

Lucrări științifice semnificative pentru România:

Până în anul 2023 performanța profesională a inclus studii ca autor sau coautor în 125 publicații în jurnale internaționale *peer-reviewed* de nivel ridicat sau mediu. Dintre acestea, 15 lucrări sunt notabile:

1. Matenco, L., Balázs, A., Nader, F.H., Haq, B.U., Fodor, L., 2022. Advances in the understanding of multi-scale and coupled evolution of orogens, sedimentary basins and the underlying lithosphere. *Global and Planetary Change* 208, 103689. [Link to journal website.](#)
2. Matenco, L., 2022. Introduction to the Tectonic Evolution of the Southeast Carpathians, in: Karátson, D., Veres, D., Gertisser, R., Magyari, E.K., Jánosi, C., Hambach, U. (Eds.), *Ciomadul (Csomád), The Youngest Volcano in the Carpathians: Volcanism, Palaeoenvironment, Human Impact*. Springer International Publishing, Cham, pp. 29-38. [Link to journal website.](#)
3. Matenco, L.C., Haq, B.U., 2020. Multi-scale depositional successions in tectonic settings. *Earth-Science Reviews* 200, 102991. [Link to journal website.](#)
4. Matenco, L., 2018. Topo-Transylvania: a multidisciplinary Earth science initiative in Central Europe to tackle local and global challenges. *Acta Geodaetica et Geophysica* 53, 323-329. [Link to journal website.](#)
5. Matenco, L., 2017. Tectonics and Exhumation of Romanian Carpathians: Inferences from Kinematic and Thermochronological Studies, in: Radoane, M., Vespremeanu-Stroe, A. (Eds.), *Landform Dynamics and Evolution in Romania*. Springer International Publishing, Cham, pp. 15-56. [Link to journal website.](#)
6. Matenco, L., Munteanu, I., ter Borgh, M., Stanica, A., Tilita, M., Lericolais, G., Dinu, C., Oaie, G., 2016. The interplay between tectonics, sediment dynamics and gateways evolution in the Danube system from the Pannonian Basin to the western Black Sea. *Science of The Total Environment* 543, 807-827. [Link to journal website.](#)
7. Matenco, L., Andriessen, P., 2013. Quantifying the mass transfer from mountain ranges to deposition in sedimentary basins: Source to sink studies in the Danube Basin–Black Sea system. *Global and Planetary Change* 103, 1-18. [Link to journal website.](#)
8. Matenco, L., Radivojevic, D., 2012. On the formation and evolution of the Pannonian Basin: Constraints derived from the structure of the junction area between the Carpathians and Dinarides. *Tectonics* 31, TC6007, doi: 6010.1029/2012tc003206. [Link to journal website.](#)
9. Matenco, L., Krezsek, C., Merten, S., Schmid, S., Cloetingh, S. and Andriessen, P.A.M., 2010. Characteristics of collisional orogens with low topographic build-up: an example from the Carpathians. *Terra Nova*, 22(3): 155-165. [Link to journal website.](#)
10. Matenco, L., Bertotti, G., Leever, K., Cloetingh, S., Schmid, S., Tarapoanca, M. and Dinu, C., 2007. Large-scale deformation in a locked collisional boundary: Interplay between subsidence and uplift, intraplate stress, and inherited lithospheric structure in the late stage of the SE Carpathians evolution. *Tectonics*, 26(4): TC4011, doi: 10.1029/2006TC001951. [Link to journal website.](#)
11. Matenco, L., Bertotti, G., Cloetingh, S. and Dinu, C., 2003. Subsidence analysis and tectonic evolution of the external Carpathian-Moesian Platform region during Neogene times. *Sedimentary Geology*, 156(1-4): 71-94. [Link to journal website.](#)

