courses on Bayesian statistics, hierarchical models, and structural equation models
- Seminars on psychometric modeling and test theory
- Project and methods seminars on planning, conducting, and analyzing experimental studies
- Programming courses for experimental implementation and data analysis (including R, jsPsych)
- Research seminars and colloquia in cognitive psychology and individual differences

These courses were taught at the bachelor, master, and doctoral level across different institutional settings.

Teaching philosophy & possible future courses

My teaching in psychological methods and statistics aims to gradually guide students toward solid, reflective, and application-oriented methodological competence. I start from the conviction that statistics and research methods are integral to psychological theory building and empirical research, and should therefore be built up coherently across the entire study program. Accordingly, my teaching consistently ties together theoretical foundations, statistical modeling, and practical implementation. To further develop my teaching skills, I have completed higher education didactics training (including a foundation course in university teaching) as well as workshops on student supervision.

In the B.Sc. Psychology program, I see my role primarily in shaping the content and didactics of the statistics and methods modules, as well as providing methodological support for the foundational subject courses:

- The introductory statistics modules (Statistics 1–3) focus on building core competencies in probability, sampling logic, inference, and understanding models. The goal is to give students an early grasp of uncertainty, measurement, and model assumptions. Exercises are closely tied to hands-on implementation in R.
- The advanced statistics modules (Statistics 4 and 5) focus on applying statistical methods to concrete psychological research questions. Students learn to make theory-driven analysis decisions and to critically interpret results.
- In the Scientific Writing lecture, the connection between theory, research question, study design, and analysis is worked out systematically, with an emphasis on the critical evaluation of empirical studies and preparation for empirical project work and the bachelor thesis.

I consider close coordination with the colleagues responsible for the experimental labs in the bachelor program to be important. The aim is for students to meaningfully apply and reflect on the statistical concepts, analysis decisions, and model assumptions from the lectures within their experimental exercises.

Looking ahead to the planned M.Sc. Psychology program, I see the opportunity to offer advanced courses in statistics, methods, and psychometric modeling. A lecture on modern statistical modeling with a focus on Bayesian statistics would introduce students to estimating hierarchical models, model comparison, and quantifying uncertainty. This could be complemented by advanced courses on structural equation models and mathematical modeling of psychological processes (e.g., generalized hierarchical models, process models), preparing students for independent empirical work.

If needed, I am also open to teaching courses in psychometrics and psychological assessment, particularly with a focus on measurement models, test theory, and the theory-driven interpretation of psychological tests. I could also see myself offering advanced seminars in cognitive psychology where current theoretical and methodological developments are discussed alongside statistical analysis approaches.

For the Faculty of Behavioral Sciences and Psychology at the University of Lucerne, I see particular potential in positioning statistics and methods teaching as a connecting element across the faculty's different subject areas. Methodological and statistical competence provides common ground for experimental, clinical, developmental, neuropsychological, rehabilitation, and forensic psychology.

In sum, my teaching philosophy aims for a systematic, hands-on, and coherent development of methodological competencies that enables students to critically understand and independently conduct psychological research.

Early career researcher support

Supporting early career researchers is a core part of my academic work. I currently supervise doctoral students within my SNSF Ambizione project, as well as bachelor and master theses, and I am actively involved in the methodological and subject-specific mentoring of junior researchers. In my supervision, I emphasize a structured and reliable approach that also encourages independence, supporting both

methodological training and the development of a distinct research profile. My supervision covers the development of research projects, methodological consulting, support with publications, and preparation for academic careers.

Beyond my own group, I regularly provided informal methodological advice to doctoral students and junior researchers at the Chair of Cognitive Psychology at the University of Zurich, particularly on statistical analysis, modeling, and study design. This collegial support on methodological questions has been acknowledged in the acknowledgement sections of several publications.

In 2024, my doctoral students nominated me for a Mentoring Award at the University of Zurich, which I take as meaningful feedback on the quality of my supervision.

