

Contact Information

Name: **Daniel Vogler**
Address: ETH Zurich, NO F61
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Nationality: German
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Education

2016 **Dr. sc. ETH Zurich**
ETH Zurich, Zurich, Switzerland
Thesis: [Hydro-Mechanically Coupled Processes in Heterogeneous Fractures: Experiments and Numerical Simulations](#)

2013 **Diplom-Ingenieur**, Environmental Engineering
University of Stuttgart, Stuttgart, Germany
Thesis: [A comparison of different model reduction techniques for model calibration and risk assessment](#)
Supported by the [NUPUS Cooperation](#) and the German National Merit Foundation

2012 **Master of Science**, Chemical Engineering
Oregon State University, Corvallis, OR, USA
Thesis: [Investigation of Transport Phenomena in a Highly Heterogeneous Porous Media](#)
Supported by the German-American Fulbright Commission
and the German National Merit Foundation

2009 Prediploma, Environmental Engineering
University of Stuttgart, Stuttgart, Germany

Work Experience

since 2019 Senior Assistant - ETH Zurich, Zurich, Switzerland
Chair of Geothermal Energy and Geofluids, Institute of Geophysics

2016 - 2018 Postdoctoral Researcher - ETH Zurich, Zurich, Switzerland
Chair of Geothermal Energy and Geofluids, Institute of Geophysics, and
Transport Processes and Reactions Laboratory, Institute of Process Engineering

2013 - 2016 Doctoral Researcher - ETH Zurich, Zurich, Switzerland
Chair of Engineering Geology

2012 - 2013 Teaching Assistant - University of Stuttgart, Stuttgart, Germany
Department of Mathematics, Faculty of Mathematics and Physics

2012 Internship - Dynamore GmbH, Stuttgart, Germany

2012 Research Assistant - Oregon State University, Corvallis, OR, USA
The School of Chemical, Biological, and Environmental Engineering

2011 - 2012 Teaching Assistant - University of Stuttgart, Stuttgart, Germany

	Department of Mathematics, Faculty of Mathematics and Physics
2011 - 2012	Research and Teaching Assistant - University of Stuttgart, Stuttgart, Germany Institute for Modelling Hydraulic and Environmental Systems
2011	Research Assistant - Oregon State University, Corvallis, OR, USA The School of Chemical, Biological, and Environmental Engineering
2009 - 2010	Research Assistant - University of Stuttgart, Stuttgart, Germany Institute for Modelling Hydraulic and Environmental Systems,
2008 - 2010	Teaching Assistant - University of Stuttgart, Stuttgart, Germany Department of Mathematics, Faculty of Mathematics and Physics

Scholarships and Awards

2012 - 2013	NUPUS Cooperation - Student Thesis Scholarship
2010 - 2013	German National Merit Foundation (“Studienstiftung des deutschen Volkes”)
2010 - 2011	German-American Fulbright Commission
2009 - 2013	Prediploma in top 5% of program. Exemption from tuition fees for remainder of program

Extended Research Visits

2014, 2015, 2016,	Lawrence Livermore National Laboratory, Livermore, CA, USA
2017, 2018	Computational Geosciences Group, Atmospheric, Earth, and Energy Division
2018	Università della Svizzera italiana, Lugano, Switzerland Chair for Advanced Scientific Computing, Institute of Computational Science
2018	University of New South Wales, Sydney, Australia School of Minerals and Energy Resources Engineering, UNSW Engineering
2017	Idaho National Laboratory, Idaho Falls, ID, USA Nuclear Science & Technology Modeling and Simulation, Nuclear Science & Technology
2014	Pennsylvania State University, University Park, PA, USA Prof. Derek Elsworth, Center for Geomechanics, Geofluids, and Geohazards

Refereed Publications

- [1] M.L.T. Dambly, M. Nejati, **D. Vogler**, and M. O. Saar. On the direct measurement of shear moduli in transversely isotropic rocks using the uniaxial compression test. *International Journal of Rock Mechanics and Mining Sciences*, 113:220–240, 2019. doi: <https://doi.org/10.1016/j.ijrmms.2018.10.025>. URL <http://www.sciencedirect.com/science/article/pii/S1365160918303605>
- [2] A. Hobé, **D. Vogler**, M.P. Seybold, A. Ebigbo, R.R. Settgast, and M.O. Saar. Estimating flow rates through fracture networks using combinatorial optimization. *Advances in Water Resources*, 122:85–97, 2018. doi: [10.1016/j.advwatres.2018.10.002](https://doi.org/10.1016/j.advwatres.2018.10.002). URL <https://doi.org/10.1016/j.advwatres.2018.10.002>
- [3] M.A. Perras and **D. Vogler**. Compressive and tensile behavior of 3d printed and natural sandstones. *Transport in Porous Media*, pages 1–23, 2018. doi: [10.1007/s11242-018-1153-8](https://doi.org/10.1007/s11242-018-1153-8). URL <https://doi.org/10.1007/s11242-018-1153-8>

