

Resume

DR. MARCEL ZEMP



Father of #ZempTriplets | Music Lover | Scientist working with Data | Computational Astrophysicist

Personal Details

Name	Marcel Zemp
Date of birth	1977-06-07
Place of birth	Wolhusen (LU)
Nationality	Swiss
Citizenship	Risch (ZG) & Escholzmatt-Marbach (LU)
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Profile

As a highly motivated analytical thinker and quick learner with excellent problem-solving skills, I have more than 20 years of experience in generating insights and value from data. I have spent more than a decade in the field of computational astrophysics where my focus was on researching and understanding how structures in the universe, such as the cosmic web, galaxies and stars, form. Since my relocation to Switzerland in 2014, I found a new challenge in the areas of data science, analytics, data engineering and data architecture. Currently, I'm a Managing Consultant at D ONE in Zurich.

Education

2003-04 — 2006-09	Doctor of Sciences — ETH Zurich
2003-10 — 2006-07	Diploma in Physics Didactics and Education (Höheres Lehramt) — ETH Zurich
1997-10 — 2003-03	Diploma in Physics — ETH Zurich
1990-08 — 1997-07	Matura Typus C (Mathematics) — Kantonsschule Zug

Employment

2020-01 — Present	Managing Consultant — D ONE (Zurich)
2017-01 — 2019-12	Senior Consultant — D ONE (Zurich)
2014-10 — 2016-12	Consultant — D ONE (Zurich)
2011-09 — 2014-08	Bairen Research Professor — Kavli Institute for Astronomy and Astrophysics at Peking University (Beijing)
2008-09 — 2011-08	Postdoctoral Researcher — University of Michigan (Ann Arbor)
2006-10 — 2008-08	Postdoctoral Researcher — University of California (Santa Cruz) Swiss National Science Foundation Fellowship
2003-04 — 2006-09	Doctoral Student — ETH Zurich (Zurich)
1999-10 — 2000-10	Technical Assistant — ATP Hydraulik AG (Rotkreuz)

Trainings & Certifications

2023-09	SPIN Selling Skills — Huthwaite International
2021-10	High Performance Leadership (HPL) — IMD Business School
2016-09	Certified Data Vault 2.0 Practitioner — Data Vault Alliance
2015-09	PRINCE2 Foundation — APMG International
2015-09	PRINCE2 Practitioner — APMG International
2015-07	Tableau Desktop 9 Qualified Associate — Tableau

Skills & Expertise

Language	Swiss German (native), German (native), English (fluent), French (intermediate)
Programming	Python, SQL, Bash, C/C++, R, HTML, CSS, JavaScript
Version Control	Git, SVN, CVS, Mercurial
Cloud	Amazon Web Services (AWS), Microsoft Azure, Google Cloud Platform (GCP)
Data Systems & Platforms	Snowflake, Databricks, Redshift, PostgreSQL, Microsoft SQL Server, Oracle, Splunk
Data Modeling	Data Vault, Dimensional Modeling, dbt, PowerDesigner, Enterprise Architect
Analysis & Analytics	SciPy, NumPy, pandas, scikit-learn, TensorFlow, GNU Scientific Library, Maple, Mathematica
Cluster & Parallel Computing	Spark/PySpark, Impala, Hive, Hue, Cloudera, Hadoop, Lustre, Message Passing Interface (MPI), OpenMP
Business Intelligence	Dashboarding, Tableau, Google Data Studio, Power BI
Testing	pytest, pytest-regtest
DevOps	Docker, Jenkins, SonarQube
Productivity	Google Workspace, Microsoft 365, LibreOffice, LaTeX, BibTeX
Visualisation & Plotting	Matplotlib, VisIt, ParaView, Mayavi, Topsy
Graphics & Design	Gimp, Photoshop
Operating System	Linux, Windows, OS X
Project Management Method	Agile, Scrum, Kanban, PRINCE2
Project Management Tool	Jira, Confluence, Monday, Trello, Wrike, Mantis

Experience Portfolio

Data Science, Analytics, Data Engineering & Data Architecture (Selection)