12. Matenco, L. and Bertotti, G., 2000. Tertiary tectonic evolution of the external East Carpathians (Romania). *Tectonophysics*, 316: 255-286. [Link to journal website.](#)
13. Matenco, L. and Schmid, S., 1999. Exhumation of the Danubian nappes system (South Carpathians) during the early Tertiary: inferences from kinematic and paleostress analysis at the Getic/Danubian nappes contact. *Tectonophysics*, 314: 401-422. [Link to journal website.](#)
14. Matenco, L., Zoetemeijer, R., Cloetingh, S. and Dinu, C., 1997. Lateral variations in mechanical properties of the Romanian external Carpathians: inferences of flexure and gravity modelling. *Tectonophysics*, 282: 147-166. [Link to journal website.](#)
15. Matenco, L., Bertotti, G., Dinu, C. and Cloetingh, S., 1997. Tertiary tectonic evolution of the external South Carpathians and the adjacent Moesian platform (Romania). *Tectonics*, 16(6): 896-911. [Link to journal website.](#)

Lista lucrărilor științifice:

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125. **Matenco, L.**, Beekman, F., 2023. Integrating the geological database of the subsurface of the Netherlands, for efficient visualization and interpretation. EPOS-NL data publication, Yoda Repository, Utrecht university. [Link to journal website.](#)

124. Nader, F.H., **Matenco, L.**, Armitage, J.J., 2023. Understanding the coupled evolution of orogens, sedimentary basins and their fluid-rock interactions. *Global Planet. Change* 230, 104272. [Link to journal website.](#)

123. Lange, T.P., Palcsu, L., Szakács, A., Kővágó, Á., Gelencsér, O., Gál, Á., Gyila, S., M. Tóth, T., **Matenco, L.**, Krézsek, C., Lenkey, L., Szabó, C., Kovács, I.J., 2023. The link between lithospheric scale deformations and deep fluid emanations: Inferences from the Southeastern Carpathians, Romania. *Evolving Earth* 1, 100013. [Link to journal website.](#)

122. Cloetingh, S., Sternai, P., Koptev, A., Ehlers, T.A., Gerya, T., Kovács, I., Oerlemans, J., Beekman, F., Lavallée, Y., Dingwell, D., Békési, E., Porkoláb, K., Tesauro, M., Lavecchia, A., Botsyun, S., Muller, V., Roure, F., Serpelloni, E., **Matenco, L.**, Castelltort, S., Giovannelli, D., Brovarone, A.V., Malaspina, N., Coletti, G., Valla, P., Limberger, J., 2023. Coupled surface to deep Earth processes: Perspectives from TOPO-EUROPE with an emphasis on climate- and energy-related societal challenges. *Global Planet. Change* 226. [Link to journal website.](#)

121. Nader, F.H., van Unen, M., Darnault, R., Rudkiewicz, J.L., **Matenco, L.**, 2023. Coupled kinematic and thermal modelling of collisional orogens: Implications for subsurface geo-resources assessment in the external Dinarides. *Global Planet. Change* 223, 104090. [Link to journal website.](#)

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120. **Matenco, L.**, Balázs, A., Nader, F.H., Haq, B.U., Fodor, L., 2022. Advances in the understanding of multi-scale and coupled evolution of orogens, sedimentary basins and the underlying lithosphere. *Global and Planetary Change* 208, 103689. [Link to journal website.](#)

119. **Matenco, L.**, 2022. Introduction to the Tectonic Evolution of the Southeast Carpathians, in: Karátson, D., Veres, D., Gertisser, R., Magyari, E.K., Jánosi, C., Hambach, U. (Eds.), Ciomadul (Csomád), The Youngest Volcano in the Carpathians: Volcanism, Palaeoenvironment, Human Impact. Springer International Publishing, Cham, pp. 29-38. [Link to journal website.](#)

118. Krstekanić, N., **Matenco, L.**, Stojadinovic, U., Willingshofer, E., Toljić, M., Tamminga, D., 2022. Strain partitioning in a large intracontinental strike-slip system accommodating backarc-convex orocline formation: The Circum-Moesian Fault System of the Carpatho-Balkanides. *Global and Planetary Change* 208, 103714. [Link to journal website.](#)

117. Porkoláb, K., **Matenco, L.**, Hupkes, J., Willingshofer, E., Wijbrans, J., van Schrojenstein Lantman, H., van Hinsbergen, D.J.J., 2022. Tectonic Evolution of the Nevado-Filábride Complex (Sierra de Los Filábres, Southeastern Spain): Insights From New Structural and Geochronological Data. *Tectonics* 41, e2021TC006922. [Link to journal website.](#)

