# Gidon Frischkorn, PhD

## Research interests

Psychometrics, Computational Modelling, Individual Differences, Cognitive Psychology.

General Date of Birth 5 December 1990

Nationality German

Work Address University of Zurich, Institute of Psychology, Cognitive Psychology Unit

Binzmuehlestrasse 14/22, CH-8050 Zurich, Switzerland

E-Mail qidon.frischkorn@psychologie.uzh.ch

Website www.gfrischkorn.org

Metrics Publications 21 (peer-reviewed only)

Funding CHF 976,510 (third-party only)
Citations 677 (source: GoogleScholar)
h-index 14 (source: GoogleScholar)

Languages Spoken German (native)

English (fluent) French (basic)

Programming Statistical: R (advanced), Matlab (basic), SPSS/AMOS (basic)

Experimental: Psychtoolbox 3 (advanced), jsPsych (basic), lab.js (basic), E-Prime (basic)

Work Experience since 2023 SNF Ambizione Fellow, University of Zurich, Switzerland

Independent Junior Research Group Leader of an *SNF Ambizione Project Group* working on the SNF Ambizione Project "The Binding Hypothesis - A unified account of cognitive

individual differences?"

2019 - 2022 **Postdoctoral Researcher**, University of Zurich, Switzerland

Post-Doc at the Cognitive Psychology Lab (Prof. Klaus Oberauer) conducting independent research and teaching seminars and lectures in the Bachelor and Master Psychology

program of the Institute of Psychology at UZH.

2015 - 2018 **Ph.D. Student**, Heidelberg University, Germany

Research associate and Ph.D. student at the Chair of Personality Psychology and Psychometrics (Prof. Dirk Hagemann); Ph.D project *Basic cognitive processes of* 

intelligence.

2010 – 2015 **Research Assistant**, Heidelberg University, Germany

Various Research Assistant positions at the chairs of General and Theoretical Psychology

(Prof. Joachim Funke) and Personality Psychology and Psychometrics (Prof. Dirk

Hagemann).

Higher Education 2015 - 2019 **Ph.D.** (summa cum laude), Heidelberg University, Germany.

Basic cognitive processes of intelligence (Supervisor: Prof. Dirk Hagemann)

2013 – 2015 **M.Sc., Psychology** (*very good*: A), Heidelberg University, Germany.

2009 - 2012 **B.Sc., Psychology** (*good*), Heidelberg University, Germany.

Career Breaks 2021 - 2022 Parental Leave (11/2021 - 02/2022).

Research Funding SNF Ambizione Grant (01/2023 - 12/2026), The binding hypothesis - A unified account of

cognitive individual differences? CHF 916,510

Flexibility Grant (01/2023 - 12/2024), Support grant to balance family and research. CHF

60,000

collaborator DFG Scientific Network (2021 - 2024) Neurocognitive Psychometrics, awarded to Prof. Anna-

Lena Schubert.

Co-Coordination of the network and contribution towards the idea and preparation of

the project proposal.

**Project Grant** (2018 - 2021) *Neuro-cognitive process-parameters of cognitive abilities*,

awarded to Prof. Anna-Lena Schubert.

Contribution towards the conceptualization of the project proposal and listed as a

collaborator in the project.

Travel Funding SAGW Travel Award (November 2019), for participating and presenting at the 60th Annual

Meeting of the Psychonomic Society in Montreal, Canada. CHF 1000

Student Travel Award (July 2018), for participating and presenting at the Annual Meeting

of the International Society for Intelligence Research (ISIR) in Edinburgh, Scotland. €

1000

DAAD Travel Award (November 2017), for participating and presenting at the 58th Annual

Meeting of the Psychonomic Society (2017) in Vancouver, Canada. € 1000

Awards 2020 Teacher of the Hour, University of Zurich.

Award for special accomplishments of faculty during the Corona outbreak.

Best Paper Award, Journal of Intelligence.

