



International Lithosphere Program

Activity Report 2023 – Task Forces / Coordination Committees

Project Title: Continental Lithosphere: a Broadscale Investigation (CoLiBrl)

Project No.: 2021-TF4

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1. Highlights of recent ILP Task Force work/results

- Carrying out of the new regional gravity measurements in eastern France (July 2023). The main task was to supplement the gravity database and improve the quality of the pan-Alpine Bouguer gravity anomaly map
- Continued involvement in the AdriaArray program
- Supporting the IUGG grant “Improving earthquake preparedness through geoscience education in the Himalaya” at the IYBSSD2022 special call
- Drilling of the DIVE DT-1A borehole in Italy
- Preparation of an open gravity-modelling contest, to be released in 2024

2. Presence at international meetings/workshops (this year)

- Session at the EGU GA 2024: GD6.4 Structure, deformation and dynamics of continental crust and upper mantle, and the nature of mantle discontinuities ([WEBLINK](#)) Co-organized by SM5/TS11, co-sponsored by ILP, Conveners: Alexey Shulgin | Co-conveners: Ehsan Qorbani Chegeni, Xiaoqing ZhangECS, Ana MG Ferreira, Jaroslava Plomerova, Lev Vinnik, Hans Thybo
- Session at IUGG 2023 Berlin: S19 - Fabrics and Dynamics of the Lithosphere-Asthenosphere System Imaged by Seismic Anisotropy and Integrated Studies; Conveners: Jaroslava Plomerova (Czech Republic), Juan Carlos Afonso (Netherlands), Ulrich Achauer (France)
- Several abstracts, e.g. Abstract No. EGU23-11855, Pánisová J., Bielik M., Hurai V., Huraiová M., Bezák V., Godová D.: Crustal structure of gravity field in the Nógrád-Gömör Volcanic Field (Novohrad Region, Southern Slovakia) from 3D density modelling

3. Important publications of ILP Task Force members (max. five)

- Bezák V, Bielik M, Marko F, Zahorec P, Pašteka R, Vozár J, Papčo J (2023) Geological and tectonic interpretation of the new Bouguer gravity anomaly map of Slovakia. *Geologica Carpathica* 74:109–122, doi:[10.31577/GeolCarp.2023.08](https://doi.org/10.31577/GeolCarp.2023.08)
- Hetényi G, Subedi S (2023) A call to action for a comprehensive earthquake education policy in Nepal. *Seismica* 2(2):242. doi:[10.26443/seismica.v2i2.242](https://doi.org/10.26443/seismica.v2i2.242)
- Michailos K, Hetényi G, Scarponi M, Stipčević J, Bianchi I, Bonatto L, Czuba W, Di Bona M, Govoni A, Hannemann K, Janik T, Kalmár D, Kind R, Link F, Lucente FP, Monna S, Montuori C, Mroczek S, Paul A, Piromallo C, Plomerová J, Rewers J, Salimbeni S, Tilmann F, Šroda P, Vergne J, AlpArray-PACASE Working Group (2023) Moho depths beneath the European Alps: a homogeneously processed map

and receiver functions database. Earth Syst Sci Data 15:2117-2138.

doi:[10.5194/essd-15-2117-2023](https://doi.org/10.5194/essd-15-2117-2023)

- Scarponi M, Kvapil J, Plomerová J, Solarino S, Hetényi G (2023 in press) New constraints on the shear-wave velocity structure of the Ivrea geophysical body from seismic ambient noise tomography (Ivrea-Verbano Zone, Alps). Geophys J Int, accepted ms. doi:[10.1093/gji/ggad470](https://doi.org/10.1093/gji/ggad470)
- Special issue of Journal of Geodynamics on Seismic anisotropy – from rock samples to large-scale imprints in the lithosphere-asthenosphere system, edited by J. Plomerova and Shun-ichiro Karato, contains currently about 18 contributions, most of them have been published or accepted for publication. The issue will be completed in spring 2024.

4. New contacts (this year)

- AdriaArray working group (further contacts and members)
- Continued operating 50 temporary MOBNET stations in the AdriaArray project, installed in Czechia, Slovakia, Bulgaria and Romania. During the year telemetric data transmission was upgraded
- Further contacts through the DIVE project.

5. Usage of ILP funding (this year)

- 500 EUR for the “Seismology at School in Nepal” program
(Thank you for allowing the later use of ILP funds)

6. Activities planned for 2024

- Tentative plan for a 1-day workshop to follow up on AlpArray
- Possible contribution or co-organization to a DIVE Science Workshop
- We are currently discussing further options