116. Krstekanić, N., Willingshofer, E., **Matenco, L.**, Toljić, M., Stojadinovic, U., 2022. The influence of back-arc extension direction on the strain partitioning associated with continental indentation: Analogue modelling and implications for the Circum-Moesian Fault System of South-Eastern Europe. *Journal of Structural Geology* 159, 104599. [Link to journal website.](#)

115. Stojadinovic, U., Krstekanić, N., **Matenco, L.**, Bogdanović, T., 2022. Towards resolving Cretaceous to Miocene kinematics of the Adria–Europe contact zone in reconstructions: Inferences from a structural study in a critical Dinarides area. *Terra Nova* 34, 523-534. [Link to journal website.](#)

114. van Agtmaal, L., van Dinther, Y., Willingshofer, E., Matenco, L., 2022. Quantifying continental collision dynamics for Alpine-style orogens. *Frontiers in Earth Science* 10. [Link to journal website.](#)

113. Ponçoş, V., Stanciu, I., Teleagă, D., **Mațenco, L.**, Bozsó, I., Szakács, A., Birtas, D., Toma, Ș.A., Stănică, A., Rădulescu, V., 2022. An Integrated Platform for GroundMotion Mapping, Local to Regional Scale; Examples from SE Europe. *Remote Sensing* 14. [Link to journal website.](#)

112. Auzemery, A., Yamato, P., Duretz, T., Willingshofer, E., **Matenco, L.**, Porkoláb, K., 2022. Influence of magma-poor versus magma-rich passive margins on subduction initiation. *Gondwana Research* 103, 172-186. [Link to journal website.](#)

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110. Balázs, A., **Mațenco, L.**, Granjeon, D., Alms, K., François, T., Sztanó, O., 2021. Towards stratigraphic-thermo-mechanical numerical modelling: Integrated analysis of asymmetric extensional basins. *Global and Planetary Change* 196, 103386. [Link to journal website.](#)

109. Necea, D., Juez-Larré, J., **Matenco, L.**, Andriessen, P.A.M., Dinu, C., 2021. Foreland migration of orogenic exhumation during nappe stacking: Inferences from a high-resolution

thermochronological profile over the Southeast Carpathians. *Global Planet. Change* 200, 103457. [Link to journal website.](#)

108. Krstekanić, N., Willingshofer, E., Broerse, T., **Matenco, L.**, Toljić, M., Stojadinovic, U., 2021. Analogue modelling of strain partitioning along a curved strike-slip fault system during backarc-convex orocline formation: Implications for the Cerna-Timok fault system of the Carpatho-Balkanides. *Journal of Structural Geology* 149, 104386. [Link to journal website.](#)

107. Kovács, I.J., Liptai, N., Koptev, A., Cloetingh, S.A.P.L., Lange, T.P., **Mațenco, L.**, Szakács, A., Radulian, M., Berkesi, M., Patkó, L., Molnár, G., Novák, A., Wetztergom, V., Szabó, C., Fancsik, T., 2021. The ‘pargasosphere’ hypothesis: Looking at global plate tectonics from a new perspective. *Global and Planetary Change*, 103547. [Link to journal website.](#)

106. Gailleton, B., Sinclair, H.D., Mudd, S.M., Graf, E.L.S., **Mațenco, L.C.**, 2021. Isolating Lithologic Versus Tectonic Signals of River Profiles to Test Orogenic Models for the Eastern and Southeastern Carpathians. *Journal of Geophysical Research: Earth Surface* 126, e2020JF005970. [Link to journal website.](#)

105. Petrescu, L., Borleanu, F., Radulian, M., Ismail-Zadeh, A., **Mațenco, L.**, 2021. Tectonic regimes and stress patterns in the Vrancea Seismic Zone: Insights into intermediate- depth earthquake nests in locked collisional settings. *Tectonophysics* 799, 228688. [Link to journal website.](#)

