



# International Lithosphere Program

## - Activity Report 2019 -

Task Force Name : Lithosphere structure and mineral resources  
(Task Force No.) :  
Task Force Leader(s) : Irina Artemieva, Shuwen Dong, Richard Ernst

### 1. Highlights of recent ILP Task Force work/results

Task Force was approved on May 22, 2019.

During 2019, TF was at the startup phase. The activities centered at planning TF meetings for the year 2020. TF plans to have a pre-(or post-)meeting workshop at the International Geological Congress (India, March 2020) and a session at the international conference DEEP-2020 (Beijing, China, November 2020).

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

Since TF has started in mid-2019, it was not practically possible to have a session at international meetings of 2019.

Richard Ernst hold an international meeting on Large Igneous Provinces (Tomsk, Russia, September 2019), where TF was presented to the international community in the presentation by the TF leaders.

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

Author1, Initial1; Author2, Initial2; etc., "Title", Journal, Vol./No., Pages, DOI, Year.

Artemieva I.M., Thybo H., Cherepanova Y. "Isopycnicity of cratonic mantle restricted to kimberlite provinces". *Earth Planet. Sci. Lett.*, 505, 13-19, 2019.

Ernst R.E., Liikane D.A., S.M. Jowitt, K.L. Buchan, J.A. Blanchard. "A new plumbing system framework for mantle plume-related continental Large Igneous Provinces and their mafic-ultramafic intrusions". *Journal of Volcanology and Geothermal Research* 384, 75-84, 2019.

Prokopyev I.R., Doroshkevich A.G., Sergeev S.A., Ernst R.E., Ponomarev J.D., ... Petrography, mineralogy and SIMS U-Pb geochronology of 1.9–1.8 Ga carbonatites and associated alkaline rocks of the Central-Aldan magnesio-carbonatite province (South Yakutia, Russia). *Mineralogy and Petrology* 113 (3), 329-352, 2019.

Shulgin A., Artemieva I.M. "Thermochemical heterogeneity and density of continental and oceanic upper mantle in the European-North Atlantic region". Journal of Geophysical Research: Solid Earth, 124, 1-33, doi: 10.1029/2018JB017025, 2019.

Wang K., Dong S. "New insights into Paleoproterozoic tectonics of the Yangtze Block in the context of early Nuna assembly: Possible collisional granitic magmatism in the Zhongxiang Complex, South China". Precambrian Research 334, doi:10.1016/j.precamres.2019.105452, 2019.

#### **4. New contacts (this year)**

TF is under development and is establishing new contacts, also with other TFs.

#### **5. Usage of ILP funding (this year)**

NONE