[10.1007/s11242-018-1153-8](https://doi.org/10.1007/s11242-018-1153-8)

- [4] T. Kling, **D. Vogler**, L. Pastewka, F. Amann, and P. Blum. Numerical simulations and validation of contact mechanics in a granodiorite fracture. *Rock Mechanics and Rock Engineering*, 51(9):2805–2824, 2018. doi: [10.1007/s00603-018-1498-x](https://doi.org/10.1007/s00603-018-1498-x). URL <https://doi.org/10.1007/s00603-018-1498-x>
- [5] **D. Vogler**, S. Ostvar, R. Paustian, and B.D. Wood. A hierarchy of models for simulating experimental results from a 3d heterogeneous porous medium. *Advances in Water Resources*, 114:149–163, 2018a. doi: [10.1016/j.advwatres.2018.02.009](https://doi.org/10.1016/j.advwatres.2018.02.009). URL <https://doi.org/10.1016/j.advwatres.2018.02.009>
- [6] **D. Vogler**, R.R. Settgast, C. Annavarapu, C. Madonna, P. Bayer, and F. Amann. Experiments and simulations of fully hydro-mechanically coupled response of rough fractures exposed to high pressure fluid injection. *Journal of Geophysical Research: Solid Earth*, 123(2):1186–1200, 2018b. doi: [10.1002/2017JB015057](https://doi.org/10.1002/2017JB015057). URL <http://dx.doi.org/10.1002/2017JB015057>
- [7] **D. Vogler**, S.D.C. Walsh, P. Bayer, and F. Amann. Comparison of surface properties in natural and artificially generated fractures in a crystalline rock. *Rock Mechanics and Rock Engineering*, 50(11):2891–2909, 2017b. doi: [10.1007/s00603-017-1281-4](https://doi.org/10.1007/s00603-017-1281-4). URL <https://doi.org/10.1007/s00603-017-1281-4>
- [8] **D. Vogler**, S.D.C. Walsh, E. Dombrowski, and M.A. Perras. A comparison of tensile failure in 3d-printed and natural sandstone. *Engineering Geology*, 226:221–235, 2017c. doi: [10.1016/j.enggeo.2017.06.011](https://doi.org/10.1016/j.enggeo.2017.06.011). URL <https://doi.org/10.1016/j.enggeo.2017.06.011>
- [9] **D. Vogler**, F. Amann, P. Bayer, and D. Elsworth. Permeability evolution in natural fractures subject to cyclic loading and gouge formation. *Rock Mechanics and Rock Engineering*, 49(9):3463–3479, 2016a. doi: [10.1007/s00603-016-1022-0](https://doi.org/10.1007/s00603-016-1022-0). URL <http://dx.doi.org/10.1007/s00603-016-1022-0>

Conference Proceedings

- [1] P. Deb, **D. Vogler**, S. Düber, P. Siebert, S. Reiche, C. Clauser, R.R. Settgast, and K. Willbrand. Laboratory fracking experiments for verifying numerical simulation codes. In *80th EAGE Conference and Exhibition 2018*, pages 1–4, 2018. URL <http://www.earthdoc.org/publication/publicationdetails/?publication=92553>
- [2] C. von Planta, **D. Vogler**, M. Nestola, P. Zulian, and R. Krause. Variational parallel information transfer between unstructured grids in geophysics-applications and solutions methods. *PROCEEDINGS, 43rd Workshop on Geothermal Reservoir Engineering, Stanford, CA*, SGP-TR-213:1–13, 2018. URL <https://pangea.stanford.edu/ERE/db/GeoConf/papers/SGW/2018/Von.pdf>
- [3] **D. Vogler**, R.R. Settgast, V.S. Gischig, M. Jalali, J. Doetsch, B. Valley, K.F. Evans, C.S. Sherman, M.O. Saar, and F. Amann. Modeling the hydraulic fracture stimulation performed for reservoir permeability enhancement at the grimsel test site, switzerland. *PROCEEDINGS, 42nd Workshop on Geothermal Reservoir Engineering, Stanford, CA*, SGP-TR-212:1–9, 2017a. URL <https://pangea.stanford.edu/ERE/db/GeoConf/papers/SGW/2017/Vogler.pdf>
- [4] **D. Vogler**, R.R. Settgast, C. Annavarapu, P. Bayer, and F. Amann. Hydro-mechanically coupled flow through heterogeneous fractures. *PROCEEDINGS, 41st Workshop on Geothermal Reservoir Engineering, Stanford, CA*, SGP-TR-209:1–6, 2016b. URL <https://pangea.stanford.edu/ERE/db/GeoConf/papers/SGW/2016/Vogler.pdf>