

**VERNADSKY INSTITUTE OF GEOCHEMISTRY AND ANALYTICAL CHEMISTRY
OF RUSSIAN ACADEMY OF SCIENCES**

GEOLOGICAL FACULTY, M.V. LOMONOSOV MOSCOW STATE UNIVERSITY

**ILMEN NATURE RESERVE,
URAL BRANCH RUSSIAN ACADEMY OF SCIENCE**

PROGRAM

**XI L.L. Perchuk International School of
Earth Sciences
(I.S.E.S.-2017)**

3-7 August 2017, Miass, Russia



Supported by **RSF** | Russian
Science
Foundation



**SOUTH URAL STATE UNIVERSITY
(NATIONAL RESEARCH UNIVERSITY)**

Venue		South Ural State University in Miass, 8 July Street, 10. Room 205a
3 August		
9:45		Opening ceremony
	Lectures:	
	Convener	<i>A.A. Ariskin</i>
10:00	Koroteev V.A.	Geodynamics, magmatism and metalogeny as the basis of ore potential of the Ural.
10:45	Kogarko L.N.	Plume related superlarge strategic-metal deposits in alkaline-carbonatitic magmatism
12:15	Cofee break	
12:30	Arndt N.	Formation of the Continental Crust and the Onset of Plate Tectonics
13:15	Puchkov V.N.	Study of the interaction of mantle plumes and processes of plate tectonics as a way to a theory of global plate tectonics
14:00	Lunch	
	Convener:	<i>Plechov P. Yu.</i>
	Lecture:	
15:15	<u>Shatskiy A.</u> , Litasov K.D., Sharygin I.S., Ohtani E.	Experimental constraints on primary kimberlite melt composition
	Talks:	
16:00	<u>Perchuk A.L.</u> , Zinovieva N.G., Turova, M.A., Valizer P.M	Three stages of metasomatic evolution in ultramafic rocks from the Maksyutov Complex, Southern Urals, Russia
16:15	Cofee break	
16:30	<u>Vorobei S.S.</u> , Bovkun A.V., Garanin V.K.	Features of chemical and phase compositions of minerals of mantle xenoliths from pipes of Mir and Obnazhennaya (Yakutian kimberlite province)
16:45	<u>Sekisova V.S.</u> , Kuzmin D.V., Shevko A.Ya., Gora M.P., Smirnov S.Z.	Temperature of metasomatic alteration of the deep xenoliths from Kharchinsky volcano on the basis of mineral thermobarometry and inclusion study
17:00	<u>Makhatadze G.V.</u> , Plechov P.Yu.	Detrital quartz in the lowermost layer of the Arydzhangsky Alkaline-Ultrabasic Volcanic Formation (Siberian Traps, Kotuy Valley)

18-00		Ice-breaking party. Information on the Registration desk.
4 August		
	Lectures:	
	Convener	<i>Tevelev Ark.V.</i>
10:00	<u>Spiridonov E.M.</u> , Ladygin V.M., Putintseva E.V., Lavrov O.B,	Agates in metavolcanic rocks
10:45	Van Reenen D.D., Smit C.A.	Mantle plumes, intracrustal orogeny, and the evolution at ~2.72-2.61 Ga of the Limpopo Complex, southern Africa
11:30	Safonov O.G.	Granulite fluids
12:15	Coffee break	
12:30	Perchuk A.L.	Subduction zones: thermal structure, budgets of water and carbon, and element fluxes
13:15	<u>Plechov P.Yu.</u> , Rudnev A.	Towards the predictive model for podiform chromite deposits
14:00	Lunch	
	Talks:	
	Convener:	<i>Safonov O.G.</i>
15:15	<u>Arefiev A.V.</u> , Shatskiy A., Podborodnikov I.V., Litasov K.D.	Phase relations in the systems K_2CO_3 – $CaCO_3$ and K_2CO_3 – $CaCO_3$ – $MgCO_3$ at 3 Gpa
15:30	<u>Podborodnikov I.V.</u> , Shatskiy A., Arefev A.V., Litasov K.D.	Phase relations in the system Na_2CO_3 – $CaCO_3$ – $MgCO_3$ at 3 GPa
15:45	<u>Romanenko A.V.</u> , Rashchenko S.V., Goryainov S.V., Likhacheva A. Yu.	Phase relations in $KAlSi_3O_8$ - H_2O system at high pressure and temperature
16:00	<u>Minin D.A.</u> , Shatskiy A.F., Litasov K.D.	The phase diagram Fe-Ni-P at 6 Gpa
16:15	<u>Tamarova A.P.</u> , Bobrov A.V., Sirotkina E.A., Bindi L., Irifune T	Partitioning of minor elements upon partial melting of model pyrolite under the conditions of the transition zone and lower mantle of the Earth
16:30	Coffee break	
16:45	<u>Martirosyan N. S.</u> , Litasov K. D., Shatskiy A.	Magnesite stability at the reduced mantle conditions from the metal saturation depth to the lower mantle
17:00	<u>Smirnova M.D.</u> , Nosova	Diffusion in olivine xenocryst from ultramafic

