

# Résumé

## DR. MARCEL ZEMP



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

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### Personal Details

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

Highly motivated analytical thinker and quick learner with excellent problem-solving skills. 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 galaxies, form. Since my relocation to Switzerland, I found a new challenge in the areas of business intelligence, analytics and data management.

### Interests & Assets

- Data Science, Big Data & Information Technology – experience with modelling, managing and analysing large data sets
- Highly developed analytic thinking skills – vast experience working as a natural scientist
- Superb problem-solver, excellent communicator & great team-player

### Education

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

### Employment

2016-12 – Present	Senior Consultant at D ONE
2014-10 – 2016-11	Consultant at D ONE
2011-09 – 2014-08	Bairen Research Professor, Kavli Institute for Astronomy and Astrophysics, 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
1999-10 – 2000-10	Technical Assistant, ATP Hydraulik AG

## Certifications

- Tableau Desktop 9 Qualified Associate (2015-07)
- PRINCE2 Foundation (2015-09)
- PRINCE2 Practitioner (2015-09)
- Certified Data Vault 2.0 Practitioner (2016-09)

## Skills & Tools

Language	Swiss German (native), German (native), English (fluent), French (intermediate)
Programming	Python, C/C++, SQL, Bash, HTML, CSS, JavaScript
Version Control	Git, SVN, CVS, Mercurial
Analysis & Analytics	SciPy, Numpy, GSL, R, Maxima, Maple, Mathematica
Visualisation & Plotting	Matplotlib, VisIt, ParaView, Mayavi, Topsy
Data & Business Intelligence	Tableau, Google Data Studio, Power BI, PowerDesigner
Cloud	Amazon Web Services (S3, Redshift), Microsoft Azure
Office & Productivity	Google Drive & Office Suite, LibreOffice, Microsoft Office, LaTeX, BibTeX
Graphics & Design	Gimp, Photoshop
Operating System	Linux, Windows, OS X
Project Management Method	Scrum, Agile, Kanban, PRINCE2
Project Management Tool	Jira, Confluence, Trello, Wrike, Mantis

## Experience Portfolio

### Business Intelligence, Analytics & Data Management

- Development and end-to-end implementation of cloud-based data pipeline for advertising agency involving various APIs (e.g. Google, Facebook), Amazon Web Services (S3, Redshift), Tableau Server, dashboard design
- Implementation and requirement analysis for data warehouse (Data Vault 2.0) in banking sector
- Customer relationship management data analysis and reporting for sports organisation
- Transactional financial data analysis and reporting (Tableau) for clearing agency
- Analysis of portfolio data and reporting for trust department in banking sector

### Astrophysics & Computational Science

- Application and development of data mining and machine learning techniques, algorithms and data structures in astrophysics (e.g. multi-dimensional density estimators, halo finding, trees)
- More than a decade of experience working with super-computers in Europe, USA and China (e.g. Jaguar at ORNL, Pleiades at NASA, Fulla at Fermilab, zBox at University Zurich)
- Several successful proposals for super-computing time under the INCITE program of the US Department of Energy
- Breakthrough in computational science award by the Office of Advanced Scientific Computing Research (ASCR) in 2008 for the Via Lactea II project

### Publications

- Complete list of publications: ORCID iD <https://orcid.org/0000-0002-0498-3812>
- 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)
- More than 2500 citations with an h-index of 20

### Talks & Presentations

- 15+ years experience in explaining and communicating complex (scientific) issues
- Regular presentations of my research work in front of a large audience at international conferences, workshops and university colloquia and seminars

### Teaching

- Diploma in Physics Didactics and Education from ETH Zurich
- Teaching assistant for many physics courses at ETH Zurich
- Temporary teaching positions at several Gymnasias in Switzerland

- Supervision of several Bachelor theses at Peking University
- Co-supervision of graduate students at University of California Santa Cruz, University of Michigan and Peking University
- Taught lectures at university level

## Other Interests & Hobbies

- Currently playing flugelhorn with Musikgesellschaft Risch-Rotkreuz
- Actively played cornet, trumpet and flugelhorn with various groups 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 (e.g. iTunes)
- Outdoor activities (e.g. hiking and skiing)
- Macroeconomics, monetary theory and finance in general

## References

**Martin Voegeli** | BI Solutions AG, Owner

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