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104. **Matenco, L.C.**, Haq, B.U., 2020. Multi-scale depositional successions in tectonic settings. *Earth-Science Reviews* 200, 102991. [Link to journal website.](#)

103. Krstekanić, N., **Matenco, L.**, Toljić, M., Mandić, O., Stojadinovic, U., Willingshofer, E., 2020. Understanding partitioning of deformation in highly arcuate orogenic systems: Inferences from the evolution of the Serbian Carpathians. *Global and Planetary Change* 195, 103361. [Link to journal website.](#)

102. Roban, R.D., Ducea, M.N., **Mațenco, L.**, Panaiotu, G.C., Profeta, L., Krézsek, C., Melinte-Dobrinescu, M.C., Anastasiu, N., Dimofte, D., Apotrosoaei, V., Francovschi, I., 2020. Lower Cretaceous Provenance and Sedimentary Deposition in the Eastern Carpathians: Inferences for the Evolution of the Subducted Oceanic Domain and its European Passive Continental Margin. *Tectonics* 39, e2019TC005780. [Link to journal website.](#)

101. van Hinsbergen, D.J.J., Torsvik, T.H., Schmid, S.M., **Mațenco, L.C.**, Maffione, M., Vissers, R.L.M., Gürer, D., Spakman, W., 2020. Orogenic architecture of the Mediterranean region and kinematic reconstruction of its tectonic evolution since the Triassic. *Gondwana Research* 81, 79-229. [Link to journal website.](#)

100. Schmid, S.M., Fügenschuh, B., Kounov, A., **Mațenco, L.**, Nievergelt, P., Oberhänsli, R., Pleuger, J., Schefer, S., Schuster, R., Tomljenović, B., Ustaszewski, K., van Hinsbergen, D.J.J., 2020. Tectonic units of the Alpine collision zone between Eastern Alps and western Turkey. *Gondwana Research* 78, 308-374. [Link to journal website.](#)

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99. van Unen, M., **Matenco, L.**, Demir, V., Nader, F.H., Darnault, R., Mandic, O., 2019. Transfer of deformation during indentation: Inferences from the post- middle Miocene evolution of the Dinarides. *Global and Planetary Change* 182, 103027. [Link to journal website.](#)
98. van Unen, M., **Matenco, L.**, Nader, F.H., Darnault, R., Mandic, O., Demir, V., 2019. Kinematics of Foreland-Vergent Crustal Accretion: Inferences From the Dinarides Evolution. *Tectonics* 38, 49-76. [Link to journal website.](#)
97. Munteanu, I., Willingshofer, E., **Matenco, L.**, Sokoutis, D., Dinu, C., Cloetingh, S., 2019. Far-field strain transmission and contractional step-overs. *Tectonophysics* 766, 194-204. [Link to journal website.](#)
96. Sautter, B., Pubellier, M., Králiková Schögl, S., **Matenco, L.**, Andriessen, P., Mathew, M., 2019. Exhumation of west Sundaland: A record of the path of India? *Earth-Science Reviews* 198, 102933. [Link to journal website.](#)
95. Balázs, A., **Matenco, L.**, Granjeon, D., 2019. Thermo-mechanical and stratigraphic numerical forward modelling: recent advances and their joint application in the Pannonian Basin. *Földtani Közlöny* 149, 183-196. [Link to journal website.](#)
94. Kuswandaru, G.Y., Amir Hassan, M.H., Matenco, L.C., Taib, N.I. and Mustapha, K.A., 2019. Turbidite, debrite, and hybrid event beds in submarine lobe deposits of the Palaeocene to middle Eocene Kapit and Pelagus members, Belaga Formation, Sarawak, Malaysia. *Geological Journal*, 54, 3421-3437. [Link to journal website.](#)
93. Nader, F.H., Littke, R., **Matenco, L.C.**, Papanastasiou, P., 2019. Dynamics of sedimentary basins and underlying lithosphere at plate boundaries: The Eastern Mediterranean. *Oil and Gas Science and Technology* 74. [Link to journal website.](#)

