Research statement

I research how to improve human judgment and decision making by understanding human and machine behavior. To this end I combine insights from cognitive science, bounded rationality, heuristics, collective intelligence (“wisdom of crowds”), data science, and machine learning—with a focus on how to create the “wisdom of crowds” within one mind (i.e., “inner crowd” and “dialectical bootstrapping”). In addition to basic research, I work on applications in medical diagnostics, medical decision making, and meteorology.

Selected, recent publications


Grants

„Dialectical bootstrapping: A new paradigm to Improve individual judgment“, Swiss National Foundation project (100014_129572), 2011-2017, CHF 270’925, Department of Psychology, University of Basel, and Center for Adaptive Rationality, Max Planck Institute for Human Development, Berlin (http://p3.snf.ch/Project-129572)
Education

Ph. D., Dr. phil. (*summa cum laude*/with highest praise), dissertation: „The power of fluency and aggregation: Two case studies in the cognitive science of human judgment“, Department of Psychology, University of Basel, 2005–2009

Master of Science in Psychology (*summa cum laude*/with highest praise); major in social psychology, consumer and organizational behavior, Department of Psychology, University of Basel, Switzerland, 2003–2005

Subsidiary degree in managerial economics, studies in computer sciences, Wirtschaftswissenschaftliches Zentrum (WWZ), University of Basel, Switzerland, 2001–2005

Bachelor of Science in Psychology (*magna cum laude*/with great praise), Department of Psychology, University of Basel, Switzerland, 2000–2003

Managerial economics and computer sciences, Wirtschaftswissenschaftliches Zentrum (WWZ), University of Basel, Switzerland, 1999–2000

Academic experience and positions

Researcher, Center for Adaptive Rationality (ARC), Max Planck Institute for Human Development, Berlin, 2012–

Researcher, Cognitive and Decision Sciences, Department of Psychology, University of Basel, 2009–2012

Guest researcher, Fuqua School of Business, Duke University, US, 06/2009

Graduate student, Cognitive and Decision Sciences, Department of Psychology, University of Basel, Switzerland, 2005–2009

Research assistant, Social and Economic Psychology, Department of Psychology, University of Basel, Switzerland, 2001–2005

Research internship, Prof. Dr. Klaus Fiedler, Institute of Psychology, Department of Social Psychology, University of Heidelberg, Heidelberg, Germany, summer 2003

Statistics tutor, Department of Psychology, University of Basel, Switzerland, 2001–2002

Awards

*Hillel Einhorn New Investigator Award 2010* for the paper Herzog & Hertwig (2009), Society for Judgment and Decision Making; see http://www.sjdm.org/history.html

*Steven Karger Department of Psychology Award 2009* for dissertation (*"The power of fluency and aggregation: Two case studies in the cognitive science of human judgment"*, Herzog, 2008), CHF 5’000, Department of Psychology, University of Basel.


1st place in *The Technion Prediction Tournament*
Condition E-sampling: Erev et al., 2008 (http://tx.technion.ac.il/~erev/Comp/Comp.html)
Publications


Organized workshops, symposia and conferences


Workshop “Fitting vs. predicting” held at Summer Institute on Bounded Rationality 2017: Predictions under uncertainty, June 6th–14th 2017, Max-Planck-Institute for Human Development, Berlin, Germany.


Workshop How well can you predict what you don’t yet know? held at 2016 JDMx Meeting for early career researcher, June 8th–11th 2016, University of Basel, Basel, Switzerland.


Workshop Psychologists are open to change and should adopt Bayesian statistics (with Mirjam Jenny). 6th JDM Workshop for Young Researchers, July 17th–19th 2013, Max-Planck-Institute for Human Development, Berlin, Germany.
Workshop *Data analysis beyond p-values*. Summer Institute on Bounded Rationality: Decision making in a social world, June 17th-25th 2013, Max-Planck-Institute for Human Development, Berlin, Germany.


Co-organizer 3rd Workshop for Judgment and Decision making, University of Basel, Switzerland (September 2010).


Workshop robust statistics. 2nd Workshop for Judgment and Decision making, University of Mannheim, Germany (July 2009).


Co-organizer European Social Cognition Network Transfer of Knowledge Conference 2005, Vitznau, Switzerland.


**Continuing education**

**Statistical training**

- *Data Science* specialization, Johns Hopkins University on Coursera. Certificate earned on August 2nd, 2015
- *Exploratory Data Analysis*. Certificate earned on February 2nd, 2015
- *Getting and Cleaning Data*. Certificate earned on December 28th, 2014
- *The Data Scientist's Toolbox*. Certificate earned on November 4th, 2014
- Bayesian modeling for cognitive science: A WinBUGS workshop, 2011, University of Amsterdam, Netherlands.

