

Monday, October 20

St.Petersburg, Birzhevaya line, 6.

Registration: 9.00–10.45.

Opening Ceremony: 10.45–11.30.

Welcome words:

Chairman of the Organizing Committee, President of SPSN
D. Yu. Vlasov

Senior Pro-Rector for Academic Affairs and Research of
SPSU I. A. Gorlinsky

Director of the Institute of Earth Sciences SPSU
S. V. Aplonov

Dean of the Faculty of Biology SPSU A. D. Kharazova

Head of IC DAAD M. Klieneberg

Plenary Session: 11.30–13.50.

Chair: Vlasov D. Yu., Pinevich A. V.

11.30–11.50. Juan Manuel Garcia Ruiz. The ability of silica to mimic organic matter in carbonate precipitation.

11.50–12.10. Kniep R. Otoconia: mimicking a calcite-based biomineral of the human body.

12.10–12.30. Versilin N.N., Oknova N. S. Birth, life and death of organisms is the basis of existence of the Earth.

12.30–12.50. Malyshev V. V. Use of membrane technologies to studying bioinert interactions.

Coffee Break: 12.30–12.50.

Chair: Kniep R., Brusnitsin A. I.

13.05–13.25. Askhabov A. M. Nanocluster (quataron) concept of crystal nucleation and growth.

13.25–13.45. Bulakh A. G. History of the death and restore of Swedish vase in the Summer Garden, 2008–2013.

13.45–14.05. Vlasov D. Yu. Modern problems of geobiology

14.05–14.25. Allard B. Black shales of northern Europe: geochemistry and environmental impact.

Lunch: 14.25–15.10.

Methods for studying the interactions between biogenic and abiogenic components

Chair: Plötze M., Chizhikova N. P.

15.10–15.40. Lessovaia S. N., Stefan Dultz, Michael Plötze, Andreeva N., Polekhovsky Y., Filimonov A. Linkage of porosity of basic and ultrabasic rocks to soil clay mineralogy in cold humid climates of Russia.

15.40.—16.00 Mergelov N., Shorkunov I., Dolgikh A., Abrosimov K., Cherkinsky A., Goryachkin S. Soils inside the rocks: structure, genesis and research techniques.

16.00–16.15. Kovalevski V. V., Makarikhin V. V. Biogenic and abiogenic microbiomorphs in geological environments.

16.15–16.30. Belashev B. Z., Gorkovets V. Ya., Bolondinsky V. K. Radon as an agent of

intergeospheric interactions.

- 16.30–16.45. Bardamova I. V., Doroshkevich S. G. Phytotoxicity of the wastes of ore processing, the dzhidinsky tungsten-molibdenum combine (Buryatia)
- 16.45–17.00. Leonova L. V., Simakova Y. S., Kuz'mina L. Y., Glavatskikh S. P., Cherviatcova O. Ya., Ryabova A. S. Application of some physical-chemical methods for investigation of bio-carbonatic material.

Coffee Break: 17.00–17.15

Methods for studying the interactions between biogenic and abiogenic components

Chair: Plötze M., Lessovaia S. N.

- 17.15–17.30. Altunina L. K., Svarovskaya L. I., Yashchenko I. G. Rehabilitation of the damaged environment of oil-producing areas.
- 17.30–17.45. Pinskiy D. L., Maltseva A. N., Zolotareva B. N. Regularities of humification the residues of corn in different mineral substrates.
- 17.45–18.00. Inisheva L. I., Golovchenko A. V., Szajdak L. W. Distribution of organic compounds in the system of the geochemically linked mires.
- 18.00–18.15. Aleksandrova O. N. Spin labeling epr analyses of soil: a new method to investigate biogenic and abiogenic interactions of amines in the soil environment and their environmental fate.
- 18.15–18.30. Shinkarev A. A. (jr), Shinkarev A. A., Erofeeva A. S., Ruselik E. S., Okunev R. V. Amino acid composition of clay-organic-matter complexes resistant to oxidation by peroxide.

- 18.30–18.45. Ryabinkin S. V. Leifman-Vassoevich coefficient as one of the fundamental characteristics of coalification fluid generation.
- 18.45–19.00. Chizhikova N. P., Ivanova E. A, Lessovaia S. N., Varlamov E. B. Interaction of microbial communities and minerals by using of X-Ray diffraction method.

Welcome party: starts at 19.00

Tuesday, October 21

St. Petersburg, Birzhevaya line, 6.

Biom mineralization in geosystems

Chair: Marin F., Panova E. G.

- 9.00–9.20. Bundeleva I., Pokrovsky O., Shirokova L., Benezeth P., Menez B., Guyot F. and Marin F. Bacterial biocalcification: from fundamental research to applied perspectives.
- 9.20–9.40. Reykhard L. E. Complex research of biomineralisation in ancient sedimentary rocks and modern marine sediments.
- 9.40–9.55. Litvinova T. V. Stromatolitic buildups as geosystems and their mineralization.
- 9.55–10.10. Marin F., Immel F., Bundeleva I., Marie F., Le Roy N. and Ramos-Silva P. Calcium carbonate biominerals: deciphering the proteins of the skeletal matrix.
- 10.10–10.25. Gablina I. F., Dobretsova I. G.. Metasomatic model of formation of massive sulfide ores in biogenic bottom sediments on the ocean floor.