- Developed and implemented conduct monitoring frameworks & preventive analytics solutions for the compliance & risk department at a major global Swiss bank (Cloudera, PySpark, Hive, Impala, pytest)
- Enabled a holistic campaign view for an advertising agency by developing an end-to-end implementation of a cloud-based data pipeline (AWS [Redshift & S3], APIs, Tableau)
- Implemented central data hub for an international sports organization (Microsoft Azure, Snowflake, PostgreSQL, dbt, Splunk)
- Built the latest generation of a management information system for a major Swiss bank (Data Vault)
- Implemented cloud migration and data imputation solution for renewable energy asset management platform (GCP [BigQuery, Dataproc, Google Cloud Storage], dbt, Data Vault)
- Developed an application & data strategy for an energy provider
- Illustrated human resources key indicators in the banking sector (Tableau, Tableau Prep)
- Developed a customer relationship management data analysis system for a global sports organization (Data Vault)
- Performed a data architecture review for a holistic customer view at a national car dealership group (Microsoft Azure, Omikron, data quality)
- Identified campaign success of advisory solution initiatives for a private bank (Oracle, Tableau)

Leadership, People Management & Organising

- High Performance Leadership (HPL) training at IMD Business School
- Leading projects & teams (2-15 people, 9+ years)
- Mentoring junior consultants
- Faculty member at Peking University (3 years)
- Supervised students for projects, bachelor & doctoral theses (8 years)
- Selected talks as program committee member of Swiss Conference on Data Science (SDS) 2017-2019
- Organised conferences, events & concerts (International Astronomical Union General Assembly, California Astronomy Postdoc Symposium, Zuger Musikfestival, Christmas in Lucerne at KKL Luzern, 100-Jahr-Jubiläum Musikgesellschaft Risch-Rotkreuz, Kantifest Zug)
- Bandmanager Musikgesellschaft Risch-Rotkreuz Brass Band (10 years)
- Member of student organisation (Schülerorganisation) Kantonsschule Zug (4 years)

Astrophysics & Computational Science

- Applied and developed data mining and machine learning techniques, algorithms and data structures in astrophysics (e.g. multi-dimensional density estimators, halo finding, trees)
- Worked for more than a decade with some of the largest supercomputers in Europe, USA and China (e.g. Jaguar at ORNL, Pleiades at NASA, Fulla at Fermilab, zBox at University Zurich)
- Submitted several successful proposals for supercomputing time under the INCITE program of the US Department of Energy
- Won the breakthrough in computational science award by the Office of Advanced Scientific Computing Research (ASCR) in 2008 for the Via Lactea II project

Publications

- ORCID: <https://orcid.org/0000-0002-0498-3812>
- Google Scholar: <https://scholar.google.ch/citations?user=ulTcrsMAAAAJ>
- Over 25 peer reviewed publications in leading professional journals (e.g. Nature, Astrophysical Journal, Journal of Cosmology and Astroparticle Physics, Monthly Notices of the Royal Astronomical Society)
- My publications have more than 3300 citations with an h-index of 22 (NASA ADS)

Talks & Presentations

- 20+ years experience in explaining and communicating complex (scientific) issues
- Routinely giving management/C-level presentations & project summaries
- Regular presentations of my research work in front of a large audience at international conferences, workshops as well as university colloquia and seminars

Teaching

- Diploma in Physics Didactics and Education (Höheres Lehramt) from ETH Zurich
- Supervised several Bachelor theses at Peking University
- Co-supervision of graduate students at the University of California Santa Cruz, University of Michigan and Peking University
- Taught lectures at university level
- Teaching assistant for many physics courses at ETH Zurich
- Temporary teaching positions at several Gymnasien in Switzerland
- Teaching workshops (e.g. Data Modeling, Data Engineering) for clients/companies

Other Interests & Hobbies

- Currently playing flugelhorn with Brass Band Musikgesellschaft Risch-Rotkreuz
- Actively played cornet, trumpet and flugelhorn with various bands in Europe and USA
- Member of the Swiss Army Brass Band during Swiss military service
- Alumni of the National Youth Brass Band of Switzerland
- Discography with several commercially available recordings (<https://raindrop.io/collection/5560822>)
- Outdoor activities (e.g. hiking and skiing)
- Macroeconomics, monetary theory and finance in general