

Publication list of Kamil Ustaszewski (Jan. 2025)

Articles in peer-reviewed journals

In preparation:

Bühlhoff, M., Prince, E., Grützner, C., **Ustaszewski, K.**: Pseudotachylites along the Pustertal-Gailtal Line, eastern Periadriatic Fault system, Austria, in preparation.

Cionoiu, S., Handy, M.R., **Ustaszewski, K.**: Comparison of the fault-parallel flow and fault-bend folding algorithms. *Journal of Structural Geology*, in preparation.

Grützner, C., Stubenrauch, J., Reicherter, K., **Ustaszewski, K.**: Clustering of *Sackungen* indicates tectonic activity of the Fella-Sava Fault, Italy, Southern Alps, in preparation.

Prince, E., Tsukamoto, S., **Ustaszewski, K.**: Evaluating Kinetic Models in Electron Spin Resonance dating: Advancing Approaches to Constrain Fault Recurrence Intervals, in preparation.

Wagner, L., Balling, P., **Ustaszewski, K.**: Metamorphic conditions south of the Periadriatic lineament in the Carnic Alps constrained by Raman spectroscopy on carbonaceous matter and quartz microstructures, *Austrian Journal of Earth Science*, in preparation.

Ustaszewski, K., Zhang, Y., Suppe, J., Wu, Y.-M.: Improved constraints on the configuration of the Eurasian passive margin from crustal-scale balanced cross sections across the Taiwan fold-and-thrust belt. *Tectonics*, in preparation.

In review, in revision, pending acceptance or accepted:

Schmitz, B., Hueck, M., Wemmer, K., Onuzi, K., Biermanns, P., Reicherter, K., **Ustaszewski, K.** (in revision): Kinematics and age of the orogen-perpendicular Shkoder-Peja Normal Fault in North Albania constrained by fault-slip data, Raman spectroscopy and K-Ar fault-gouge dating, *Tectonics*, ([preprint](#)).

Prince, E., Tsukamoto, S., Grützner, C., Bühlhoff, M., **Ustaszewski, K.** (in revision): Deciphering Pleistocene Fault Activity in the Eastern Alps: dating fault gouges with Electron Spin Resonance and Optically Stimulated Luminescence. *Tectonics*, ([preprint](#)).

Published (in inverse chronological order):

Richter, M., Pollok, K., Onuzi, K., **Ustaszewski, K.** (2025, in press): Tectonometamorphic evolution of a subduction plate interface at the base of the Mirdita Ophiolite (Bajram Curri, northeastern Albania), *Swiss Journal of Geosciences*, doi: [10.1186/s00015-024-00472-5](https://doi.org/10.1186/s00015-024-00472-5).

Jamšek Rupnik, P., Atanackov, J., Horn, B., Mušič, B., Zajc, M., Grützner, C., **Ustaszewski, K.**, Tsukamoto, S., Novak, M., Milanič, B., Markelj, A., Ivančič, K., Novak, A., Jež, J., Žebre, M., Bavec, M., & Vrabec, M. (2024): Revealing Subtle Active Tectonic Deformation: Integrating Lidar, Photogrammetry, Field Mapping and Geophysical Surveys to Assess the Late Quaternary Activity of the Sava Fault (Southern Alps, Slovenia). *Remote Sensing*, 16, <https://doi.org/10.3390/rs16091490>.

Prince, E., Tsukamoto, S., Grützner, C., Vrabec, M., **Ustaszewski, K.** (2024): Not too old to rock: ESR and OSL dating methods reveal Quaternary activity of the Periadriatic Fault in the Alps. *Earth, Planets and Space*, 76:85, doi: [10.1186/s40623-024-02015-6](https://doi.org/10.1186/s40623-024-02015-6).

Diercks, M.-L., Grützner, C., Welte, J., **Ustaszewski, K.** (2023): Challenges of geomorphologic analysis of active tectonics in a slowly deforming karst landscape (W Slovenia and NE Italy). *Geomorphology*, 440, 108894, <https://doi.org/10.1016/j.geomorph.2023.108894>.