2018

92. Balázs, A., **Matenco, L.**, Vogt, K., Cloetingh, S., Gerya, T., 2018. Extensional Polarity Change in Continental Rifts: Inferences From 3-D Numerical Modeling and Observations. *Journal of Geophysical Research: Solid Earth* 123, 8073-8094. [Link to journal website.](#)
91. Andrić, N., **Matenco, L.**, Hilgen, F., de Bresser, H., 2018. Structural controls on sedimentation during asymmetric extension: The case of Sorbas Basin (SE Spain). *Global and Planetary Change* 171, 185-206. [Link to journal website.](#)
90. Toljić, M., **Matenco, L.**, Stojadinović, U., Willingshofer, E., Ljubović-Obradović, D., 2018. Understanding fossil fore-arc basins: Inferences from the Cretaceous AdriaEurope convergence in the NE Dinarides. *Global and Planetary Change* 171, 167-184. [Link to journal website.](#)
89. Vogt, K., Willingshofer, E., **Matenco, L.**, Sokoutis, D., Gerya, T., Cloetingh, S., 2018. The role of lateral strength contrasts in orogenesis: A 2D numerical study. *Tectonophysics*, 746, 549-561. [Link to journal website.](#)

88. Balázs, A., Magyar, I., **Matenco, L.**, Sztanó, O., Tökés, L., Horváth, F., 2018. Morphology of a large paleo-lake: Analysis of compaction in the Miocene-Quaternary Pannonian Basin. *Global and Planetary Change* 171, 134-147. [Link to journal website.](#)
87. Tiliță, M., Lenkey, L., **Mațenco, L.**, Horváth, F., Surányi, G., Cloetingh, S., 2018. Heat flow modelling in the Transylvanian basin: Implications for the evolution of the intra-Carpathians area. *Global and Planetary Change* 171, 148-166. [Link to journal website.](#)
86. van Wyk de Vries, B., Byrne, P., Delcamp, A., Einarson, P., Göğüş, O., Guilbaud, M.N., Hagos, M., Harangi, S., Jerram, D., **Matenco, L.**, Mossoux, S., Nemeth, K., Maghsoudi, M., Petronis, M.S., Rapprich, V., Rose, W.I., Vye, E., 2018. A global framework for the Earth: putting geological sciences in context. *Global and Planetary Change* 171, 293-321. [Link to journal website.](#)
85. Andrić, N., Vogt, K., **Matenco, L.**, Cvetković, V., Cloetingh, S., Gerya, T., 2018. Variability of orogenic magmatism during Mediterranean-style continental collisions: A numerical modelling approach. *Gondwana Research* 56, 119-134. [Link to journal website.](#)
84. **Matenco, L.**, 2018. Topo-Transylvania: a multidisciplinary Earth science initiative in Central Europe to tackle local and global challenges. *Acta Geodaetica et Geophysica* 53, 323-329. [Link to journal website.](#)
83. Sant, K., Andrić, N., Mandić, O., Demir, V., Pavelić, D., Rundić, L., Hrvatović, H., **Matenco, L.**, Krijgsman, W., 2018. Magneto-biostratigraphy and paleoenvironments of the Miocene freshwater sediments of the Sarajevo-Zenica Basin. *Palaeogeography, Palaeoclimatology, Palaeoecology* 506, 48-69. [Link to journal website](#)
82. Capella, W., Barhoun, N., Flecker, R., Hilgen, F.J., Kouwenhoven, T., **Matenco, L.C.**, Sierro, F.J., Tulbure, M.A., Yousfi, M.Z., Krijgsman, W., 2018. Palaeogeographic evolution of the late Miocene Rifian Corridor (Morocco): Reconstructions from surface and subsurface data. *Earth-Science Reviews* 180, 37-59. [Link to journal website.](#)
81. Capella, W., Barhoun, N., Flecker, R., Hilgen, F.J., Kouwenhoven, T., **Matenco, L.C.**, Sierro, F.J., Tulbure, M.A., Yousfi, M.Z., Krijgsman, W., 2018. Data on lithofacies, sedimentology and palaeontology of South Rifian Corridor sections (Morocco). *Data in Brief* 19, 712-736. [Link to journal website.](#)
80. Cloetingh, S., **Matenco, L.**, Nader, F.H., Wijck de Vries, B.v., Tibaldi, A., Dobrzhinskaya, L., 2018. Editorial to the special Special Volume of *Global and Planetary Change* "Coupled Deep Earth and Surface Processes". *Global and Planetary Change* 171, 1. [Link to journal website.](#)

