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## Career

since 01/2021 **Data Scientist (Expert prognosis, optimization, simulation)**, *DB Analytics (Data Science, Information Design)*, Deutsche Bahn AG.

DB Analytics is a data-driven in-house strategy and technology consultancy for Deutsche Bahn. My tasks are the conception and implementation of projects in the field of digitalisation in all areas of Deutsche Bahn AG. This involves the use of a wide range of technologies and methods, from mathematical modelling and statistical analyses to the full spectrum of Big Data, AI/ML technologies as well as original research. Projects are usually organised in an agile way and aim at rapid prototyping. My great personal flexibility in terms of technologies and tools used (Python, R, C++, SQL/NoSQL, etc.) and fast analytical skills help me to adapt to new projects and situations as quickly and comprehensively as possible.

01/2019 – 12/2020 **Senior Consultant, Business Analyst**, *Senacor Technologies AG*.

As a senior technology consultant, I was the interface between business and IT domains. It was important for me to thoroughly understand a business or technical issue quickly and to communicate it in an understandable way for the respective target groups. Since I had to work with a large amount of technical data myself, my expertise in SQL, Python and Unix Bash scripts was extremely valuable. I was mainly involved in the restructuring of the overall bank management of a German state bank: A standardised, integrated reporting platform, data integration, model building/architecture, BI tool connection, metadata analysis, etc.

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## Education

2014 – 2018 **Ph.D.**, *physics*, Ruprecht-Karls-Universität Heidelberg.

Member of Heidelberg Graduate School for Fundamental Physics (HGFSP) and International Max Planck Research School (IMPRS)

Dissertation title: *“On the Impact and Usefulness of Intrinsic Alignments of Galaxies in a Composite Model on Weak Lensing in Tomographic Surveys”*

2015 **Guest scientist**, Université de Genève, Schweiz.

Research project on intrinsic alignments of galaxies in alternative theories of gravity

2010 – 2013 **Master of Science**, *physics*, Ruprecht-Karls-Universität Heidelberg.

Master thesis title: *“On corrections of the Weak Lensing Angular Power Spectra due to Galaxy Redshift Clustering and the Resulting Estimation Bias in the Cosmological Parameters”*

2011 – 2012 **Year abroad**, University of Durham, United Kingdom.

Research project titled *“On the evolution of dark matter haloes in quintessential dark energy models and possible effects on galaxy formation”*

2007 – 2010 **Bachelor of Science**, *physics*, Ruprecht-Karls-Universität Heidelberg.

Bachelor thesis title: *“On Cosmic Inflation and Large-Scale Structure’s Quantum Seeds”*

2006 **Abitur (A-levels)**, Humboldt-Gymnasium, Ulm.

Core subjects: German, English, mathematics, physics, history

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## Teaching, outreach, popular science

- 2018 **Science journalist**, Spektrum der Wissenschaft, spektrum.de, Sterne und Weltraum.  
since 2015 **University-level textbook author**, co-author of „Tutorium Physik fürs Nebenfach“ im Springer Spektrum publishing.  
2015 **Head tutor**, *Universität Heidelberg*, lecture on General Relativity.  
2010–2017 **Tutor**, *Universität Heidelberg*, numerous physics and astronomy lectures as well as student-level laboratory courses.

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## Internships, volunteering, military service

- since 2021 **Board of Directors**, AWO Kreisverband Heidelberg e.V. (welfare organisation).  
seit 2020 **Co-head**, Freifunk Rhein-Neckar e.V. (organising free internet access).  
seit 2014 **Political party office**, among others vice chair of SPD Heidelberg.  
2015–2019 **Radio**, editor and host at radioaktiv campus radio.  
2014 **Internship**, Deutscher Bundestag, office of Lothar Binding MdB.  
since 2013 **DJ**, since 2016 resident DJ at halle02 (Heidelberg).  
since 2012 **Self-employed**, IT services.  
2006–2007 **Military service**, Unterstützungsbataillon Kommando Operative Führung Eingreifkräfte (now: Unterstützungsverband Multinationales Kommando Operative Führung).

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## Prizes, stipends, fellowships

- 2014–2018 Research stipend of Astronomischen Rechen-Institut Heidelberg (ZAH/ARI)  
2014–2018 International Max Planck Research School Heidelberg Fellow (IMPRS-HD)  
2014–2018 Member of Heidelberg Graduate School of Fundamental Physics (HGSFP)  
2011–2012 Erasmus stipend  
2006 Abitur prize of Deutsche Physikalische Gesellschaft

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## Societies, associations, clubs

- Executive board SPD Heidelberg, DL21 Baden-Württemberg, AWO Heidelberg, Freifunk Rhein-Neckar, TSV 1895 Oftersheim (eSport Rhein-Neckar)
- Membership Sozialdemokratische Partei Deutschlands (SPD), Eisenbahn- und Verkehrsgewerkschaft (EVG), Forum Demokratische Linke 21, Wissenschaftsforum der Sozialdemokratie in Baden-Württemberg, D64 - Zentrum für Digitalen Fortschritt, Arbeiterwohlfahrt Kreisverband Heidelberg, Mieterverein Heidelberg, Initiative Heidelberger Stolpersteine, Freifunk Rhein-Neckar, Deutsche Physikalische Gesellschaft, Wikimedia Deutschland, Verein der Freunde des Deutsch-Amerikanischen Instituts, Allgemeiner Deutscher Fahrrad-Club, eSport Rhein-Neckar, TSV 1895 Oftersheim, Fallschirmsportclub Mannheim, radioaktiv Campusradio Rhein-Neckar, Volksbund Deutsche Kriegsgräberfürsorge, Heidelberger Energiegenossenschaft

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## Hobbies

- Literature Philosophy, history, politics, psychology, sociology  
Sports Biking, football, e-sports, chess

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## Language proficiency

German	Native (C2)
English	Effectively native (C2)
French	Good (B1)
Esperanto	Good (B2)
Russian	Basics (A2)

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## Published works

C. Kommer, T. Tugendhat, and N. Wahl. *Tutorium Physik fürs Nebenfach: Übersetzt aus dem Unverständlichen*. Springer Berlin Heidelberg, 2015.

C. Kommer, T. Tugendhat, and N. Wahl. *Tutorium Physik fürs Nebenfach: Übersetzt aus dem Unverständlichen*. Springer Berlin Heidelberg, 2nd edition, 2019.

Robert Reischke, Victor Bosca, Tim Tugendhat, and Björn Malte Schäfer. Testing modified (Horndeski) gravity by combining intrinsic galaxy alignments with cosmic shear. *Monthly Notices of the Royal Astronomical Society*, 510(3):4456–4462, 01 2022.

T. M. Tugendhat. *On the impact and usefulness of intrinsic alignments of galaxies in a composite model on weak lensing in tomographic surveys*. Dissertation, Heidelberg, 2018.

T. M. Tugendhat, R. Reischke, and B. M. Schäfer. Statistical separation of weak gravitational lensing and intrinsic ellipticities based on galaxy colour information. *Monthly Notices of the Royal Astronomical Society*, 494(2):2969–2981, 03 2020.

T. M. Tugendhat and B. M. Schäfer. Angular ellipticity correlations in a composite alignment model for elliptical and spiral galaxies and inference from weak lensing. *Monthly Notices of the Royal Astronomical Society*, 476(3):3460–3477, 02 2018.