

# Dirk U. Wulff

University of Basel  
Missionsstrasse 64A, 4051 Basel

email: dirk.wulff@gmail.com  
web: www.dirkwulff.org

## Research interests

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I am interested in the cognitive underpinnings of human memory and decision making. To this end, I study experienced-based decision making and free recall from memory using computational modeling, network analysis, natural language processing, and process tracing. My broader interests include: Risky choice, bounded rationality, heuristics, information search, semantic memory, statistical methods, model selection.

## Employment

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| 2016-     | Researcher at the department for Cognitive and Decision Sciences, University of Basel.                                    |
| 2016-     | Adjunct Researcher at the Center for Adaptive Rationality (ARC), Max Planck Institute for Human Development, Berlin.      |
| 2015-2016 | Postdoctoral Researcher at the Center for Adaptive Rationality (ARC), Max Planck Institute for Human Development, Berlin. |
| 2015-2016 | Lectureship at the department for Economic Psychology, University of Basel.   |
| 2015-2015 | Postdoctoral Researcher at the department for Cognitive and Decision Sciences, University of Basel.                       |
| 2015-2015 | Postdoctoral Fellow at the Center for Adaptive Rationality (ARC), Max Planck Institute for Human Development, Berlin.     |

## Education

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| 2015      | PhD from the University of Basel (summa cum laude)   |
| 2012-2014 | Doctoral student at the Center for Adaptive Rationality (ARC), Max Planck Institute for Human Development, Berlin. |
| 2010-2012 | Doctoral student at the department for Cognitive and Decision Sciences, University of Basel                        |
| 2010      | Visiting scholar at Human Memory Lab at UC Davis, California.  |
| 2004-2010 | Diploma in Psychology at Philipps-University Marburg   |

## Publications

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- Wulff, D. U., Mergenthaler-Canseco, M., & Hertwig, R. (in press). A meta-analytical review of two modes of learning and the description-experience gap. *Psychological Bulletin*.
- Wulff, D., U., & Van den Bos, W., (in press). Modeling choices in delay discounting? *Psychological Science*.
- Wulff, D., U., & Pachur, T., (2016). Modeling valuations from experience? A comment on Ashby and Rakow (2014). *Journal of Experimental Psychology: Learning, Memory and Cognition*.
- Kollewe, K., Escher, C. M., Wulff, D. U., Fathi, D., Paracka, L., Mohammadi, B., ... & Dressler, D. (2016). Long-term treatment of chronic migraine with OnabotulinumtoxinA: efficacy,

quality of life and tolerability in a real-life setting. *Journal of Neural Transmission*, 123(5), 533-540.

Wulff, D. U., Hills, T., & Hertwig, R. (2015). How short- and long-run frames impact search and choice in decisions from experience. *Cognition*, 144, 29-37.

Wulff, D. U., Hills, T., & Hertwig, R. (2015). The description-experience gap and online product reviews. *Journal of Behavioral Decision Making*, 28, 214-223

Hertwig, R., & Wulff, D. (2014). Risikoentscheidungen: Die Kluft zwischen Erfahrung und Beschreibung. *Controlling: Zeitschrift für erfolgsorientierte Unternehmenssteuerung*, 26, 630-636.

#### *Submitted*

Haslbeck, J. M. B., & Wulff, D. U. (2016). Estimating the Number of Clusters via Normalized Cluster Instability.

#### *In progress*

Wulff, D. U. Hills, T., Lachman, M., & Mata, R. (2016) The Aging Lexicon.

Wulff, D. U., Haslbeck, J. M. B., & Schulte-Mecklenbeck, M. (in prep). Measuring the (dis-) continuous mind.

Kieslich\*, P. J., Wulff\*, D. U., Henninger, F., Haslbeck, J. M. B., & Schulte-Mecklenbeck, M. (in prep). Mouse- and hand-tracking as a new window to cognition: A tutorial on implementation, analysis, and visualization.

Lindskog, M. & Wulff, D.U. (in. prep.). How is experience represented in the mind?

#### *Conference papers (peer-reviewed)*

Wulff, D. U. Hills, T., Lachman, M., & Mata, R. (2016) The Aging Lexicon: Differences in the Semantic Networks of Younger and Older Adults. *Proceedings of the Cognitive Science Society*, 38.

Wulff, D. U. Hills, T., Hertwig, R. (2013) Wormholes in Memory: Is memory one representation or many?. *Proceedings of the Cognitive Science Society*, 35.

Wulff, D. U. Hills, T., Hertwig, R. (2012) Adaptive Information Search and Decision Making over Single and Repeated Plays. *Proceedings of the Cognitive Science Society*, 34.