For the article Cognitive Models in Intelligence Research: Advantages and Recommendations

for Their Application. CHF 1000

Franz Emanuel Weinert Award, Institute of Psychology, Heidelberg University. M.Sc. thesis

award

### Scientific Roles

Editorial Recommender PCI: Registered Reports

Reviewer Funding Ag. Swiss National Science Foundation

National Science Center Poland

Journals Current Directions in Psychological Science

Psychological Review

Journal of Experimental Psychology: General

PLOS:One

Memory & Cognition

Behavior Research Methods

Attention, Perception, & Psychophysics Personality & Individual Differences

Intelligence

Experimental Psychology

Quarterly Journal of Experimental Psychology Journal of Cognition npj Science of Learning BMC Psychology Journal of Intelligence Brain Sciences Sustainability

Member Psychonomic Society

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

Deutsche Gesellschaft der Psychologie (DGPs)

Admin roles	since 2019	<b>Departmental Assembly of the Department of Psychology</b> , University of Zurich. <i>Substitute</i>

of the junior faculty representatives

since 2019 Strategy Committee at the Department of Psychology, University of Zurich. Representative

of junior faculty scientists

since 2019 Science Cloud Computing: Contact Person, Cognitive Psychology Lab, University of Zurich

Teaching		
Workshops	09/2023	Improving Inference About Cognitive Processes Using Mixture Models
		Workshop at the 23rd Conference of the European Society of Cognitive Psychology, Porto, Portugal.
	10/2022	Structural equation modeling in R & lavaan.
		Workshop for PhD & MSc students, University of Porto.
	04/2018	Applied diffusion model analyses: Introduction to fast-dm.
		Workshop at the Leibniz Research Centre for Working Environment & Human Factors.
Lectures	Spring 2021	Cognitive Psychology I (B.Sc. Psychology), University of Zurich.
	Fall 2019	Cognitive Psychology II (B.Sc. Psychology), University of Zurich.
	Spring 2017	Advanced Psychometrics (M.Sc. Psychology), Heidelberg University.
Seminars	Spring 2023	Using simulations to challenge your intuitions about cognitive theories (M.Sc. Psychology), University of Zurich.
	Spring 2022	Using simulations to challenge your intuitions about statistics and cognitive theories (M.Sc. Psychology), University of Zurich.

Fall 2021 Cutting Edge Research in Human Cognition (M.Sc. Psychology), University of Zurich.

Fall 2020 Investigating and measuring working memory processes (M.Sc. Psychology), University of

Zurich.

Spring 2020 Cutting Edge Research in Human Cognition (M.Sc. Psychology), University of Zurich.

Planning & Programming Experiments in MATALB & Psychtoolbox 3 (B.Sc. Psychology),

Heidelberg University.

Spring 2018 Planning & Programming Experiments in MATALB & Psychtoolbox 3, (B.Sc. Psychology),

Heidelberg University.

Personality Traits: The theoretical development of the trait concept (M.Sc. Psychology),

Heidelberg University.

Spring 2017 Empirical Projectseminar II (B.Sc. Psychology), Heidelberg University.

Fall 2016 Empirical Projectseminar I (B.Sc. Psychology), Heidelberg University.

Spring 2016 Attention, Processing Speed & Working Memory Capacity (M.Sc. psychology), Heidelberg

University.

Personality Traits: The theoretical development of the trait concept (M.Sc. Psychology),

Heidelberg University

Supervision

PhD ongoing Isabel Courage, SNF Ambizione Project Group.

Topic: Similarities and Differences of Declarative and Procedural Working Memory.

Chenyu Li, Cognition Lab at UZH.

Topic: Measuring the Removal of Information from Working Memory.

MSc Supervision & Co-Supervision of 3 M.Sc. Theses at Heidelberg University & University of

Zurich.

List of M.Sc. Students: Valentina Vogel, Felix Wirth, Jan Göttmann.

