



Activity Report 2025 – Task Forces / Coordination Committees

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

Project No.: 2021-TF4

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1. Highlights of recent ILP Task Force work/results

- Ongoing work with the ICDP project DIVE (Drilling the Ivrea-Verbano zone), with a dedicated session at EGU and an online scientific meeting
- Continued involvement in the AdriaArray program and related activities - preparation of the next AdriaArray workshop, Sopron 2026 in cooperation with D. Kalmár (Hungary)
- **Dmitry Andrusov Medal (Comenius University, Faculty of Natural Sciences) to Miroslav Bielik**
- Further fieldwork to acquire new gravity data (see appendix below)
- Finishing the “Seismological LAB” presentation for online distribution
- Preparation of the 6th workshop on *Seismic Anisotropy, Heterogeneity and Dynamics of the Lithosphere-Asthenosphere System* (ADLAS 2026), to be held under auspices of ILP

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

EGU General Assembly 2025:

- Hetényi G, Greenwood A, Bauer K, Bleibinhaus F, Haberland C, Holliger K, Krawczyk C, Menegoni N, Panara Y, Wawerzinek B, ICDP DIVE-2 Geophysics Team (2025) Geophysical overview of the planned phase 2 drilling sites of projet DIVE in Val Sesia, Italy.
- Baron L, Scarponi M, Anikiev D, Barbély E, Benedek J, Götze HJ, Ismaiel M, Papp G, Schmidt S, Tondi R, Hetényi G (2025) Participative gravity-modelling of the Balmuccia peridotite body: progress report.
- Kvapil J, Plomerová J (2025) Weighted regularisation scheme for surface-wave tomography to mitigate bias caused by non-uniformly distributed ray-path coverage.
- Kolínský P, Schippkus S, Hadziioannou C (2025) Connecting optical holography and seismic imaging.

IASPEI Conference 2025 Lisbon:

- J. Plomerová: Continental lithosphere – assemblage of microplates with fossil fabrics deciphered by passive seismic experiments. Session J11: 45 Years of Milestones in Lithosphere and Solid Earth Research with ILP.
- L. Vecsey, J. Plomerová, AlpArray-EASI-PACASE Working Groups, AdriaArray Seismology Group: Towards a self-consistent anisotropic model of the upper mantle based on shear-wave splitting and P-relative residual

- variations (poster). Session S22: The main lithospheric discontinuities... (conv. J. Plomerová (Czech Republic), D. Kalmár (Hungary), L. Petrescu (Romania))
- H. Kampfová Exnerová, J. Plomerová: Moho depth from P-receiver functions in the northern promontory of the AdriaArray (poster).). Session S22 (conv. J. Plomerová (Czech Republic), D. Kalmár (Hungary), L. Petrescu (Romania))
- P. Kolínský, T. Meier and the AdriaArray Seismology Group: AdriaArray – a Passive Seismic Experiment to Study Structure, Geodynamics and Geohazards of the Adriatic Plate (invited). Session S20.
- J. Plomerová, H. Žlebčíková, J. Kvapil, L. Vecsey and AlpArray WG: Effects of inversion volume size on body-wave tomography images – an example from the E. Alps. Session S20.

Other:

- Rubóczki T, Panisová J, Vozár J, Hura V, Bielik M, Patkó L (2025) Complex geophysical model comparison in the Nógrád-Gömör (Novohrad-Gemer) Volcanic Field (Northern Pannonian Basin). TOPO-Europe 2025, Hungary, Sopron 2025, September 30 – October 3.
- P. Kolínský, the AlpArray Working Group and the AdriaArray Seismology Group: Surface-wave diffraction as seen by the AdriaArray records. AdriaArray Workshop, San Servolo 2025.
- L. Vecsey, P. Kolínský: Data and metadata tests. AdriaArray Workshop, San Servolo 2025.
- J. Plomerová, H. Žlebčíková, J. Kvapil, L. Vecsey: Effect of inversion volume size on body-wave tomography images - an example from the E. Alps. AdriaArray Workshop, San Servolo 2025.
- H. Kampfová Exnerová, J. Plomerová: Receiver Functions ongoing projects: Crustal structure in the Carpathians-Rhodope chain and surrounding. AdriaArray Workshop, San Servolo 2025.

3. Important publications of ILP Task Force members

- Pánisová J, Bielik M, Huraiová M, Godová D, Bezák V, Konečný P, Hurai V (2025) Insight into the continental lithosphere using 3D geophysical and petrological modelling: An example from the Novohrad-Gemer region (Pannonian Basin, Slovakia-Hungary). *Global and Planetary Change* 247:104735. doi:[10.1016/j.gloplacha.2025.104735](https://doi.org/10.1016/j.gloplacha.2025.104735)
- Kalmár D, Petrescu L, Hetényi G, Michailos K, Süle B, Neagoe C, Bokelmann G, AlpArray and PACASE Working Groups (2025) Mantle Transition Zone analysis using P-to-S receiver functions in the Alpine-Carpathian-Dinarides Region: impact of plumes and slabs. *Geophys J Int* 243:1-20. doi:[10.1093/gji/ggaf313](https://doi.org/10.1093/gji/ggaf313)
- Confal JM, Salimbeni S, Cavaliere A, Danesi S, Molinari I, Errico M, Baron L, Uhlmann S, Hetényi G, Pondrelli S (2025) DIVEnet: a local seismographic network monitoring the lower continental crust drilling activities for the ICDP-DIVE project. *Ann Geophys* 68(5):DM579. doi:[10.4401/ag-9279](https://doi.org/10.4401/ag-9279)
- Plomerova J (2025). MOBNET pool of transportable seismic stations in European passive experiments. *Ann Geophys* 68(5):DM573, doi:[10.4401/ag-9266](https://doi.org/10.4401/ag-9266)
- Kolínský, P et al. (2025). AdriaArray - a Passive Seismic Experiment to Study Structure, Geodynamics and Geohazards of the Adriatic Plate. *Ann Geophys* 68(5):DM555. doi:[10.4401/ag-9284](https://doi.org/10.4401/ag-9284)