Published (in inverse chronological order):

(continued - 1)

- Löwe, G., Prelević, D., **Ustaszewski, K.** (2023): A first attempt at a provenance study in the Jadar block, Serbia, by means of U-Pb zircon geochronology. *Geološki Analisi Balkanskog Poluostrva*, 84(1), 17-31, doi: [10.2298/GABP230303005L](https://doi.org/10.2298/GABP230303005L).
- Balling, P., Tomljenović, B., Herak, M., **Ustaszewski, K.** (2023): Impact of mechanical stratigraphy on deformation style and distribution of seismicity in the central External Dinarides: a 2D forward kinematic modelling study. *Swiss Journal of Geosciences*, 116, doi: [10.1186/s00015-023-00437-0](https://doi.org/10.1186/s00015-023-00437-0).
- Thieme, M., Jähne-Klingberg, F., Fügenschuh, B., Malz, A., Linnemann, U., **Ustaszewski, K.** (2023): The Late Mesozoic to Paleogene cooling history of the Thuringian Forest basement high and its southern periphery (central Germany) revealed by combined fission-track and U-Pb LA-ICP-MS dating. *ZDGG*, 174, 593-612, doi: [10.1127/zdgg/2023/0321](https://doi.org/10.1127/zdgg/2023/0321).
- Zhang, Y., He, D., **Ustaszewski, K.**, Zhao, L., Ji, Z., and Wang, Z. (2023): 台湾中央山脉东部变质作用及热演化：玉里缝合带的俯冲折返作用 [Thermal evolution of the metamorphism in the eastern Taiwan Central Range: Implications for Yuli Belt exhumation]. *Chinese Journal of Geology*, 58, 289-304, doi: [10.12017/dzgx.2023.020](https://doi.org/10.12017/dzgx.2023.020).
- Diercks, M., Grützner, C., Vrabec, M., **Ustaszewski, K.** (2022): Addendum to Diercks et al., 2021: A model for the formation of the Pradol (Pradolino) dry valley in W Slovenia and NE Italy. *Geologija*, 65(1), 93-99. doi: [10.5474/geologija.2022.006](https://doi.org/10.5474/geologija.2022.006).
- Biermanns, P., Schmitz, B., Mechernich, S., Weismüller, C., Onuzi, K., **Ustaszewski, K.**, Reicherter, K. (2022): Aegean-style extensional deformation in the contractional southern Dinarides: incipient normal fault scarps in Montenegro. *Solid Earth* 13, 957-974, doi: [10.5194/se-13-957-2022](https://doi.org/10.5194/se-13-957-2022).
- Grützner, C., Aschenbrenner, S., Jamšek Rupnik, P., Reicherter, K., Saifelislam, N., Vičič, B., Vrabec, M., Welte, J., **Ustaszewski, K.** (2021): Holocene surface-rupturing earthquakes on the Dinaric Fault System, western Slovenia. *Solid Earth*, 12, 2211–2234, <https://doi.org/10.5194/se-12-2211-2021>.
- Zebari, M., Preusser, F., Grützner, C., Navabpour, P., **Ustaszewski, K.** (2021): Late Pleistocene-Holocene Slip Rates in the Northwestern Zagros Mountains Derived from Luminescence Dating of River Terraces and Structural Modeling. *Tectonics*, 40, e2020TC006565, doi: [10.1029/2020TC006565](https://doi.org/10.1029/2020TC006565).
- Balling, P., Tomljenović, B., Schmid, S.M., **Ustaszewski, K.** (2021): Contrasting along-strike deformation styles in the external Dinarides: implications for the tectonic evolution of its Paleogene flexural foreland basin system. *Global and Planetary Change*, 205, 103587, [10.1016/j.gloplacha.2021.103587](https://doi.org/10.1016/j.gloplacha.2021.103587).
- Diercks, M., Grützner, C., Vrabec, M., **Ustaszewski, K.** (2021): A model for the formation of the Pradol (Pradolino) dry valley in W Slovenia and NE Italy, *Geologija*, 64/1, 21-33, doi: [10.5474/geologija.2021.002](https://doi.org/10.5474/geologija.2021.002).
- Löwe, G., Schneider, S., Sperner, B., Balling, P., Pfänder, J., **Ustaszewski, K.** (2021): Torn between two plates: exhumation of the Cer Massif (internal Dinarides) as a far-field effect of Carpathian slab rollback inferred from $^{40}\text{Ar}/^{39}\text{Ar}$ dating and cross section balancing. *Tectonics*, 40, e2021TC006699, doi: [10.1029/2021TC006699](https://doi.org/10.1029/2021TC006699).
- Le Breton, E., Brune, S., **Ustaszewski, K.**, Zahirovic, S., Seton, M., Müller, R. D. (2021): Kinematics and extent of the Piemont-Liguria Basin – implications for subduction processes in the Alps: *Solid Earth*, 12, 885-913, doi: [10.5194/se-12-885-2021](https://doi.org/10.5194/se-12-885-2021).
- Balling, P., Grützner, C., Tomljenović, B., Spakman, W., **Ustaszewski, K.** (2021): Post-collisional mantle delamination in the Dinarides implied from staircases of Oligo-Miocene uplifted marine terraces. *Scientific Reports*, 11, doi: [10.1038/s41598-021-81561-5](https://doi.org/10.1038/s41598-021-81561-5).