BSc Supervision of 9 B.Sc. Thesis at Heidelberg University & University of Zurich

List of B.Sc. students: Lynn Gärtner, Ben Riemenschneider, Helena Dürsch, Larissa Kunoff,

Isabel Gebhardt, Jan Göttmann, Noah Rischert, Fiona Manzolini, Flutur Bytyqi.

Internships Supervision of 2 Research Internships at University of Zurich.

List of Research interns: Aleyna Ersin, Lisa Walder.

# Research Output

Journal Articles

in progress [8] Dames, H., Li, C., **Frischkorn, G. T.**, & Oberauer, K. (under review at *Psychonomic Bulletin & Review*). Removing Information from Working Memory: The Earlier the Better. Preprint available at *PsyArXiv*: https://doi.org/10.31234/osf.io/jqc69

Bartsch, L. M., **Frischkorn, G. T.**, & Shepherdson, P. (under review at *Cognition*). When Load is Low, Working Memory is Shielded from Long-Term Memory's Influence. Preprint available at SSRN: https://doi.org/10.2139/ssrn.4600918

Schubert, A.-L., **Frischkorn, G. T.**, Sadus, K., Welhaf, M., Kane, M. J., & Rummel, J. (under review at *Behavior Research Methods*). The brief mind wandering three-factor scale (BMW-3). Preprint available at *PsyArXiv*: https://doi.org/10.31234/osf.io/cy9rx

Frischkorn, G. T., & Popov, V. (under review at *Psychological Methods*). A tutorial for estimating mixture models for visual working memory tasks in brms:

Introducing the Bayesian Measurement Modeling (bmm) package for R.

Preprint available at *PsyArXiv*: https://doi.org/10.31234/osf.io/umt57

Souza, A. S., **Frischkorn, G. T.**, & Oberauer, K. (under review at *JEP: General*). Older yet Sharp: No General Age-Related Decline in Focusing Attention. Preprint available at *PsyArXiv*: https://doi.org/10.31234/osf.io/g3ydr

Löffler, C., **Frischkorn, G. T.**, Hagemann, D., Sadus, K., & Schubert, A.-L. (under review at *Psychological Research*). The common factor of executive functions measures

- nothing but speed of information uptake. Preprint available at *PsyArXiv*: https://doi.org/10.31234/osf.io/xvdyz
- Nunez, M. D., Schubert, A.-L., **Frischkorn, G. T.**, & Oberauer, K. (in preparation).

  Cognitive models of decision-making with identifiable parameters: Diffusion Decision Models with within-trial noise. Preprint available at *PsyArXiv*: https://doi.org/10.31234/osf.io/h4fde
- 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. (in preparation). 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
- Post PhD [21] **Frischkorn, G. T.** (accepted). Responsible Research Assessment requires structural more than procedural reforms. *Meta-Psychology*. Preprint available at: https://psyarxiv.com/a4ky6/
  - Dames, H., Musfeld, P., Popov, V., Oberauer, K., & **Frischkorn, G. T.** (accepted).

    Responsible Research Assessment Should Prioritize Theory Development and Testing Over Ticking Open Science Boxes. *Meta-Psychology*. Preprint available at: https://psyarxiv.com/ad74m/
  - 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), Article 1. https://doi.org/10.1038/s41598-023-44080-z
  - 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
  - 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
  - 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
  - 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
  - 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
  - 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
  - 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
- 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
- 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
- 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
- PhD [8] 2019 **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
  - 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
  - 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
  - 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
  - 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
  - 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
  - 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
  - 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

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### Presentations

### Invited Talks

- **Frischkorn, G. T.** (2022, May). *Measuring & dissociating cognitive processes: Problems and pitfalls exemplified with the Anti-Saccade Task.* Working Memory, Cognition, and Development Laboratory, University of Geneva.
- Frischkorn, G. T. (2021, May). Implications from cognitive psychology for measuring cognitive processes: The example of the anti-saccade task. Lehrstuhl für Allgemeine Psychologie: Cognition, Action, and Sustainability. Universität Freiburg