Doctoral supervision

2023 - 2026	*Isabel Courage*, SNF Ambizione Project Group. Topic: *Similarities and Differences of Declarative and Procedural Working Memory.*
2021 – 2025	*Chenyu Li*, Chair of General Psychology (Cognition), University of Zurich. Topic: *Measuring the Removal of Information from Working Memory.* Completed with distinction: *summa cum laude*

Master theses	Supervision & co-supervision of *4* master theses at Heidelberg University and the University of Zurich
Bachelor theses	Supervision of *11* bachelor theses at Heidelberg University and the University of Zurich
Research internships	Supervision of *3* research internships at the University of Zurich

Third-party funding

Total third-party funding acquired (PI share): > CHF 1,000,000

	Project	Funding agency	Type	Role	Duration	Amount
1	The Binding Hypothesis – A Unified Account of Cognitive Individual Differences	SNF	competitive	PI	2023–2026	CHF 916’510
2	Flexibility Grant	SNF	non-competitive	PI	2023–2026	CHF 120’000
3	Neurocognitive Psychometrics (research network)	DFG	competitive	Co-PI	2022–2026	€ 44.645
4	Bayes Factor Estimation for Complex Hierarchical Models	Graduate Campus UZH	competitive	Co-PI	2024	CHF 4’000

Brief project summaries

1. *SNF Ambizione Grant (PI)*: The Binding Hypothesis – A Unified Account of Cognitive Individual Differences
   This project investigates individual differences in cognitive processes by combining experimental paradigms with formal measurement and process models. The aim is to develop theoretically grounded indicators of cognitive processes and examine their relationship with higher-order performance measures. The project includes leading an independent research group with full budget and personnel responsibility.

2. *SNF Flexibility Grant* (PI)
   Supplementary funding within the Ambizione project to support the compatibility of family life and academic work. The funding enabled flexible project organization while maintaining the project's scientific goals.

3. *DFG-Netzwerk „Neurocognitive Psychometrics*" (Co-PI / co-coordination)
   An international scientific network to foster exchange between psychometrics, cognitive psychology, and neurocognition. My role included co-coordinating the network (Co-PI) and contributing to its conceptual direction and grant applications.

4. *GRC Short Grant* (Co-PI): Bayes Factor Estimation for Complex Hierarchical Models
   Funding for an international workshop on Bayes factor estimation in complex hierarchical models. The aim was methodological exchange between statistics & formal modeling.

Travel awards

SAGW (2019) **Travel Award** (November 2019), for attendance and presentation at the 60th Annual Meeting of the Psychonomic Society in Montreal, Canada. **CHF 1000**

ISIR (2018) **Student Travel Award** (July 2018), for attendance and presentation at the Annual Meeting of the International Society for Intelligence Research (ISIR) in Edinburgh, Scotland. **€ 1000**

DAAD (2017) **Travel Award** (November 2017), for attendance and presentation at the 58th Annual Meeting of the Psychonomic Society (2017) in Vancouver, Canada. **€ 1000**

International and professional networks

My research is closely embedded in international networks. I collaborate continuously with researchers from different countries and institutions (e.g., Prof. Claudia von Bastian, Prof. Anna-Lena Schubert, Prof. Evie Vergauwe, Prof. Michael Nunez) and participate in several international collaborative projects (e.g., DFG Network "Neurocognitive Psychometrics"). These collaborations are reflected in numerous joint publications in international peer-reviewed journals and in long-term research partnerships.

A major part of my international engagement involves coordinating structured research networks. I serve as co-coordinator of a DFG-funded scientific network on "Neurocognitive Psychometrics," contributing to its conceptual direction and organizing joint activities. I have also co-organized and led international workshops on methodological and statistical topics.

I regularly present my research at international conferences, including those of the Psychonomic Society, the European Society of Cognitive Psychology, and the European Mathematical Psychology Group. I also give invited talks at universities and research institutions both domestically and abroad.