Published (in inverse chronological order):

(continued - 2)

- Zebari, M., Balling, P., Grützner, C., Navabpour, P., Witte, J., **Ustaszewski, K.** (2020). Structural style of the NW Zagros Mountains and the role of basement thrusting for its Mountain Front Flexure, Kurdistan Region of Iraq. *Journal of Structural Geology*, 141, 104206, [doi: 10.1016/j.jsg.2020.104206](https://doi.org/10.1016/j.jsg.2020.104206).
- Schmitz, B., Biermanns, P., Hinsch, R., Đaković, M., Onuzi, K., Reicherter, K., **Ustaszewski, K.** (2020). Ongoing shortening in the Dinarides fold-and-thrust belt: A new structural model of the 1979 (Mw 7.1) Montenegro earthquake epicentral region. *Journal of Structural Geology*, 141, 104192, doi: [10.1016/j.jsg.2020.104192](https://doi.org/10.1016/j.jsg.2020.104192).
- Zhang, Y., Tsai, C.-H., Froitzheim, N., **Ustaszewski, K.** (2020). The Yuli Belt in Taiwan: part of the suture zone separating Eurasian and Philippine Sea plates. *Terrestrial, Atmospheric and Oceanic Sciences*, 31, 415-435, [doi: 10.3319/TAO.2020.06.28.01](https://doi.org/10.3319/TAO.2020.06.28.01).
- Viscolani, A., Grützner, C., Diercks, M., Reicherter, K., **Ustaszewski, K.** (2020). Late Quaternary Tectonic Activity of the Udine-Buttrio Thrust, Friulian Plain, NE Italy. *Geosciences* 10(2), 84, doi:[10.3390/geosciences10020084](https://doi.org/10.3390/geosciences10020084).
- Schmid, S.M., Fügenschuh, B., Georgiev, N., Kounov A., Matenco, L., Nievergelt, P., Oberhänsli, R., Pleuger, J., Schefer, S., Schuster, R., Tomljenović, B., **Ustaszewski, K.**, van Hinsbergen, D. (2020): Tectonic units of the Alpine collision zone between Eastern Alps and western Turkey, *Gondwana Research*, 78, 308-374, doi.org/10.1016/j.gr.2019.07.005.
- Handy, M.R., Giese, J., Pleuger, J., Schmid, S.M., Spakman, W., Onuzi, K., **Ustaszewski, K.** (2019): Coupled Crust-Mantle Response to Slab Tearing, Bending, and Rollback Along the Dinaride-Hellenide Orogen, *Tectonics*, 38, 2803-2828, doi.org/10.1029/2019TC005524.
- Zebari, M., Grützner, C., Navabpour, P., **Ustaszewski, K.** (2019): Relative Timing of Uplift along the Zagros Mountain Front Flexure Constrained by Geomorphic Indices and Landscape Modelling, *Kurdistan Region of Iraq, Solid Earth*, 10, 663-682, <https://doi.org/10.5194/se-10-663-2019>.
- Biermanns, P., Schmitz, B., **Ustaszewski, K.**, Reicherter, K. (2019): Tectonic geomorphology and Quaternary landscape development in the Albania - Montenegro border region: An inventory. *Geomorphology*, 326, 116-131, [doi: 10.1016/j.geomorph.2018.09.014](https://doi.org/10.1016/j.geomorph.2018.09.014).
- Le Breton, E., Handy, M.R., Molli, G., **Ustaszewski, K.** (2017): Post-20 Ma motion and rotation of the Adriatic microplate – new constraints from surrounding orogens and implications for crust-mantle decoupling. *Tectonics*, 36, doi: [10.1002/2016TC004443](https://doi.org/10.1002/2016TC004443).
- Dhansay, T., Navabpour, P., de Wit, M., **Ustaszewski, K.** (2017): Assessing the reactivation potential of pre-existing fractures in the southern Karoo, South Africa: evaluating the potential for sustainable exploration across its Critical Zone. *Journal of African Earth Sciences*, 134, 504-515.
- Navabpour, P., Malz, A., Kley, J., Siegburg, M., Kasch, N., **Ustaszewski, K.** (2017): Intraplate brittle deformation and states of paleostress constrained by fault kinematics in central German platform. *Tectonophysics*, 694, 146-163, doi: [10.1016/j.tecto.2016.11.033](https://doi.org/10.1016/j.tecto.2016.11.033).
- Sandmann, S., Nagel, T.J., Froitzheim, N., **Ustaszewski, K.**, Münker, C. (2015): Late Miocene to Early Pliocene blueschist from Taiwan and its exhumation via forearc extraction. *Terra Nova*, 27, 285-291.
- Handy, M.R., **Ustaszewski, K.**, Kissling, E. (2015): Reconstructing the Alps-Carpathians-Dinarides as a key to understanding switches in subduction polarity, slab gaps and surface motion. *International Journal of Earth Sciences*, 104, 1-26.
- Ustaszewski, K.**, Herak, M., Herak, D., Tomljenović, B., Matej, S. (2014): Neotectonics of the Dinarides-Pannonian Basin Transition Area and possible earthquake sources in the Banja Luka epicentral area. *Journal of Geodynamics*, 82, 52-68.