	A.A., Sazonova L.V.	lamprophyres, Chadobets uplift, SW Siberia, Russia.
17-15	<u>Bendeliani A.A.</u> , Sirotkina E.A., Bobrov A.V.	Melting relations and formation of Cr-rich phases in model pyrolite at 2.5-7.0 GPa and 1400-1900°C
17-30	Selyutina N.E.	Evidences of late modal metasomatism in the Grib kimberlite pipe (Arkhangelsk diamond province, Russia)

5 August

Outdoor session with geologic visit of the Ilmeny Natural Reserve: pegmatite mines with corundum and beryl - Miassovo lake shore with carbonate and related rocks.

6 August		
	Lectures:	
	Convener	<i>Perchuk A.L.</i>
10:00	<u>Ariskin A.A.</u> , Koptev-Dvornikov E., Barmina G., Nikolaev G.	Mechnisms of differentiation of mafic to ultramafic magmas in closed and open magma chambers
10:45	<u>Latypov R.M.</u> , Chistyakova S.Yu., Barnes S.J., Hunt E.J.	The Merensky Reef of the Bushveld Complex: novel insights into the origin of PGE deposits in mafic-ultramafic layered intrusions
11:30	Veksler I. V	The origin of stratiform chromite deposits of the Bushveld Complex, South Africa
12:15	Cofee break	
12:30	<u>Tevelev A.V.</u> , Tevelev Arc.V., Prudnikov I.A., Khotylev A.O.	Mechanisms for formation of tangled deformation in layered complexes
13:15	Tevelev Ark.V.	Strange strike-slip faults kinematics
14:00	Lunch	
	Talks:	
	Convener:	<i>Latipov R.M.</i>
15:15	Smirnov S.Z.	Phase composition of magmatic systems through the melt and fluid inclusion study
15:45	<u>Mityaev A.S.</u> , Safonov O.G., Varlamov D.A.,	Metamorphic evolution of metapelites of the Gyani greenstone belt, South Africa

	Yapaskurt V.O., van Reenen D.D.	
16:00	<u>Liu Y.Y.</u> , Perchuk A.L.	Garnet peridotites of the Marun-Keu complex, Polar Urals: a record of high-pressure metamorphism in cumulate rocks
16:15	<u>Shishkina T.A.</u> , Tikhonova M.S., Nekrylov N.A., Popov D.V., Shcherbakov V.D., Bocharnikov R.E., Plechov P.Yu., Portnyagin M.V.	Effect of melt composition on micro-Raman analysis of H ₂ O in mafic silicate glasses
16:30	Coffee break	
16:45	<u>Sorokina E.S.</u> , Delia Rösel, Tobias Häger, Regina Mertz-Kraus, John M. Saul	New constraints on the formation of corundum deposits along the Mozambique belt: evidence from the in situ LA-ICP-MS U–Pb dating of rutile inclusions within corundum (ruby and sapphire)
17:00	<u>Kozlov E.N.</u> , Fomina E.N., Kirkin V.V., Mytsa D.D.	A statistical comparison of geochemistry and mineralogy – the prospects for a new method: the example of the Petyayan-vara rare earth carbonatites (Vuori-yarvi, Kola region)
17-15		
17:30-18:30	Poster session	
August, 6 17:30-18:30. <i>Poster session</i>		
<u>Berzin S.V.</u> , Ivanov K.S., Zaytseva M.V.		Lead Isotopic Compositions of Subcrops Permian-Triassic Basalts at the Basement of the West Siberian Plate
<u>Chervyakovskiy V.S.</u> , Volchek E.N.		On petrogeochemistry of trachyrhyolites of the Siny Kamen mountain (Southern Urals)
<u>Denissenko A. A.</u> , Ragozin A. L., Agashev A. M., Zedgenizov D.A.		The distribution of REE and trace elements in the garnets from the ultramafic xenoliths from the Nyurbinskaya kimberlite pipe
Isakova A.T., Panina L.I., <u>Sekisova V.S.</u>		"The tephrite-phonolite lavas of the Bolsena complex (Vulsini): data on melt inclusion study in minerals"
Ivanova M.V		Volcanogenic rocks of amazing Cappadocia
<u>Filina M.I.</u> , Kogarko L.N., Kononkova N.N.		Composition evolution in amphibole of the peralkaline nepheline syenite (Kola Peninsula, Russia)