**Presentation skills**

- Presenting at international scientific conferences. 3 day course (30h/1 ECTS) by TRESS&TRESS (www.tress-tress.com)
Teaching, supervision, and mentoring

Training in teaching skills for higher education

Certificate in higher education [Sammelzertifikat Hochschuldidaktik] at the University of Basel (20.11.2011; 2010-2011; total of 66 hours):
- Introduction to higher education didactics [Einführungsmodul Hochschuldidaktik] (2010)
- How to grade [Fair prüfen] (2011)
- Running meetings and discussions [Diskussionsleitung in der Lehre] (2010)
- Problem-based learning [Problemorientiertes Lernen] (2010)
- Rhetoric [Rhetorische Kommunikation] (2010)

Graduate and undergraduate courses taught
Department of Psychology, University of Basel, Switzerland

Improving judgment and decision making (master level theory seminar: 2014)
Negotiation (master level applied seminar: 2008)
Drawing inferences from memory (with Lael Schooler; master level theory seminar: 2006)
Decision analysis and decision technology (master level theory seminar: 2006)
Managerial decision making (bachelor level seminar: 2007)
How to write a bachelor thesis (bachelor level seminar: 2010, 2011)

Supervision/mentoring

Ph.D. students: Aleksandra Litvinova, Nathaniel Phillips

Master theses: Alice Atanasiu, Basil Blum, Andrea Hajmer, Greta Kellermann, Isa de Maddelena, Zsofia Oroszlan, Yuliya Romanyuk, Ruxandra Teodoreanu

Master course theses: Gerlinde Amschl, Anaïs Arnoux, Raffaella Arcuri-Tortola, Carola Binder, Lorena Boss, Monica Caprio, Florence Ettlin, Dominic Fischer, Chantal Grütter, Kirsten Hardt, Christina Jans, Sarah Kupper, Andrea Rid, Yuliya Romanyuk, Sabrina Stefanelli, Elena Stolz, Milena Ulrich, Stephanie Zell

Bachelor theses: Béla Ackermann, David Alleman, Alice-Alexandra Atanasiu, Cécile Bucher, Emina Canic, Kim Casagrande, Romain Cottens, Loris Criscione, Sibylle Fluri, Marietta Jäggi, Carmen Kaiser, Miriam Kaufmann, Lea Kilchling, Nadia Kohler, Selina Langenegger, Claudia Lombris, Samir Meier, Yuliya Romanyuk, Oliver Schürmann, Alice Seiler, Ariane Senn, Tom Siebenaler, Petra Vonmoos, Sylvia Walukiewicz

Internships: Stephan Bedenk, Eleanor Brewer, Alexander zur Bonsen

Professional services

Reviewing papers
Behavior Research Methods
Cognitive Psychology
Computational Brain & Behavior
Decision Analysis
European Journal of Social Psychology
Experimental Psychology
IEE Transactions on Human-Machine Systems
Journal of Applied Research in Memory and Cognition
Journal of Behavioral Decision Making
Journal of Experimental Psychology: General
Journal of Experimental Psychology: Human Perception & Performance
Journal of Experimental Psychology: Learning, Memory, and Cognition
Journal of Mathematical Psychology
Journal of Personality and Social Psychology
Judgment and Decision Making
Management Science
Medical Decision Making
Memory & Cognition
Minds and Machines
Nature Human Behavior
Personality and Social Psychology Review
PLOS ONE
Psychological Science
Psychonomic Bulletin & Review
Social Cognition
Topics in Cognitive Science

Reviewing grant applications
German Science Foundation (Deutsche Forschungsgemeinschaft, DFG)
German-Israeli Foundation for Scientific Research and Development (GIF)
ETH Zürich Research Commission
Israel Science Foundation (ISF)
National Science Foundation (NSF)
United States-Israel Binational Science Foundation (BSF)

Reviewing conference submissions
COGSCI annual meeting of the Cognitive Science Society
SJDM annual conference (Society for Judgment and Decision Making)
Diagnostic Error in Medicine conference (Society to Improve Diagnosis in Medicine)
SPUDM conference (subjective probability, utility, and decision making conference; European Association for Decision Making, EADM)

Consulting and training activities
International Society for Human Rights (Switzerland) & Swisstransplant
Robert Koch-Institute (Berlin)
swiss re
VolkswagenStiftung

Committee member
Graduate student and post-doc representative, Department of Psychology, University of Basel, Switzerland, 2007–2012
Student representative, Department of Psychology, University of Basel, Switzerland, 2000–2003.

Professional member
Society for Judgment and Decision Making (SJDM)
European Association for Decision Making (EADM)
Fellow of the Psychonomic Society (FPsyS)
Conference talks and posters

only talks and posters as presenter are listed


Herzog, S. M. (2014). Signal detection theory in the wild: Reverse-engineering error preferences of decision makers who are unable or reluctant to reveal them. Paper presented at the 35th Annual Meeting of the Society for Judgment and Decision Making, Long Beach, California, USA.

Herzog, S. M. (2014). *Signal detection in the wild: How to quantify implied cost-benefit tradeoffs of decision makers who are unable or reluctant to reveal them*. Invited talk, presented at the research colloquium at the Department of Psychology, University of Tübingen, Tübingen, Germany.


Herzog, S. M. (2012). *How to make people underestimate Fukushima: Mismatched rates bias the perception of risk and natural rates eliminate this bias*. Poster presented at the 33rd Annual Meeting of the Society for Judgment and Decision Making, Minneapolis, Minnesota, USA.


Herzog, S. M. (2010). *The "wisdom of crowds" in one mind: Dialectical bootstrapping and the benefits of combining different cognitive processes*. Invited talk, Colloquium Behavioral Studies (851-0585-01L), ETH Zürich, Zürich, Switzerland.