Published (in inverse chronological order):

(continued - 3)

- Ustaszewski, K.**, Wu, Y.-M., Suppe, J., Huang, H.-H., C.-H. Chang (2012): Crust-mantle boundaries in the Taiwan–Luzon arc-continent collision system determined from local earthquake tomography and 1D models. [Tectonophysics, 578, 31–49](#).
- Ustaszewski, K.**, Kounov, A., Schmid, S.M., Schaltegger, U., Krenn, E., Frank, W., Fügenschuh, B. (2010): Evolution of the Adria–Europe plate boundary in the northern Dinarides: From continent-continent collision to back-arc extension. [Tectonics, 29, TC6017, doi:10.1029/2010TC002668](#).
- Ustaszewski, K.**, S. M. Schmid, B. Lugović, R. Schuster, U. Schaltegger, D. Bernoulli, L. Hottinger, A. Kounov, B. Fügenschuh, and S. Schefer (2009): Late Cretaceous intra-oceanic magmatism in the internal Dinarides (northern Bosnia and Herzegovina): Implications for the collision of the Adriatic and European plates. [Lithos, 108, 106-125](#).
- Ustaszewski, K.**, S. M. Schmid, B. Fügenschuh, M. Tischler, E. Kissling, and W. Spakman (2008): A map-view restoration of the Alpine-Carpathian-Dinaridic system for the Early Miocene. [Swiss Journal of Geosciences, 101 \(Supplement Issue 1\), 273-294](#).
- Krenn, E., **Ustaszewski, K.**, Finger, F. (2008): Detrital and newly formed metamorphic monazite in amphibolite-facies metapelites from the Motajica Massif. North Bosnia. [Chemical Geology 254, 164-174](#).
- Schmid, S. M., Bernoulli, D., Fügenschuh, B., Matenco, L., Schefer, S., Schuster, R., Tischler, M. & **Ustaszewski, K.** (2008): The Alpine-Carpathian-Dinaridic orogenic system: correlation and evolution of tectonic units. [Swiss Journal of Geosciences 101, 139-183](#).
- Hinsken, S., **Ustaszewski, K.**, Wetzel, A. (2007): Graben-width controls synrift sedimentation: the Palaeogene Upper Rhine Graben as an example. [International Journal of Earth Sciences, 96, 979-1002](#).
- Ustaszewski, K.**, Schmid, S.M. (2007): Latest Pliocene to recent thick-skinned tectonics at the Upper Rhine Graben - Jura Mountains junction. [Swiss Journal of Geosciences, 100, 293-312](#).
- Cloetingh, S., Ziegler, P.A., Cornu, T., **Ustaszewski, K.**, Schmid, S.M., Dèzes, P., Hirsch, R., Decker, K., Lopes Cardozo, G., Granet, M., Bertrand, G., Behrmann, J., Michon, L., Pagnier, H., Rozsa, S., Heck, B., Kahle, H.G., Winter, T., Dewez, T., Tesauro, M. (2006): Neotectonics and intraplate continental topography of the northern Alpine Foreland. [Earth-Science Reviews, 74, 127-196](#).
- Ustaszewski K.**, Schmid, S.M. (2006): Control of pre-existing faults on geometry and kinematics in the northernmost part of the Jura fold-and-thrust belt, [Tectonics, 25, TC5003, doi:10.1029/2005TC001915](#).
- Picot, L., Becker, D., Lapaïre, F., **Ustaszewski, K.**, Hug, W.A., Berger, J.P. (2005): Sédimentologie, paléontologie et reconstruction des paléo-environnements côtiers de la bordure sud-rhénane (Groupe des Gompholites et Conglomérats, Paléogène, Jura, Suisse). [Eclog. Geol. Helv., 98, 281-296](#).
- Ustaszewski, K.**, Schumacher, M.E., Schmid, S.M., Nieuwland, D. (2005): Erratum to “Fault reactivation in brittle-viscous wrench systems – Dynamically scaled analogue models and application to the Rhine–Bresse transfer zone”. [Quaternary Science Reviews 24, 2303](#).
- Ustaszewski, K.**, Schumacher, M.E., Schmid, S.M. (2005): Simultaneous normal faulting and extensional flexuring during rifting – an example from the southernmost Upper Rhine Graben. [International Journal of Earth Sciences, 94, 680-696](#).
- Ustaszewski, K.**, Schumacher, M.E., Schmid, S.M., Nieuwland, D. (2005): Fault reactivation in brittle-viscous wrench systems – dynamically scaled analogue models and application to the Rhine-Bresse Transfer Zone. [Quaternary Science Reviews 24, 365-382](#).