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78. Vogt, K., **Matenco, L.**, Cloetingh, S., 2017. Crustal mechanics control the geometry of mountain belts. Insights from numerical modelling. *Earth and Planetary Science Letters* 460, 12-21. [Link to journal website.](#)
77. Capella, W., **Matenco, L.**, Dmitrieva, E., Roest, W.M.J., Hessels, S., Hssain, M., Chakor-Alami, A., Sierro, F.J., Krijgsman, W., 2017. Thick-skinned tectonics closing the Rifian Corridor. *Tectonophysics* 710–711, 249-265. [Link to journal website.](#)
76. Erak, D., **Matenco, L.**, Toljić, M., Stojadinović, U., Andriessen, P.A.M., Willingshofer, E., Ducea, M.N., 2017. From nappe stacking to extensional detachments at the contact between the Carpathians and Dinarides – The Jastrebac Mountains of Central Serbia. *Tectonophysics* 710–711, 162-183. [Link to journal website.](#)
75. Stojadinovic, U., **Matenco, L.**, Andriessen, P., Toljić, M., Rundić, L., Ducea, M.N., 2017. Structure and provenance of Late Cretaceous–Miocene sediments located near the NE Dinarides margin: Inferences from kinematics of orogenic building and subsequent extensional collapse. *Tectonophysics* 710–711, 184-204. [Link to journal website.](#)
74. Balázs, A., Burov, E., **Matenco, L.**, Vogt, K., Francois, T., Cloetingh, S., 2017. Symmetry during the syn- and post-rift evolution of extensional back-arc basins: The role of inherited orogenic structures. *Earth and Planetary Science Letters* 462, 86-98. [Link to journal website.](#)
73. Balázs, A., Granjeon, D., **Matenco, L.**, Sztanó, O., Cloetingh, S., 2017. Tectonic and Climatic Controls on Asymmetric Half-Graben Sedimentation: Inferences From 3-D Numerical Modeling. *Tectonics* 36, 2123-2141. [Link to journal website.](#)
72. Andrić, N., Sant, K., **Matenco, L.**, Mandić, O., Tomljenović, B., Pavelić, D., Hrvatović, H., Demir, V., Ooms, J., 2017. The link between tectonics and sedimentation in asymmetric extensional basins: Inferences from the study of the Sarajevo-Zenica Basin. *Marine and Petroleum Geology* 83, 305-332. [Link to journal website.](#)
71. François, T., Md Ali, M.A., **Matenco, L.**, Willingshofer, E., Ng, T.F., Taib, N.I., Shuib, M.K., 2017. Late Cretaceous extension and exhumation of the Stong and Taku magmatic and metamorphic complexes, NE Peninsular Malaysia. *Journal of Asian Earth Sciences* 143, 296-314. [Link to journal website.](#)
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68. Balázs, A., **Matenco, L.**, Magyar, I., Horváth, F., Cloetingh, S., 2016. The link between tectonics and sedimentation in back-arc basins: New genetic constraints from the analysis of the Pannonian Basin. *Tectonics* 35, 1526–1559. [Link to journal website.](#)

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66. Gürer, D., van Hinsbergen, D.J.J., **Matenco, L.**, Corfu, F., Cascella, A., 2016. Kinematics of a former oceanic plate of the Neotethys revealed by deformation in the Ulukışla basin (Turkey). *Tectonics* 35, doi: 10.1002/2016TC004206. [Link to journal website.](#)

65. Jaju, M.M., Nader, F.H., Roure, F., **Matenco, L.**, 2016. Optimal aquifers and reservoirs for CCS and EOR in the Kingdom of Saudi Arabia: an overview. *Arabian Journal of Geosciences* 9, 1-15. [Link to journal website.](#)

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