I am also involved in the international scientific community through editorial and reviewing activities. I serve on several editorial boards and act as a Recommender for Peer Community initiatives, and I regularly review manuscripts for a wide range of international journals. I have also reviewed grant proposals for national and international funding agencies.

Engagement in the scientific community

Editorial
Journal of Cognition (Associate Editor)
PCI: Registered Reports (*Recommender*)
PCI: Psychology (*Recommender*)
Psychological Science (*Editorial Board Member*)
Behavior Research Methods (*Consulting Editor*)

Reviewer
Research funding

1. Swiss National Science Foundation
2. National Science Center Poland

Scientific journals (> 20; selection)

1. Advances in Methods and Practices in Psychological Science
2. Behavior Research Methods
3. Current Directions in Psychological Science
4. Experimental Psychology
5. Journal of Experimental Psychology: General
6. Journal of Experimental Psychology: Learning, Memory, and Cognition
7. Memory & Cognition
8. Psychological Review
9. Psychological Science
10. Quarterly Journal of Experimental Psychology

+ additional international journals

Memberships
Psychonomic Society
European Society of Cognitive Psychology (ESCoP)
Society for the Improvement of Psychological Science

Engagement in academic self-governance

10/2019 – 06/2024 Early career researcher representative on the Strategy Committee of the Department of Psychology, University of Zurich

10/2019 – 06/2024	Deputy early career researcher representative at the Departmental Assembly, Department of Psychology, University of Zurich
2024	Deputy early career researcher representative on the Appointment Committee for the Professorship in "Work and Organizational Psychology," Department of Psychology, University of Zurich

Awards, honors & fellowships

2024	Nominated for the **UZH Mentoring Award**. Award for outstanding support and mentoring of doctoral students.
2024	**Fellow of the Psychonomic Society**. *Psychonomic Society*. Recognized for outstanding contributions to cognitive psychology and the development of an independent research profile.
2020	**Teacher of the Hour**, *University of Zurich*. Award for outstanding teaching during the COVID-19 outbreak
2019	**Best Paper Award**, *Journal of Intelligence*. For the article: *Cognitive Models in Intelligence Research: Advantages and Recommendations for Their Application*.
2015	**Franz Emanuel Weinert Preis**, *Department of Psychology, Heidelberg University*. Award for the master thesis
2009-2015	**Scholar of the German Academic Scholarship Foundation (Studienstiftung des deutschen Volkes).**

Leadership and management experience

As part of my SNSF Ambizione project, I lead an independent research group in psychological methods and psychometrics. In this role, I carry full scientific, organizational, and personnel responsibility for the group as well as the strategic direction of the multi-year research project. The group consists of one doctoral student and six research assistants.

My responsibilities include budget planning and management, personnel planning, and coordinating research activities. I organize regular group meetings, coordinate work packages, and support team members in developing their projects. A particular focus is supervising the doctoral student employed in the project, specifically guiding the dissertation and fostering independent scientific work. I am also responsible for the administrative side of the project, including reporting to the funding agency, resource planning, and organizing workshops and internal training. Running the project requires close coordination across research, teaching, and organizational tasks.

I was already involved in organizational and management tasks during my postdoc. As a postdoc in the Cognitive Psychology group at the University of Zurich, I worked closely with Prof. Dr. Klaus Oberauer on coordinating group activities. This included contributing to the planning of joint research projects, participating in hiring procedures, supporting the supervision of doctoral students and other students, and coordinating methodological and technical resources.

These experiences have allowed me to take on leadership and management responsibilities in different institutional contexts, supporting both independent and established research groups in their scientific and organizational work. Building on this, I follow a collaborative leadership approach based on openness, reliability, and mutual respect. The aim is to support team members' individual development through constructive feedback and a supportive working environment, and to build a productive team culture grounded in mutual appreciation.