4. New contacts (this year)

- AdriaArray working group (further contacts and members)
- Further contacts through the DIVE project in preparation of DIVE-2
- New contacts within ICEPLUME Project

5. Usage of ILP funding (this year)

- 1277 EUR to support Evdokia Papadopoulou (Greece) and Lyudmilla Farfuliak (Ukraine), two early-career female scientist to attend the annual AdriaArray workshop
- 590 EUR to support Eniko Barbély (Hungary), an early-career female scientist to attend the IAG workshop
- 310 EUR to support Merjema Genjac-Zukić (BiH), an early-career female scientist to attend the EPOS workshop
- 2500 EUR to support the Seismology at School in Nepal program
- 4000 EUR to Simona Pierdominici and her colleague and MSc student to carry out a rock physics lab experiment in the frame of project DIVE

Thank you for allowing the use of remaining ILP funds next year.

Appendix

Gravimetric campaign in the Livigno area, (the Lombardy region, northern Italy)

The wider Alpine region has received attention in recent years within the framework of international geophysical and geodetic initiatives such as AlpArray or European Alps Geoid. The northern part of Italy, near the Italian-Swiss border, is among the areas with the weakest coverage of gravity database points due to inaccessibility. Insufficient data coverage can cause errors in the Bouguer anomaly map as well as systematic errors in the geoid/quasi-geoid calculation. In the summer of 2025, a short gravimetric campaign was carried out in the Livigno area, in the Lombardy region (northern Italy, near the border with Switzerland). The purpose was to supplement gravimetric mapping in mountainous areas where database coverage is weakest. A total of 104 new points were measured in a challenging mountain environment at an altitude of 1800 to 2800 m above sea level. Measurements were made along ridges and valleys, the distance between points was approximately 500 m. Measurements were made using gravity meters Scintrex CG-5 (Slovak Academy of Sciences) and CG-6 (INGV Catania). Geodetic measurements were taken using Trimble R12 and R10 GNSS receivers (Slovak University of Technology). These measurements will refine the previous Bouguer anomaly map published as part of the AlpArray project.

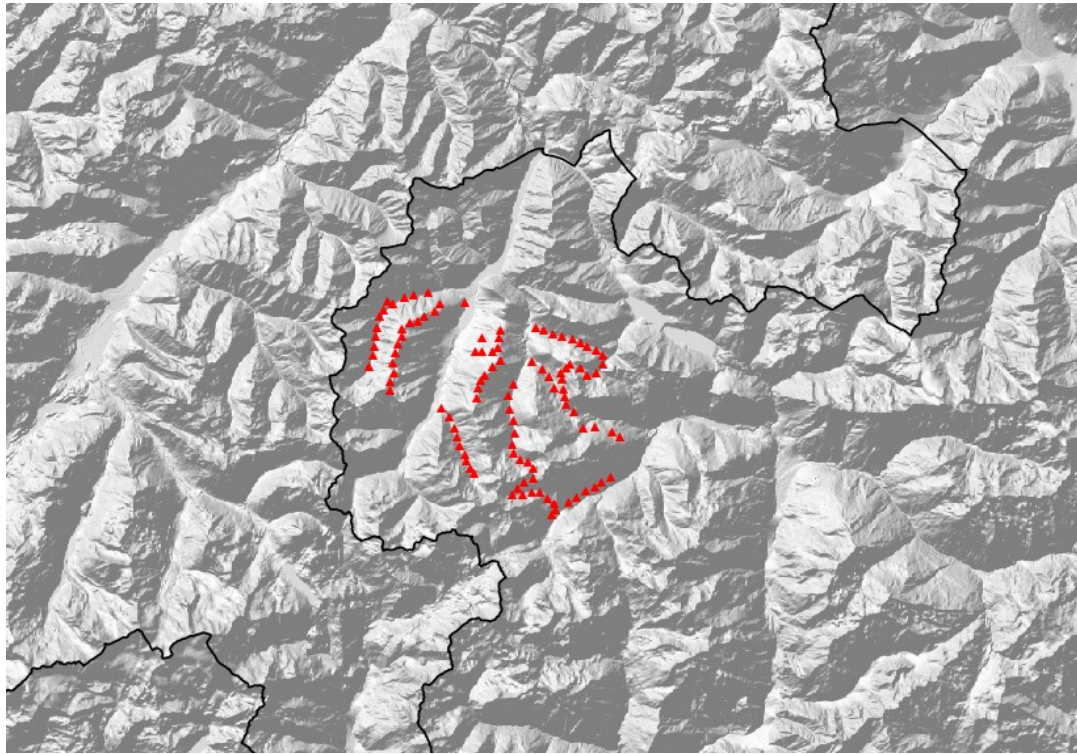


Fig. 1. Position of measurement points of the gravimetric campaign 2025 in the Livigno area (Italian-Swiss border area)