- 10.25–10.40. Dobretsova I. G. On the formation of carbonate structures (bioherms) on the seabed rock material of the russian prospection area on the Mar
- 10.40–10.55. Alekseev A. O., Alekseeva T. V., Gerasimenko L. M., Orleanskiy V. K., Biomineralization and modification of clays due to activity of cyanobacteria.
- 10.55–11.10. Ayupova N. R., Maslennikov V. V. Mineralogical and geochemical anomalies in the siliceous-ferruginous sedimentary rocks of Urals VMS deposits: evidence of biogenic activity.
- 11.10–11.25. Larionova A. A., Kvitkina A. K. Biomoneralisation of glucose, cellulose and lignin in sand-illite mixtures: effect of mineral nitrogen application.

Coffee Break: 11.25–11.40

Biomineral interactions in soil

Chair: Guggenberger G., Lessovaia S. N.

- 11.40–12.00. Alekseeva T. V., Zolotareva B. N. Organo-mineral complexes as the tool of organic matter differentiation and protection in soils and paleosols.
- 12.00–12.20. Morahovskii V. N. Was there life on Mars, will continue life on Earth?
- 12.20–12.35. Kalinin P. I., Alekseev A. O. Variations of chemical composition of loess- soil complexes of the southeast of russian plain as the sign of conditions of their formation and dynamics of the climate in pleistocene.
- 12.35–12.50. Inozemtsev S., Targulian V. Pedosedimentary model of upper permian paleosols formation and duration of pedogenesis (The Northeast of the Moscow syneclise).

- 12.50–13.05. Sofinskaya O. A., Batalin G. A., Gareev B. I., Statsenko E. O. Changing in soil porous media at present of water, crude oil and microorganisms.
- 13.05–13.20. Anisimova T. Yu. Effect of organic fertilizer on the basis of peat to change the properties of soddy-podzolic sandy soil.
- 13.20–13.35. Rusakova I. V. Effects of long-term straw incorporation on soil biological properties and content organic matter fractions.
- 13.35–13.50. Mamontov. V.G., Filatova A. I. Molecular-mass composition of urban soils fulvic acids.

Lunch: 14.00–15.00.

Geochemistry of biogenic-abiogenic systems

Chair: Bundeleva I., Kotelnikova E. N.

- 15.00–15.20. Abakumov E. V., Andreev M. P. Soils of Clements massif, eastern Antarctica
- 15.20–15.35. Alekseenko V. A. Quantitative estimations of environmental and geochemical state of soil and its changes.
- 15.35–15.50. Shakhverdov V. A., Shakhverdova M. V., Karpinsky A. P. Kola bay, results of geoecological studies.
- 15.50–16.05. Kolushpayeva A., Akbasova A. New geochemical barrier to detoxify of soil from arsenic and mercury.
- 16.05–16.20. Frid A. S. Migration models of Cu, Zn, Cd in soils under irrigation with urban wastewater.
- 16.20–16.35. Smirnova O. C., Doroshkevich S. G., Matyugina E. B. Trace elements mobility and microbiota activity in tailings dam (after sulfidation ores dressing) and adjacent soils.

- 16.35–16.50. Avetisyan M. H., Araratyan L. A., Poghosyan T. E. Specificities of biogenic element migration in system soil-infiltration waters in Aragats mountain massif.

Coffee Break: 16.50–17.05.

Geochemistry of biogenic-abiogenic systems

Chair: Alekseev A. O., Charikova M. V.

- 17.05–17.25. Kotelnikova E. N. Particularities of superperiodical molecular packing in crystal structures of organic substances of biological and geological origin
- 17.25–17.45. Pinevich A. V. Picocyanobacteria: a leadership in the global carbonic vitalization
- 17.45–18.00. Chazhengina S. Y., Kovalevski V. V. Transformation of shungite carbon in soil.
- 18.00–18.15. Panova E. G., Oleynikova G. A., Matinian N. N., Bahmatova K. A. Geochemistry of soil nanoparticles.
- 18.15–18.30. Matinian N. N., Bachmatova K. A., Sheshukova A. A. Rare earth elements in quarternary deposits — the main parent soil-forming materials of North-West Russia.
- 18.30–18.45. Kosheleva N. E., Kasimov N. S., Sorokina O. I., Timofeev I. V., Kisselyova T. M. Trace element composition of woody vegetation in mongolian cities.
- 18.45–19.00. Gavrilenko V. V. The problems of the ecological geochemistry of the big cities geoecosystems.
- 19.00–19.15. Ivanova V. L. Geochemical elements in development of natural bio-inert system.

Wednesday, October 22

St.Petersburg,, Birzhevaya line, 6.

The role of living organisms in the destruction of cultural heritage

Chair: Gorbushina A. A., Frank-Kamenetskaya O.V.