### Conference Talks

[29]

- **Frischkorn, G.T.**, Oberauer, K., & Souza, A.S. (2023, November). Do Perceptual Abilities fully account for the Relationship of Working Memory Capacity and Reasoning Ability? [Talk] *Symposium for Individual Differences in Cognition*, San Francisco, USA.
- Frischkorn, G.T., Popov, V. (2023, November). Easy and accessible implementations of cognitive measurement models: Introducing the Bayesian Measurement Model (bmm) R package. [Talk] *64th Annual Meeting of the Psychonomic Society*, San Francisco, USA.
- Frischkorn, G.T., Oberauer, K., & Souza, A.S. (2023, September). Do Perceptual Abilities fully account for the Relationship of Working Memory Capacity and Reasoning Ability? [Talk] 23rd Conference of the European Society of Cognitive Psychology, Porto, Portugal.
- Frischkorn, G.T., Popov, V. (2023, June). Towards Easy and Accessible Cognitive Measurement Models: Introducing the Bayesian Measurement Model (bmm) R Package. [Talk] *International Workshop on Psychometric Computing*, Zurich, Switzerland.
- Frischkorn, G.T., Rebmann, R. & Oberauer, K. (2022, November). Measuring executive functions: Difference score do the best job after all. [Poster] *63rd Annual Meeting of the Psychonomic Society*, Boston, USA.
- Schubert, A.-L. & **Frischkorn, G. T.** (2022, September). Measuring Cognitive Control: Challenges and Pitfalls [Symposium & Discussant] *52nd Congress of the German Psychological Association*, Hildesheim, Germany.
- Frischkorn, G.T. & Oberauer, K. (2022, September). The manual anti-saccade task is not a pure measure of inhibition. [Poster] 22nd Meeting of the European Society of Cognitive Psychology, Lille, France.
- Frischkorn, G. T. & Oberauer, K. (2021, November) Inhibition, Binding, or Sensory Discrimination: What does the behavioral anti-saccade task measure? [Poster] 62nd Annual Meeting of the Psychonomic Society, Virtual.
- Frischkorn, G. T. & von Bastian, C. C. (2020, November). In search of the executive and content-specific cognitive processes propagated by Process-Overlap Theory [Poster] 61st Annual Meeting of the Psychonomic Society, Virtual.
- Frischkorn G. T. & von Bastian, C. C. (2020, September). The efficiency of removal is independent from the accuracy of substitution in working memory updating [Talk]. 10th European Working Memory Symposium, Virtual.
- Frischkorn, G. T. (2020, February). Same, same, but different? Continuous activation vs. Discrete state models of simple span tasks [Talk]. *Swiss Working Memory*

Meeting, Fribourg, Switzerland.

- Frischkorn, G. T., & Gebhardt, I. (2019, March). Exogeneous vs. Endogenous attention during retrieval from working memory [Talk]. Swiss Working Memory Meeting, Fribourg, Switzerland.
- Frischkorn, G. T., & Oberauer, K. (2019a, July). Using the Memory Measurement Model in WM tasks with visual material and n-AFC recognition retrievals [Talk]. 21st Meeting of the European Society of Cognitive Psychology, Tenerife, Spain.
- Frischkorn, G. T., & Oberauer, K. (2019b, August). Generalizing the Memory Measurement Model to n-AFC recognition retrievals [Talk]. 50th Meeting of the European Mathematical Psychology Group, Heidelberg, Germany.
- Frischkorn, G. T., von Bastian, C. C., Souza, A. S., & Oberauer, K. (2019, November). Individual differences in updating are not related to reasoning ability [Talk]. 60th Annual Meeting of the Psychonomic Society, Montreal, Canada.
- Frischkorn, G. T., Schubert, A.-L., & Hagemann, D. (2019, June). The relation of executive functions to intelligence on a behavioral and neural level [Talk]. 45.

