

# Jakob Fischer

Software Development,  
Simulation, Data Science

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📄 [github.com/jakob-fischer](https://github.com/jakob-fischer)

German, 30 years old

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## Work Experience

- 05/2012–03/2017 **Member of Biosystemanalysis Lab at FSU Jena**, *Developing scientific software. Chemical simulations. Data analysis. Publication and presentations for international audience.*
- 10/2010–03/2012 **Student Helper, Institute for Polymer Research Dresden**, *Software development for polymer research. Monte carlo simulation.*

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## Education

- 05/2012–03/2017 **PhD candidate (Informatics) at the Biosystemanalysis Group at FSU Jena.**  
Scholarship of the International Max Planck Research School for Global Biogeochemical Cycles
- 04/2015– 04/2016 **Visiting Research Student**, *Ikegamilab*, Tokyo University.  
Scholarship of the German Academic Exchange Service (DAAD)
- 2006–2012 **Physics (Diploma / masters equivalent)**, *Technische Universität Dresden.*
- Elective Subjects    Theoretical Physics (Computational Physics, Quantum-Chaos)  
                              Mathematics (Functional Analysis I + II, Ergodic Theory)
- Thesis                 *Monte-Carlo-Simulations for Investigation of Olympic Gels*

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## Technical Skills

- Operating Systems    Linux, MacOS X, Windows
- Programming        C++, C, Python, Java, Scheme
- Libraries             igraph, NumPy, SciPy, odeint (Boost)
- Applications        Inkscape, Mathematica, OpenSCAD, Office
- Simulation/Modeling    ODE, Monte-Carlo based, Evolutionary Algorithms
- Miscellaneous        LaTeX, R, Git, Arduino, HTML/CSS, SQL, Jekyll, Sungrid

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## Further Experiences

- 2016 **Machine Learning Summer School**, *Arequipa, Peru.*

- 2012–2016 **Various courses**, by Graduate Academy Jena and IMPRS-gBGC (graduate school).  
Topics include: Data Visualisation, Grant Proposal Writing, Scientific Writing, Statistics & Data Analysis (Machine Learning), Earth Observation Techniques (Remote Sensing), Soil Biology
- 2013–2015 **PhD-Representative**, IMPRS-gBGC (graduate school).  
2013 **Teaching assistant**, lecture on evolutionary algorithms.
- 2005–2006 **Zivil-Service**, Sozialstation St. Konrad, Konstanz.  
German driving licence class B

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## Languages

German	<b>Native speaker</b>	
English	<b>Fluent</b>	(IELTS Overall Band Score 7.5)
Japanese, Spanish	<b>Intermediate</b>	

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## Selected Publications

- 2015 **J. Fischer**, A. Kleidon, and P. Dittrich  
Thermodynamics of Random Reaction Networks  
PloS one 2015 10 (2), e0117312
- 2015 **J. Fischer**, M. Lang, J.-U. Sommer  
The formation and structure of Olympic gels  
The Journal of chemical physics 143 (24), 243114
- 2014 M. Lang, **J. Fischer**, M. Werner, and J.-U. Sommer  
Swelling of olympic gels  
Physical review letters 2014 112 (23), 238001

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## References

- Prof. Peter Dittrich  
–Bio Systems Analysis Group; Friedrich-Schiller-University Jena–  
Contact dittrich@cs.uni-jena.de or (+49) 3641 9 46460
- Dr. Axel Kleidon  
–Biospheric Theory and Modelling; Max Planck Institute for Biogeochemistry–  
Contact akleidon@bgc-jena.mpg.de or (+49) 3641 57 6217

Leipzig, 20th of February 2017

*Jakob Fischer*