Published (in inverse chronological order):

(continued - 4)

- Giamboni, M., **Ustaszewski, K.**, Schmid, S.M., Schumacher, M.E., Wetzel, A. (2004) Plio-Pleistocene Transpressional Reactivation of Paleozoic and Paleogene Structures in the Rhine-Bresse transform Zone (northern Switzerland and eastern France). *International Journal of Earth Sciences* 93, 207–223.
- Cloetingh, S., Ziegler, P.A., Cornu, T., **Ustaszewski, K.**, Schmid, S.M., Dèzes, P., Hinsch, R., Decker, K., Lopes Cardozo, G., Granet, M., Bertrand, G., Behrmann, J., Michon, L., Pagnier, H., van Wees, J.-D., Rozsa, S., Heck, B., Verdun, J., Kahle, H.-G., Fracassi, U., Winter, T., Burov, E. (2003): Investigating Environmental Tectonics in Northern Alpine Foreland of Europe. *Eos* 84(36), 356–357.

Non-peer-reviewed articles (in inverse chronological order)

- Grützner, C., Bülhoff, M., Mücklisch, M., Prince, E., Reicherter, K., Stubenrauch, J., Tsukamoto, S., **Ustaszewski, K.** (in press, 2025): Starke Erdbeben in den Alpen und wie man sie datiert. In: Budsky, A. (Ed.) Sonderband zum Symposium: Kärnten bebt(e) - Neue Fragen und Aspekte zur Archäoseismologie. 74. Sonderheft zur Carinthia II.
- Ebell, H., Grützner, C. & **Ustaszewski, K.** (2024): Neuinterpretation der Stratigraphie des Salinarröts am Ostrand der Thüringer Mulde. *Beitr. Geol. Thür., N.F.* 29, 149-193.
- Dichtl, M., Grützner, C. & **Ustaszewski, K.** (2023): Genese des Schlangengipses im Thüringer Zechstein. *Beitr. Geol. Thür., N.F.* 28, 47-90.
- Ebell, H., Grützner, C. & **Ustaszewski, K.** (2023): Genese der Faltung und der Fasergipse des Salinarröts am Ostrand der Thüringer Mulde. *Beitr. Geol. Thür., N.F.* 28, 91-125.
- Zinke, C., Navabpour, P., **Ustaszewski, K.**, 2015. Analyse des Bruchflächeninventars in Grundgebirgs- und Rotliegendaufschlüssen am Nordrand des Thüringer Waldes bei Ilmenau/Thüringen) hinsichtlich ihrer Versagenstendenz im rezenten Spannungsfeld. *Beiträge zur Geologie von Thüringen, N.F.* 22, 137 – 152.
- Zinke, C., **Ustaszewski, K.**, 2015: Geologische Neukartierung am Nordrand des Thüringer Waldes bei Ilmenau. *Beiträge zur Geologie von Thüringen, N.F.* 22, 127-136.
- Ustaszewski, K.**, Schmid, S.M., 2007. Neotectonic activity in the Upper Rhine Graben - Jura Mountains junction (North-Western Switzerland and adjacent France). *Bulletin für Angewandte Geologie*, 12 (1), 3-19.

Supplemental datasets