#### *Book chapters*

van den Bos, W., Jenny, M. A., & Wulff, D. (2015). Open minded psychology. In S. A. Moore (Ed.), *Issues in open research data* (pp. 107-127). London: Ubiquity Press.

#### *Monographies*

Wulff, D. U. (2015). Information search in experienced-based choice and valuation: Challenges and applications. (Unpublished doctoral thesis). University of Basel, Switzerland.

Wulff, D. U. (2010). Stochastic dependence in source Memory: Testing measurement models of retrieval experiences (Unpublished diploma thesis). Philipps-University Marburg, Germany.

## **Awards & Grants**

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2017            Select Speaker Award of the Psychonomic Society

2016            Otto Hahn Medal (Dissertation prize of the Max Planck Society)

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| 2014 | Funding for the Summer Institute on Bounded Rationality from the Joachim-Herz Foundation (\$240,000)                          |
| 2013 | Funding for the 6 <sup>th</sup> JDM Workshop for Young Researchers from the European Association for Decision Making (\$4000) |
| 2011 | Best Student Poster Award, 3 <sup>rd</sup> place, Annual Conference for Judgment and Decision Making 2011.                    |
| 2011 | Scholarship of the European Campus of Excellence.   |
| 2011 | Scholarship of the Summer Institute on Bounded Rationality of the Max Planck Institute for Human Development.                 |

### **Invited presentations**

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- Wulff, D. U. (2017). Two modes of learning and the description-experience gap. Presented at the TAPMI – Max Planck Winter School on Bounded Rationality, TAPMI, Manipal, India.
- Wulff, D. U. (2016). The issue of flexibility in computational (and verbal) models of JDM. Workshop presented at the 9<sup>th</sup> JDM workshop for Young Researchers at the University of Basel, Basel, Switzerland.
- Wulff, D. U. (2016). A meta-analytic review of the description-experience gap. Department for Consumer Behavior, University of Bern, Switzerland.
- Wulff, D. U. (2016). Hard, but worth it: Two case studies in raw data meta-analysis. Department for Consumer Behavior, University of Bern, Switzerland.
- Wulff, D. U. (2012). Information Search in Decisions from Experience. DR@W Forum at University of Warwick, UK.

### **Teaching**

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| 2017-      | 'Natural Language as tool for psychological research', Seminar, University of Basel                              |
| 2016-      | 'Networks in Psychology, Seminar, University of Basel<br>'What are good decisions', Seminar, University of Basel |
| 2015-2016  | 'How to write a Bachelor thesis', University of Basel  |
| 2011-2012  | Undergraduate research seminars at University of Basel.  |
| 2010, July | R-Workshop for the psychological methods department at Philipps-University Marburg.                              |
| 2009-2011  | TA for statistics at Philipps-University Marburg.  |

### **Supervision**

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- Arben Kqiku, University of Basel, Master thesis
- Elena Efimova, University of Basel, Master thesis "Improving brand personality assessment using twitter"
- Jan Grenzbach, Free University Berlin, Master thesis – "Known unknowns"
- Florian Brühlmann, University of Basel, Intern – "Searching memory for countries"
- Max Mergenthaler Canseco, Free University Berlin, Intern – "The description-experience gap"
- Moria Braun, University of Marburg, Master thesis – "EEG correlates of verbal fluency for countries"

### **Ad-hoc reviewer**

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Psychological Science, Journal of Experimental Psychology: General, Journal of Experimental Psychology: Learning, Memory & Cognition, Cognitive Science, Journal of Behavioral Decision Making, Journal of Medical Decision Making, Judgment and Decision Making, Risk Analysis, Memory & Cognition, Journal of Applied Research in Memory and Cognition, Quarterly Journal of Experimental Psychology, Social Psychology, Frontiers in Psychology, PLOS ONE, Computational Statistics

## **Workshops & training**

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Bernoulli Symposium on Risk, Basel, Switzerland, February 2017

Nature of preferences workshop. Potsdam, Germany, Apr 2016.

SNF Memory and Decision Making workshop. Hölstein, Switzerland, May 2015.

Bayesian Modeling for the Cognitive Science. A WinBUGS Workshop. University of Amsterdam, August 2013

SNF Summer School on Computational Modeling of Cognition, Bergün, Switzerland, June, 2012.

Summer Institute on Bounded Rationality at the Max Planck Institute for Human Development, Berlin. June, 2011.

Fate of the Memory Trace. Summer School of the European Campus of Excellence at the Ruhr-University Bochum. September, 2011.

Bayesian Modeling in the Cognitive Sciences. Workshop at the University of Zürich. December 2010.

Cognitive Modeling in R. Workshop at the Philipps-University Marburg. December, 2010.