Koroteev G.D.	Sustainable development within the framework of PAs, using the example of the Ilmensky Nature Reserve, named after V.I. Lenin.
Koroteev N.D.	The basic technological scheme of processing technogenic sands of the Andree-Yulievsky deposit.
<u>Tomilina E.M.</u> , Veksler I.V.	Textures and mineral chemistry in chromitite layers of the middle group, Thaba mine, the Bushveld complex, South Africa
<u>Putinsteva E.V.</u> , Sokolova E.L., E.M. Spiridonov E.M.	Comparative characteristics of pre-cambrian and phanerozoic kimberlites for example of kimberlites of Karelia and Yakutia
<u>Sirotkina E.A.</u> , Bobrov A.V., Bindi L., Irifune T.	Titanium-rich phases in the MgSiO ₃ –MgTiO ₃ ±Al ₂ O ₃ system at 10–24 GPa: phase relations, structural features and solid solutions.
<u>Smirnova T.N.</u> , Pekov I.V., Varlamov D.A., Kovalskaya T.N., Bychkov A.Y., Bychkova Y.V.	Specific features of eudialyte decomposition in oxalic acid
<u>Soroka E.I.</u> , Pritchyn M.R., Smoleva I.V.	C-O isotopic study of carbonate mineralization of the Ural ore deposits, Russia

7 August		
	Lectures:	
	Convener	<i>Veksler I.V.</i>
10:00	Ohtani E.	Fate of volatiles in the deep mantle and heterogeneity in the lower mantle
10:45	Bagdasarov N.S.	Geodynamics of continental lithosphere and magmatic metallogeny
11:30	Kagi Hiroyuki	Inclusions in superdeep diamonds
12:15	Coffee break	
12:30	Bobrov A.V.	Composition of diamond-forming melts: Evidence from experiments at 7.0-8.5 GPa.
13:15	Ohfuji Hiroaki	Experimental study on the graphite-diamond transformation and its implication for the formation mechanism of natural impact diamonds
14:00	Lunch	
	Convener:	<i>Bobrov A.V.</i>
	Lecture:	
15:15	Kaminsky F.	The main features of the Earth low mantle composition.

	Talks:	
15:45	Ilyina O.V., Pokhilenko L.N., Agashev A.M.	PGE study of peridotite xenoliths from the Udachnaya kimberlite pipe
16:00	<u>Kadebskaya L.Yu.</u> , Plechov P.Yu., Rudnev A.V.	Inclusions in ore-forming chromian spinels of the Levopayerskoe-I ore body (Polar Urals, Russia)
16:15	<u>Palamarchuk R. S.</u> , Stepanov S. Yu.	Characteristics of platinum placers associated with Uralian-Alaskan complex in Middle Urals
16:30	Coffee break	
16:45	Stepanov S.Yu.	Bedrock chromite-platinum mineralization of the Svetloborsky and Veresovoborsky clinopyroxenite-dunite massifs of the Kachkanar complex (Middle Urals)
17:00	<u>Timina T.Yu.</u> , Smirnov S.Z., Maksimovich I.A., Befus A.I., Shevko A.Ya.	Fe-Ti oxides in the pumices of the large-scale Plinian eruption from the Vetrovoy Isthmus (Iturup Island, Kurile Islands)
17-15	<u>Chebotarev D.A.</u> , Doroshkevich A.G., Sharygin V.V.	Pyrochlore-supergroup minerals of the Chuktukon carbonatite massif, the Chadobets upland (Krasnoyarsk region, Russia)
17-30	<u>Starikova A.E.</u> , Sharygin V.V.	Mineralogy of REE-rich isolations from arfvedsonite-annite granites of the Katugin rare-metal deposit (Eastern Siberia, Russia)
17-45	Kriulina G.Y., <u>Konogorova D.V.</u>	Discussion on the formation of diamond crystals of cubic habit from the deposit named after M.V. Lomonosov