- Zhang, Y. & **Ustaszewski, K.** (2023): Thermal evolution of the metamorphism in the eastern Taiwan Central Range: implications for Yuli Belt exhumation [Supplementary data set]. Zenodo. [doi: 10.5281/zenodo.7545914](https://doi.org/10.5281/zenodo.7545914).
- Zebari, M., Preusser, F., Grützner, C., Navabpour, P. and **Ustaszewski, K.** (2021): Luminescence Dating of River Terraces along the banks of the Greater Zab River in the Northwestern Zagros Mountains in Kurdistan Region of Iraq. PANGAEA, <https://doi.pangaea.de/10.1594/PANGAEA.933900>.
- Löwe, G., Schneider, S., Sperner, B., Balling, P., Pfänder, J. A., & **Ustaszewski, K.** (2021): Supplementary material to: "Torn between two plates: exhumation of the Cer Massif (internal Dinarides) as a far-field effect of Carpathian slab rollback inferred from $^{40}\text{Ar}/^{39}\text{Ar}$ dating and cross section balancing", doi: [dx.doi.org/10.5281/zenodo.4678734](https://doi.org/10.5281/zenodo.4678734).
- Grützner, C., Aschenbrenner, S., Krämer, A., Reicherter, K., Saifelislam, N., **Ustaszewski, K.**, Viscolani, A., Welte, J. (2020). Geophysical survey (GPR, ERT, magnetic) on active faults in Slovenia and Italy. PANGAEA, <https://doi.org/10.1594/PANGAEA.922902>.



Technical reports

Hesse, G., Richling, S., Schaub, A., Will, J., Eckardt, S., **Ustaszewski, K.**, Kasch, N., Siegburg, M., and Thieme, M., 2015, OPTIRISS - Geothermisches Verbundprojekt Thüringen-Sachsen zur Entwicklung einer risikominimierten petrothermalen Explorations- und Erschließungsmethode für geeignete mitteldeutsche Kristallingesteine (Projektteil Thüringen), Abschlussbericht, JENA-GEOS Ingenieurbüro GmbH, 106 pp.

Book articles

Ustaszewski, K., Schumacher, M.E., Schmid, S.M. and Nieuwland, D.A., 2005. Fault reactivation in brittle-viscous wrench systems - dynamically scaled analogue models and application to the Rhine-Bresse Transfer Zone. In: S. Cloetingh and T. Cornu (Editors), Neotectonics and Quaternary Fault reactivation in Europe's Intraplate Lithosphere. Elsevier, pp. 280, ISBN: 0-08-044687-6.

Monographies

Ustaszewski, K., 2004. Reactivation of pre-existing crustal discontinuities: the southern Upper Rhine Graben and the northern Jura Mountains - a natural laboratory. [PhD Thesis, University of Basel, Basel, 162 pp.](#)

Ustaszewski, K., 2000. Stratigraphische und strukturgeologische Untersuchungen am Ostrand der Engadiner Dolomiten (Ortler Gruppe, Südtirol). MSc thesis, University of Innsbruck, Innsbruck, 102 pp.