

Curriculum vitae

RNDr. Petra Štěpančíková, Ph.D.

Born 1976 in Valašské Meziříčí, Czech Republic

Academic history:

2001 MSc. graduated in Physical Geography, Faculty of Science, Charles University, Prague

2005 RNDr. degree in Physical Geography, Faculty of Science, Charles University, Prague

2007 PhD. degree in Physical Geography, Faculty of Science, Charles University, Prague

Professional employment:

2000 - Institute of Rock Structure and Mechanics, Czech Acad.Sci., Prague

2000-2014 Department of Engineering Geology,

2015- Head of Department of Neotectonics and Thermochronology

Research interests: tectonic geomorphology, active tectonics, paleoseismology (study areas in Czech Republic, Spain, Mexico, USA), long-term morphotectonic relief evolution, geomorphological mapping

Selected significant project participation:

Manifestations of Late Quaternary tectonics within the Sudetic Marginal Fault zone 2008-2010; postdoc project, Czech Science Foundation, GA ČR 205/08/P521, principal investigator

Hydrogeological effects of seismicity in the Hronov-Poříčí fault zone area, 2005-2008; doctoral project, Czech Science Foundation GA ČR

3D monitoring of micro-movements in within the zone of expression of African – Euroasian collision, 2006-2008; Czech Science Foundation GA ČR

Paleoseismological assessment of fault structures in the vicinity of Temelín nuclear power plant, 2009-2010; State Office for Nuclear Safety, team researcher

Identification and characterization of seismogenic faults in Central Mexican Volcanic belt: implications for seismic hazard and slope instabilities, 2011-2013; CONACYT Mexico, team researcher

Neotectonics in the Alpine-Carpatian Foreland, 2013-2014, MOBILITY project, Ministry of Education, Youth and Sports, 7AMB13AT023, principal investigator

Assessment of Tectonic Movements on Active Faults, 2012-2015; KONTAKT II – CZ-USA project, Ministry of Education, Youth and Sports, LH12078, principal investigator

Late Quaternary seismogenic faulting and evolution of fault-controlled sedimentary basins in the eastern Bohemian Massif, 2012-2015, Czech Science Foundation GA ČR P210/12/0573, co-investigator

Late Cenozoic to present tectonic activity of the western Eger Rift, bilateral Czech-German project of Czech Science Foundation (GAČR), 16-10116J, 2016-2018, co-investigator

Foreign experience and residency:

April-July 2003, residency at the University of Camerino, Italy (Erasmus project); geomorphological field mapping in tectonic intramontane Colfiorito basin

September 2003, AIQUA 8th Summer School on Quaternary Geology, Aquila, Italy, tectonic basins

April 2005, European Advanced School on Active Tectonics, ICTP, Trieste, Italy

November 2005, internship and paleoseismic field work on the Carboneras fault, Almería, Spain, Dpt. de Geodinàmica i Geofísica, Facultat de Geologia, Universitat de Barcelona

June 2006, Annual International Summer School on Rockslides and Related Phenomena in the Kokomerren River Valley (Kyrgyzstan), focused on large seismically triggered landslides

January 2008, paleoseismic field work in the Carboneras fault, Almería, Spain,
Univ.Barcelona
April 2009, paleoseismic field work in the Alhama de Murcia fault, Murcia, Spain
December 2009, Advanced School on Earthquakes Engineering in Nuclear Facilities, ICTP,
Trieste
January-March 2010, April 2011 internship at San Diego State University, California; field and
LiDAR mapping of the Elsinore fault (San Andreas Fault zone); paleoseismic field work on
the Imperial fault (SAF)
March 2011, October 2013 - paleoseismic fieldwork in Acambay fault zone in Central
Mexican Volcanic belt, Mexico
May 2012 - paleoseismic fieldwork in Dead Sea transform fault zone, Israel
2012-2016 – yearly fieldwork in California on San Andreas fault and its segments

Educational activity:

Supervising and consulting of bachelor (2), master (2), and PhD theses (2) at Charles
University in Prague and University of Ostrava;
Semestral course on Tectonic Geomorphology at Masaryk University in Brno (every 2 years)
Short intense course on Tectonic Geomorphology (17.-18.5.2011) at UNAM, Querétaro,
Mexico
Short intense course on Tectonic Geomorphology and Paleoseismology (2014, 2015, 2016)
Arba Minch University, Ethiopia

Invited lectures at conferences:

Czech Association of Geomorphologists , Mikulov 2013, CZE
INQUA congress, Nagoya 2015, Japan

at seminars: Barcelona University, UNAM Querétaro Mexico, University of Wroclaw Poland,
Ostrava University in Ostrava CZE, Charles University in Prague, Vienna University

Membership: Czech Association of Geomorphologists (ČAG) - since 2009 vice-chairman;
INQUA focus group Earthquake Geology and Seismic Hazards – since 2016 co-leader;
Czech Tectonic Group (ČTS); Czech Association of Engineering Geologists (ČAIG);
International Association for Engineering Geology (IAEG); European Geosciences Union
(EGU); American Geophysical Union (AGU), Central European Tectonic Group (CETEG)

Selected publications:

Štěpančíková P., Stemberk J., Vilímek, V., Košťák B.(2008): Neotectonic development of
drainage networks in the East Sudeten Mountains and monitoring of recent fault
displacements (Czech Republic). Special Issue on: Impact of active tectonics and uplift on
fluvial landscapes and river valley development, *Geomorphology*. 102 (1), 68-80.
Štěpančíková P., Hók J., Nývlt D., Dohnal J., Sýkorová I., Stemberk J. (2010): Active
tectonics research using trenching technique on the south-eastern section of the Sudetic
Marginal Fault (NE Bohemian Massif, central Europe). *Tectonophysics*, 485, 1-4, 269–282,
doi: 10.1016/j.tecto.2010.01.004,
Štěpančíková P., Dohnal J., Pánek T., Łój M., Smolková V., Šilhán K.: The application of
electrical resistivity tomography and gravimetric survey as useful tools in an active
tectonics study of the Sudetic Marginal Fault (Bohemian Massif, central Europe). *Journal of
Applied Geophysics* (2011), 74, 69-80. doi:10.1016/j.jappgeo.2011.03.007,
Klimeš, J., Rowberry, M.D., Blahůt, J., Briestenský, M., Hartvich, F., Košťák, B., Rybář, J.,
Stemberk, J., **Štěpančíková, P.** (2012) : The monitoring of slow moving landslides and
assessment of stabilisation measures using an optical-mechanical crack gauge.
Landslides. *Landslides* 9 (3) pp. 407 – 415, DOI 10.1007/s10346-011-0306-4,
Ortuño M., Masana E., García-Meléndez E., Martínez-Díaz J., **Štěpančíková P.**, Canora C, ,
P. Cunha P., Sohbatí R., Buylaert JP, Murray A.S. (2012): An exceptionally long
paleoseismic record of a slow-moving fault: The Alhama de Murcia fault (Eastern Betic

- shear zone, Spain). Geological Society of America Bulletin, Vol. 124; no. 9/10; p. 1474–1494; doi: 10.1130/B30558.1,
- Danišík, M., **P. Štěpančíková**, and N. Evans (2012), Constraining long-term denudation and faulting history in intraplate regions by multi-system thermochronology - an example of the Sudetic Marginal Fault (Bohemian Massif, Central Europe), *Tectonics*, Vol 31, Tc2003, 19pp, doi:10.1029/2011TC003012
- Fischer, T., **P. Štěpančíková**, M. Karousová, P. Tábořík, C. Flechsig, M. Gaballah, 2012. Imaging the Mariánské Lázně Fault (Czech Republic) by 3-D ground-penetrating radar and electric resistivity tomography. *Stud. Geophys. Geod.* 56, Issue 4, pp. 1019-1036 doi: 10.1007/s11200-012-0825-z,
- Wechsler N., Rockwell T.K., Klinger Y., **Štěpančíková P.**, Kanari M., Marco S., Agnon A. (2014): A Paleoseismic Record of Earthquakes for the Dead Sea Transform Fault between the First and Seventh Centuries C.E.: Nonperiodic Behavior of a Plate Boundary Fault. *Bulletin of the Seismological Society of America*, vol. 104, 3, pp. 1329-1347, doi: 10.1785/0120130304
- Špaček P., Bábek O., **Štěpančíková P.**, Švancara J., Pazdírková J., Sedláček J. (2014): The Nysa-Morava Zone: an active tectonic domain with Late Cenozoic sedimentary grabens in the Western Carpathians' foreland (NE Bohemian Massif). *Int J Earth Sci.* DOI 10.1007/s00531-014-1121-7,
- Špaček P., Bábek O., **Štěpančíková P.**, Švancara J., Pazdírková J., Sedláček J. (2015): The Nysa-Morava Zone: an active tectonic domain with Late Cenozoic sedimentary grabens in the Western Carpathians' foreland (NE Bohemian Massif). *Int J Earth Sci.* *International Journal of Earth Sciences: Volume 104, Issue 4, Page 963-990*, DOI 10.1007/s00531-014-1121-7.
- Coubal M., Málek J., Adamovič J., **Štěpančíková P.** (2015): Late Cretaceous and Cenozoic dynamics of the Bohemian Massif inferred from the paleostress history of the Lusatian Fault Belt. *Journal of Geodynamics* 87, 26-49. doi: 10.1016/j.jog.2015.02.006
- Bábek O., Briestenský M., Přecechtělová G., **Štěpančíková P.**, Hellstrom J.C. Drysdale R. N. (2015): Pleistocene speleothem fracturing in the foreland of the Western Carpathians: a case study from the seismically active eastern margin of the Bohemian Massif. *Geological Quarterly*, 59 (3): 491–506, doi: <http://dx.doi.org/10.7306/gq.1225>
- Rockwell, T.K, J. M. Fletcher, O. J. Teran, A. P. Hernandez, K. J. Mueller, J. B. Salisbury, S. O. Akciz, and **P. Štěpančíková** (2015): Reassessment of the 1892 Laguna Salada Earthquake: Fault Kinematics and Rupture Patterns. *Bulletin of the Seismological Society of America*, Vol. 105, No. 6, pp. –, December 2015, doi: 10.1785/0120140274.