

## I. Institution

1. Institution's name	Saint –Petersburg State University
2. Faculty (department)	Faculty of Geology
3. Postal address E-mail Web - Homepage	Faculty of Geology, St. Petersburg University Universitetskaya emb.7/9, 199034, St.Petersburg, Russia olga@dean.geol.pu.ru
4. Contact person/coordinator (name, phone, e-mail, position)	Oleg V. Kazanov, senior teacher at the Mineral Deposit Geology Dep. +7(812)328-95-04 Oleg.Kazanov@paloma.spbu.ru

## II. Course's profile

5. Course's name	Summer field school "Geology and Metallogeny of the Eastern Part of the Baltic Shield"
6. Course's profile (please give some key words to specify the focus)	Metallogeny of precambrian, ore deposit, giant deposits, mineral processing, Baltic Shield, ore forming processes associated with granites and ultramafic – mafic complexes
7. Possibility to get the ECTS points (Yes/No)	No
8. Class hours/week	30
9. Integrated Russian language course for beginners (Yes/No, hours/week)	No
10. Language of instruction	english
11. Integrated practical training/ research program (Yes/No, brief description)	Yes, training course is proposed to be a part of 3 week field trip, described in programm of school
12. Integrated cultural program: excursions etc. (Yes/No, brief description)	Yes, St. Petersburg sight seeing, excursions to Hermitage Museum and Russian Museum, any kind of cultural activity on request
13. Number of students (min-max)	10-12
14. Tuition fees (€/ month / person)	650
15. Course's duration	1 month / 30 days
<b>I. Accommodation</b>	
17. Accommodation conditions: student hostel (description of accommodation facilities, incl./excl. food, costs (€/ month / person)	Hotel in St. Petersburg 40-50 €/night, food is not included (7 days) Hotel in Apatity (12 days) 30 €/night, food is not included (12 days) University field base in Impilahti – free, whole meal is included field campus on Tsipringa – free, whole meal is included

## Additional description of the course

Saint Petersburg State University  
Faculty of Geology  
Department of Mineral Deposit Geology

Summer field school  
“Geology and Metallogeny of the Eastern Part of the Baltic Shield”

### *Goals*

Under the general theme “Geology and Metallogeny of the Eastern Part of the Baltic Shield” the Department of Mineral Deposit Geology of St. Petersburg State University invites students interested in metallogeny and economic geology to participate in the summer field school on precambrian geology, geodynamics and metallogeny. The school aims at providing the knowledge of the principles and methodology of modern and classical metallogeny. It is based on long-term experience of lecturing metallogeny at St. Petersburg University and annual field practice in the Baltic Shield area.

Individual lectures covering the various problems of precambrian geodynamics and metallogeny will be followed by a 3 week field trip visiting ongoing and abandoned mines and processing plants. Giant world-class copper-nickel, Fe – oxide and apatite deposits will be visited in the course of the excursions. During the field trip students will have an opportunity to collect the facts and samples for their research. Some newly discovered platinum metal and chromium deposits will be offered for that purpose.

### *Places*

St. Petersburg – 7 days, accommodation in hotel

South Karelia, Impilahti – 5 days, field base of St. Petersburg University

Kola peninsula, Apatity – 12 days, hotel

Nothern Karelia, Tsipringa Lake – 3 days, field tent campus

### *Additional information*

The official language of the school will be English.

For technical reasons, the number of participants has to be restricted to 12 people. Students are supposed to have a good knowledge of fundamentals of economic geology and geodynamics. Advanced and post-graduate students are invited.

A certificate will be awarded to each successful participant.

Every participant is fully responsible for his own medical insurance during his stay in the Russian Federation.

Tuition fees cover accommodation, travelling and meals during the field trip.

Accommodation and meals in St. Petersburg (7 days of lecture course) and Apatity (12 days) are not included as well as the cost of international travelling to St. Petersburg.

*Leaders*

B.K. Lvov, ass prof.

O.V. Kazanov, senior teacher

A.S. Voinov, ass. prof.

Contacts on this proposal:

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## Preliminary Programme

### 1. Key-note lectures. St. Petersburg, August 2-8, 2004

- 1.1 Methodology and methods of metallogeny. *(B.K. Lvov, lecture – 4 hours, seminar –2 hours)*
- 1.2 Structural zoning of the Baltic Shield  
*(A.S. Voinov, O.V. Kazanov, lecture – 4 hours, seminar –2 hours)*
- 1.3 Geodynamics and metallogeny of the Archean greenstone belts of the Baltic Shield *(O.V. Kazanov, lecture – 2 hours, seminar –2 hours)*
- 1.4 Metallogeny of the Proterozoic structural zones of the Baltic Shield  
*(A.S. Voinov, lecture – 2 hours, seminar –2 hours)*
- 1.5 Ore-forming processes associated with mafic and ultramafic rocks.  
Metallogeny of the layered intrusions of the Baltic Shield. *(O.V. Kazanov, lecture – 4 hours, seminar –2 hours)*
- 1.6 Svecofennian mobile belt and metallogeny of bordered granite- gneissic domes. *(B.K. Lvov, lecture – 4 hours, seminar –2 hours)*
- 1.7 Ore forming granitoid systems and criteria of mineralization prognosis.  
*(B.K. Lvov, lecture – 4 hours, seminar –2 hours)*
- 1.8 Metasomatic complexes of ore-bearing mobile zones.  
*(A.S. Voinov, lecture – 4 hours, seminar –2 hours)*
- 1.9 Metallogeny of the Palaeozoic alkaline igneous complexes of the Baltic Shield. *(O.V. Kazanov, lecture – 2 hours, seminar –2 hours)*

### 2. Field trips. Impilahti. August 9-13, 2004

- 2.1 Archean - Proterozoic boundary and geology of Early Proterozoic formations of the Raahe – Ladoga zone
- 2.2 Ore deposits of the bordered granite- gneissic domes
- 2.3 Kittelia gem garnet metamorphic deposit
- 2.4 Geology and Ti – Fe – oxide deposits of the Velimiaky complex
- 2.5 Rapakivi granites of the Salmi massif and related ore deposits

### 3. Field trips. Apatity. August 15-26, 2004

- 3.1 Olenegorsk Archean jaspilite deposit.
- 3.2 Sopcha Lake and Imandra chromite deposits.
- 3.3 Copper-nickel and platinum metal deposits of the Monchegorsk igneous complex.
- 3.4 Geology and giant apatite-nepheline deposits of the Chibiny Palaeozoic alkaline complex.

3.5 Mining operations and ore processing at apatite-nepheline deposits.

Excursion to open mines and processing plant.

3.6 Kovdor ultramafic – alkaline complex. Carbonatite – related apatite-magnetite deposit. Phlogopite deposit.

#### **4. Field trips. Tsipringa Lake. August 28-30, 2004**

4.1 Geology and petrology of layered intrusions of Olanga complex.

4.2 Low – sulphide platinum metal mineralization of the Lukkulaivaara layered intrusion.