

Christian M. Thurn

Education

- Current **Postdoctoral Researcher & Lecturer**, *ETH Zurich, Switzerland*.
- 2017-2021 **Doctoral Studies (degree: Dr. sc. ETH)**, *ETH Zurich, Switzerland*.
Thesis: Change in Conceptual Understanding: The Role of Learning Opportunities, Prior Knowledge, and Intelligence (Prof. Elsbeth Stern, Prof. Ismo Koponen, Prof. Christoph Hölscher)
- 2016-2017 **MSc in Psychology**, *University of Konstanz, Germany*, Ø1.1 "with distinction".
Thesis: Identity conflict in moral identities (Prof. Peter M. Gollwitzer, Prof. Wolfgang Gaissmaier)
- 2014-2015 **Erasmus Exchange Study**, *Università degli Studi di Padova, Italy*.
- 2012-2016 **BSc in Psychology**, *University of Konstanz, Germany*, Ø1.3.
Thesis: Interaction in the Beauty Contest: Group Synergy and the Guessing Game (Dr. J. Lukas Thürmer); Minors: Politics and Administration, Philosophy
- 2012 **Abitur**, *Friedrich-List-Gymnasium Asperg, Germany*, Ø1.3.

Research Interests

- Methods Longitudinal Data, Multilevel-Models, SEM, Model Selection, Software Development in R, Dynamic Network Analysis, IRT, Bayesian Statistics, Nonparametric Estimation, Interactive Graphics
- Topics Intelligence, Learning and Instruction, Concept Mapping, Conceptual Change, Psychological and Educational Measurement
- Designs Measurement of Intelligence, Experimental Laboratory Studies, Field Studies, Online Studies

Teaching Experience

- Since 2018 **Gender Issues in Education and STEM**, *ETH Zürich, Switzerland*
co-teaching with Michal Berkowitz, Thomas Braas
Topics: Gender vs. Sex, Cognitive Sex Differences and their Assessment, Nature via Nurture, Early Preferences, Stereotypes, Attribution, Teacher Influence, Self-concept, Intervention Studies
- Since 2018 **Research Methods in Educational Science**, *ETH Zürich, Switzerland*
co-teaching with Peter Edelsbrunner, Thomas Braas
Topics: (Quasi-)Experimental and Correlational Research, Research Methods, Replicability, Generalizability
- Since 2017 **Support and Diagnosis of Knowledge Acquisition Processes**, *ETH Zürich, Switzerland*
co-teaching with Peter Edelsbrunner, Lennart Schalk/Jens Maue
Topics: Formative Assessment, Conceptual Change, Cognitive Activation, Self-directed Learning, Social Learning, Constructivism, Situated Learning, Summative Assessment
- 2017 **Advanced Skills in R**, *University of Konstanz, Germany*
co-teaching with Florian Ermark.
Topics: MANOVA, Logistic Regression, Factor analysis, IRT, Word/Text Analysis, Outlier Analysis, Logical Operators and Loops, Creating Own Functions, Using Markdown and Papaja
- 2016, 2017 **Basic skills in R**, *University of Konstanz, Germany*
co-teaching with Florian Ermark.
Topics: Data Import, Descriptive Statistics, Objects, Data Types in R, Data Management, Inferential Statistics, Graphics with generic plot functions and ggplot
- 2013-2017 **Student teaching assistant**, *Statistics I and II, Test theory, Empirical practices, SPSS, R*.
University of Konstanz, Department of Psychology

Didactics Training

- 2019 **Teach Inspiringly with Methods of Theater**, *ETH Zürich*
- 2019 **Alternatives to Students' Presentation: Using Work Results Sustainably**, *ETH Zürich*
- 2017 **The Power of the Voice in Higher Education**, *ETH Zürich*
- 2016 **Tutors Training**, *University of Konstanz*