  Jahrestagung Psychologie & Gehirn, Dresden, Germany.
- Frischkorn, G. T., Schubert, A.-L., & Hagemann, D. (2018d, November). Basic Cognitive Processes of Intelligence: Bridging the Gap Between Working Memory, Executive Functions, and Processing Speed. [Poster]. 59th Annual Meeting of the Psychonomic Society, New Orleans, USA.
- Frischkorn, G. T., & Schubert, A.-L. (2018, September). Cognitive models as measurement tools: The appropriate representation of a person's cognitive processes [Talk]. 14th biannual conference of the German Society for Cognitive Science, Darmstadt, Germany.
- Frischkorn, G. T., Schubert, A.-L., & Hagemann, D. (2018c, September). Basic cognitive processes of intelligence: Bridging the gap between working memory, executive functions and processing speed [Talk]. 51. Kongress der Deutschen Gesellschaft für Psychologie, Frankfurt (a.M.), Germany.
- Frischkorn, G. T., Schubert, A.-L., & Hagemann, D. (2018b, July). Basic cognitive processes of intelligence: Bridging the gap between working memory, executive functions and processing speed [Talk]. 19th Annual Meeting of the International Society for Intelligence Research, Edinburgh, Scotland.
- Frischkorn, G. T., Schubert, A.-L., & Hagemann, D. (2018a, May). Too Much on My Mind—Inhibiting irrelevant information impairs reasoning ability [Poster].

  International Meeting of the Psychonomic Society, 2018, Amsterdam, Netherlands.
- Frischkorn, G. T., Schubert, A.-L., Rummel, J., & Hagemann, D. (2017, November).

  Memory Span and Updating in Working Memory independent or inter-related processes? [Poster]. 58th Annual Meeting of the Psychonomic Society, Vancouver, Canada.
- Frischkorn, G. T., Schubert, A.-L., & Hagemann, D. (2017c, September). Examining the Role of Working Memory Capacity and Age in Task Shifting [Talk]. *20th Conference of the European Society of Cognitive Psychology*, Potsdam, Germany.
- Frischkorn, G. T., Schubert, A.-L., & Hagemann, D. (2017b, June). Do Shifting and Inhibition rely on the same or different neural processes? An EEG-study of a Shifting task with flanker stimuli [Poster]. 43. Tagung Psychologie & Gehirn, Trier, Germany.

- Frischkorn, G. T., Schubert, A.-L., & Hagemann, D. (2017a, March). Examining interactions between inhibition and task shifting: Results from a Switching task with flanker stimuli [Talk]. 59. Tagung expreimentell arbeitender Psychologen (TeaP), Dresden, Germany.
- Frischkorn, G. T., Schubert, A.-L., & Hagemann, D. (2016, May). Convergent and discriminant validity of ERP latencies and parameters of the diffusion model [Poster]. 42. Tagung Psychologie und Gehirn, Berlin, Germany.
- Frischkorn, G. T., Schubert, A.-L., Hagemann, D., & Voss, A. (2016, March). The latent state-trait structure of diffusion model parameters [Talk]. *58. Tagung experimentell arbeitender Psychologen (TeaP)*, Heidelberg, Germany.
- Frischkorn, G. T., Schubert, A.-L., Neubauer, A. B., & Hagemann, D. (2015, September).

  Anwendung von Multi-Level Moderation in Worst Performance Analysen [Talk].

  12. Tagung der Fachgruppe Methoden & Evaluation der DGPs, Jena, Germany.
- Frischkorn, G. T., Greiff, S., & Wüstenberg, S. (2013, April). The Development of Complex Problem Solving and its Relation to Reasoning, Age and Gender [Talk]. 5th Szeged Workshop on Educational Evaluation, Szeged, Hungary.