

CURRICULUM VITAE

PERSONAL INFORMATION

Name, Surname	Josef Vlček
Address	
House number, street name, postcode, city, country	U Vysočanského pivovaru 3/701 19000, Praha, Czech Republic
Telephone	+420 724 162 630
E-mail	josef.vlcek@natur.cuni.cz
Nationality	Czech Republic
Place and Date of birth	Praha, 10.04.1987

WORK EXPERIENCE

Since 10/2011	Charles University in Prague, Faculty of Science, Department of Hydrogeology, Engineering Geology and Applied Geophysics - Research geophysicist focused on seismology and CO ₂ flow measurements
Since 11/2015	Institute of Rock Structure and Mechanics, Czech Academy of Sciences - Research geophysicist focused on seismology and hydraulic fracturing

EDUCATION AND TRAINING

2011 – 2021	Full-time Ph.D. student at Department of Hydrogeology, Engineering Geology and Applied Geophysics, Faculty of Science, Charles University in Prague Thesis: Automatic processing of microseismic data and their relation to the hydraulic injection
2009 – 2011	M.Sc. in applied geophysics, Charles University in Prague, Faculty of Science Thesis: Injection-induced seismicity: Statistic and energetic analysis
2006 – 2009	B.Sc. in geology, Charles University in Prague, Faculty of Science Thesis: Geothermal energy resources – experience from the Soultz-sous-Forets project

RESEARCH ACTIVITIES

Research sectors	Seismology – automatic event location and focal mechanism estimation, magnitude of completeness estimation, spatial and temporal mapping of b-values and other statistical parameters CO ₂ flow – measuring of the natural CO ₂ flow using flowmeters, pressure and electrical methods, data processing and interpretation
Recent Scientific Activities.	Seismological and microseismic data processing, CO ₂ measurement device management and data processing

- Publications
- Vlček, J., Fischer, T., & Vilhelm, J. (2016). Back-projection stacking of P-and S-waves to determine location and focal mechanism of microseismic events recorded by a surface array. *Geophysical Prospecting*, 64(6), 1428-1440.
 - Hainzl, S., Fischer, T., Čermáková, H., Bachura, M., & Vlček, J. (2016). Aftershocks triggered by fluid intrusion: Evidence for the aftershock sequence occurred 2014 in West Bohemia/Vogtland. *Journal of Geophysical Research: Solid Earth*, 121(4), 2575-2590.
 - Telesca, L., Eisner, L., Stabile, T. A., & Vlček, J. (2017). Investigating the time clustering of induced microseismicity generated by hydraulic fracturing. *EPL (Europhysics Letters)*, 116(5), 59002.
 - Wcisło, M., Eisner, L., Málek, J., Fischer, T., Vlček, J., & Kletetschka, G. (2018). Attenuation in West Bohemia: Evidence of High Attenuation in the Nový Kostel Focal Zone and Temporal Change Consistent with CO₂ Degassing. *Bulletin of the Seismological Society of America*.
 - Vlček, J., Eisner, L., Stabile, T. A., & Telesca, L. (2018). Temporal relationship between injection rates and induced seismicity. *Pure and Applied Geophysics*, 175(8), 2821-2835.
 - Wcisło, M., Eisner, L., Málek, J., Fischer, T., Vlček, J., & Kletetschka, G. (2020). Reply to "Comment on 'Attenuation in West Bohemia: Evidence of High Attenuation in the Nový Kostel Focal Zone and Temporal Change Consistent with CO₂ Degassing' by M. Wcisło, L. Eisner, J. Málek, T. Fischer, J. Vlček, and G. Kletetschka" by MorozovReply. *Bulletin of the Seismological Society of America*, 110(1), 375-380
 - Fischer T., Vlček J. and Lanzendorfer M. (2020). Monitoring crustal CO₂ flow: methods and their applications to the mofettes in West Bohemia. *Solid Earth*, <https://doi.org/10.5194/se-2020-6>
 - Woith H, Daskalopoulou K, Zimmer M, Fischer T, Vlček J, Trubač J, Rosberg J-E, Vylita T and Dahm T (2020) MultiLevel Gas Monitoring: A New Approach in Earthquake Research. *Front. Earth Sci.* 8:585733., doi: 10.3389/feart.2020.585733

ADDITIONAL INFORMATION

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| Memberships | CAAG (Czech Association of Geophysicists)
EAGE (European Association of Geoscientists and Engineers)
SEG (Society of Exploration Geophysics)
SPE (Society of Petroleum Engineers) |
| Other activities | Since 2014
- Treasurer at Charles University in Prague Geophysical Society (Student chapter SEG)
- Member of EAGE Visegrad Student Chapter

2015
- Organizer of the 6th International Geosciences Student Conference in Prague, 2015 |
| Projects | 2016-2017, Grant Agency of Charles University, project "Monitoring of CO ₂ in geodynamically active area of West Bohemia" |

Conference attendances

- 26.-28.11.2012, AGIS workshop, Karlsruhe, poster: b-value mapping of injection-induced earthquakes and earthquake swarms. Vlček J., Fischer T., Dorbath C.
- 11.-14.9.2013, AIM meeting, Třešť, poster: b-value mapping of injection-induced earthquakes and earthquake swarms. Vlček J., Fischer T., Dorbath C.
- 25.-27.2.2014, SPE/EAGE European Unconventional Resources Conference and Exhibition, Vienna, oral presentation: Automatic processing of Microseismic data: Determination of Hypocenter Position and Estimation of Focal Mechanism. Vlček J., Fischer T., Vilhelm J.
- 27.4.-2.5.2014, EGU General Assembly, Vienna, poster: b-value mapping of injection-induced earthquakes and earthquake swarms. Vlček J., Fischer T., Dorbath C.
- 3.-4.10.2014, 3rd Geothermal Workshop, Karlsruhe, poster: Time reversal stacking of P and S waves to determine location and focal mechanism of microseismic events recorded during hydraulic stimulation, Vlček J., Fischer T., Vilhelm J.
- 10.-13.3.2015, Schatzalp Induced seismicity workshop, Davos, poster: Time reversal stacking of P and S waves to determine location and focal mechanism of microseismic events recorded during hydraulic stimulation, Vlček J., Fischer T., Vilhelm J.
- 17.-22.4.2016, EGU General Assembly, Vienna, poster: Carbon-dioxide flow measurement in geodynamically active area of West Bohemia
- 12.-13.10.2017, 5th Geothermal workshop, Karlsruhe, poster: Temporal relation between hydraulic injection and induced seismicity, Vlček J., Fischer T., Eisner L.