Academic Activities

- 2021 **Workshop:** How to deal with non-significant p-values and make them informative. (co-teaching with Peter Edelsbrunner). Workshop at the *19th Biennial EARLI Conference, Online, Belgium*.
- 2020 **Workshop:** How to deal with non-significant p-values and make them informative. (co-teaching with Peter Edelsbrunner). Peer Mentoring Group for Methods and Statistics, *University of Zürich*.
- 2020 **Invited Talk:** Die Interpretation und informative Nutzung nicht-signifikanter p-Werte: Ein Review, Framework und Kompetenzmodell. [The interpretation and informative use of non-significant p-values: A review, framework and competence model] (co-teaching with Peter Edelsbrunner). *Ludwig-Maximilian-University, Munich*.
- Since 2019 **Examination expert in Swiss secondary schools** (canton St. Gallen)
- Review work **European Journal of Psychological Assessment, PlosONE, MDPI Education Sciences, DGPS, EARLI**

Academic Services

- Since 2021 President of the Association of Scientific Staff (ASST), *ETH Zürich*
- Since 2021 JURE SIG 03 Coordinator (EARLI Special Interest Group on Conceptual Change), *ETH Zürich/EARLI*
- 2021 Member of working group
- 2019 - 2021 Scientific staff representative in the department conference, *ETH Zürich*
- 2017 - 2021 Vice President of the Association of Scientific Staff (ASST), *ETH Zürich*
- 2012 - 2017 Member and chair (2016 - 2017) of the student representative board, *University of Konstanz*
- 2017 Vocational student representative for the professorship Methods for Intensive Data in Psychology, *University of Konstanz*
- 2013 - 2017 Member of the cross-section student council, the Board of Examiners and the Study Commission, *University of Konstanz*
- 2013 - 2016 Member in the team of the student's teaching award (LUKS), *University of Konstanz*

Grants, Scholarships, Awards

- 2014 **Erasmus+ Scholarship**
awarded from the Erasmus Student Exchange Programme
- 2017 **Honor for social commitment**
awarded by the student representative board, University of Konstanz based on a voting by all graduating students in 2017
- 2021 **Research Grant: Additional funding for networking activities** (CHF 2'829)
Together with Lisa K. Frisch; Awarded by the Graduate School of the Faculty of Arts and Social Sciences, University of Zurich.
- 2021 **Travel Grant: Funding for academic short visit in Finland** (CHF 2'650)
Awarded by the Aebli-Näf Stiftung, Bern.

Professional Experience

- Since 2017 **Research assistant and lecturer**, ETH Zürich, Switzerland.
- 2015 **Internship at Neurology**, Katharinenhospital Stuttgart.
- 2015 **Internship at ETH Zurich**, Zurich.
Research on Learning and Instruction.
- Responsibility for the MINT-project proportional thinking;
 - Assistance on research projects on learning and instruction;
 - Test application and data collection in Swiss schools;
- 2015 **Internship at IAP Institut für angewandte Psychologie**, ZHAW Zurich.
- Assistance on study counseling and career counseling;
 - Support of research, statistical analyses;
 - Quality management;
- 2014 **Internship at Cubia AG**, Konstanz.
- Statistical analyses;
 - Research on 360° feedback;
 - Insights in human resources and management;
- 2009 **Social work experience in the home for the elderly**, Asperg.

Refereed Articles

Berkowitz, M., Gerber, A., **Thurn, C. M.**, Emo, B., Hoelscher, C., Stern, E. (2021). Spatial Abilities for Architecture: Cross Sectional and Longitudinal Assessment With Novel and Existing Spatial Ability Tests. *Frontiers in psychology*. 11, 4096.

Thurn, C. M., Hänger, B., & Kokkonen, T. (2020). Concept Mapping in Magnetism and Electrostatics: Core Concepts and Development over Time. *Education Sciences*, 10(5), 129.

Submitted Work and Preprints

Thurn, C. M., Braas, T., & Berkowitz, M. (2021). *Means, tails and fairytales–Fabulous methods for investigating gender effects*. [Manuscript submitted for publication]. Department of Humanities, Social and Political Sciences, ETH Zürich.

Berkowitz, M., Braas, T., & **Thurn, C.M.** (2021). *Sensitizing future teachers to psychological research on gender and STEM*. [Manuscript submitted for publication]. Department of Humanities, Social and Political Sciences, ETH Zürich.

Edelsbrunner, P. A., & **Thurn, C. M.** (2020). *Improving the utility of non-significant results for educational research*. PsyArXiv. <https://doi.org/10.31234/osf.io/j93a2>

Non-Refereed Articles

Nussbaumer, D., **Thurn, C. M.**, Schumacher, R. and Stern, E. (2017). Who makes use of prior knowledge in a curriculum on proportional reasoning? *in: Gunzelmann, G. and Howes, A. and Tenbrink, T. and Davelaar, E., Proceedings of the 39th Annual Meeting of the Cognitive Science Society, London*, pp 2809 - 2814.

Edelsbrunner, P. A., **Thurn, C. M.** (2015). Structural equation modeling: What is it, what does it have in common with hippie music, and why does it eat cake to get rid of measurement error? *JEPS Bulletin* (December 14th, 2015). Available on <http://blog.efpsa.org>

Conference Contributions

Thurn, C. M., Braas, T., Berkowitz, M. (2021). Means, Tails and Fairytales – Fabulous methods to investigate gender differences. Talk at the *19th Biennial EARLI Conference*, online, Belgium.

Edelsbrunner, P. A., **Thurn, C. M.** (2021). Current Debates in Psychometrics and Applied Statistics: Implications for Educational Research. Collaborative Workspace at the *19th Biennial EARLI Conference*, online, Belgium.

Thurn, C. M., Kokkonen, T. (2021). Revealing novice-expert differences in knowledge structures. Talk at *Networks 2021 - a joint Sunbelt and NetSci conference*, online, USA.

Eberli, R., Nussbaumer, D., **Thurn, C.** (2020). From implicit to explicit in learning STEM subjects - 'Control of variables' strategy in physics. Talk at the *EARLI SIG 15 - Special Educational Needs Biennial Meeting*, online, UK.

Schalk, L., Deiglmayr, A., Edelsbrunner, P. A., Markwalder, U., Peteranderl, S., **Thurn, C. M.**, Schumacher, R., Stern, E. (2020). Spezifische Effekte und Langzeiteffekt von grundlegendem Physikunterricht in der Primarschule [Specific effects and longterm effect of fundamental physics instruction in primary school]. Talk at the *SBGf 2020*, Biel, Switzerland.

Edelsbrunner, P. A., **Thurn, C. M.** (2019). Misinterpretations of non-significant p-values: A Review and a Competence Model for Teaching. Talk at the *14. Tagung der Fachgruppe Methoden der Deutschen Gesellschaft für Psychologie*, Kiel, Germany.

Edelsbrunner, P. A., Stern, E., **Thurn, C. M.** (2019). Beyond Cohen's rule of thumb: When is an intervention effective from a statistical point of view? Talk at the *paEpsy 2019*, Leipzig, Germany.

Thurn, C. M., Edelsbrunner, P. A., Schumacher, R. (2019). Can Early Physics Instruction Prepare for Future Learning About Magnetism? Talk at the *paEpsy 2019*, Leipzig, Germany.

Thurn, C. M., Nussbaumer, D., Schumacher, R., Stern, E. (2019). Preparing Primary School Students for Acquiring Proportional Reasoning Ability. Talk at the *18th Biennial EARLI Conference*, Aachen, Germany.

Thurn, C. M., Edelsbrunner, P. A. (2019). Die Konsequenzen von Fehlinterpretationen nicht-signifikanter p-Werte in der Bildungsforschung: Ein Review [The consequences of misinterpretations regarding non-significant p-values in educational research: A review]. Talk at the *7. Jahrestagung der Gesellschaft für Empirische Bildungsforschung*, Köln, Germany.

Edelsbrunner, P. A., **Thurn, C. M.** (2018). Misinterpretations of non-significant p-values: Estimating their frequency and potential consequences for educational theory and policy. Digital poster at the *51st Congress of the German Psychology Society*, Frankfurt am Main, Germany. <https://osf.io/g5paq/>

Edelsbrunner, P. A., **Thurn, C. M.** (2018). Conceptual Notions of p-values in Educational Research. Talk at the *11th International Conference on Conceptual Change*, Klagenfurt, Austria.

Thurn, C. M. (2018). Investigating the Interaction of Intelligence and Conceptual Change. Presentation of PhD project at *2nd Summer School on Conceptual Change*, Klagenfurt, Austria.

Edelsbrunner, P. A., **Thurn, C. M.** (2018). The Prevalence of Unfounded (Statistical) Inferences Based on non-significant p-values in Educational Psychology. Talk at the *Research Synthesis*, Trier, Germany.