- 9.00–9.15. Kuznetsova O. A., Himelbrant D. E., Stepanchikova I. S., Kuznetsova E. S. The lichens on carbonate stone substrates in St.Petersburg, Russia.
- 9.15–9.30. Panova E., Vlasov D., Luodes H., Vlasov A., Zelenskaya M., Olhovaya E., Popova T. Granit weathering in city environment.
- 9.30–9.45. Abramova T. T. Impact of microorganisms on the monuments in the subterranean Archaeology museum in Moscow.
- 9.45–10.00. Zelenskaya M. S., Rusakov A. V., Sazanova K. V., Rosseeva E. V., Frank-Kamenetskaya O.V., Vlasov D. Yu. Transformation of minerals under the influence of microscopic fungi.
- 10.00–10.15. Lobzova R., Antonova E., Anpilogova A., Karimova O., Magazina L. Salt coating on the surfaces of natural and composite masonry materials St. George and Trinity Cathedrals (Uriev-Polsky).
- 10.15–10.30. Mickevich A. G., Gontcharova I. A., Arashkova A. A., Trigubovich A. M. Colonization of museum ceramics by microscopic fungi
- 10.30–10.45. Sazanova K. V., Vlasov D. Yu., Osmolovskaya N.G Significance of organic acids production by fungi in biodeterioration of stone and adaptation to stress.
- 10.45–11.00. Manurtdinova V. V., Vlasov A. D., Zelenskaya M. S., Kuruleva K. S., Vlasov D. Yu., Frank-Kamenetskaya

O.V., Rytikova V. V. Deterioration of Saint — Petersburg stone monuments connecting with the activity of microorganisms.

- 11.00–11.15. Gontcharova I. A., Arashkova A. A., Trigubovich A. M., Mickevich A. G. Mould fungi on mineral materials of historical buildings.
- 11.15–11.30. Kirtsideli I. Yu., Kazanova A. V., Lazarev P. A., Pashkovskaya T. V. Development of rock-inhabiting microfungi on artificial (synthetic) marble sculpture in the Summer garden (St. Petersburg) .
- 11.30–11.45. Shigorets S. B., Grishkin V. M., Vlasov D. Yu., Zhabko A. P., Kovshov A. M., Vlasov A. D. Development of stone monuments monitoring system with using of computer technology.

Coffee Break: 11.45–11.55

Medical geology

Chair: Yalcin M. G., Volfson I. F.

- 11.55–12.15. Volfson I. F., Farrakhov E. G, Dasayeva L. A and Bespalova J. V. Some words about applied medical geology
- 12.15–12.30. Taratin N. V., Kotelnikova E. N., Lorenz H., Binev D., Seidel-Morgenstern A. Compositional and thermal deformations of crystal structure of solid solutions in the L-Threonine–L-allothreonine system.
- 12.30–12.45. Rybakov D. S. Ecological-demographic aspects of air pollution in Karelia.
- 12.45–13.00. Krasnova N. I. Problems of environment safety, including of food quality, and humanity surviving.

Lunch: 13.00–14.00

Mineral formation in living organisms and biomimetic materials

Chair: Kniep R., Golovanova O. A.

- 14.00–14.20. Frank-Kamenetskay O. V. Ion substitutions and non-stoichiometry of oxalate and phosphate minerals of the human body.
- 14.20–14.40. Golovanova O. A. Thermodynamic and kinetics of crystallization biological fluids.
- 14.40–14.55. Khramenkova E. V., Izatulina A. R., Osmolowskaya O. M., Korzhirov V. A., Frank-Kamenetskaya O. V., Osmolowsky M. G. Synthesis and characterization of hydroxyapatite and nanocomposites based thereon.
- 14.55–15.10. Rosseeva E., Thomas A., Carrillo-Cabrera W., Simon P., Zahn D., Kniep R. Biomimetic approach toward the growth of a pathologic biomineral: morphogenesis of calcium oxalate dihydrate in the presence of polyacrylic acid
- 15.10–15.25. Titov A. T., Larionov P. M., Chernyavskiy M. A.. Calcium phosphate mineralization in cardiovascular tissue.
- 15.25–15.40. Chikanova E. S., Golovanova O. A. Determination of nucleation parameters of compounds formed from a model solution of saliva and plaque liquid.
- 15.40–15.55. Izmaylov R. R., Golovanova O. A., Sergienko N. V. Granular carbonate hydroxyapatite in an organic matrix gelatin.
- 15.55–16.10. Zayts A. V., Golovanova O. A., Panova T. V., Berdinskaya M. V. Synthesis of silicon-substituted hydroxyapatite on substrates titanium.

Poster session 16.10–17.00

Chair: Frank-Kamenetskaya O.V., Brusnitsin A. I.

Poster Session

1. Abakumov E. V., Parnikoza I. Yu. Humus films and humus accumulations in soils of antarctica.
2. Alekseenko V.A., Alekseenko A. V. Several geochemical features of urban soils.
3. Battaloglu R., Yakupoglu E., Yalcin F., Ilbeyli N. Determination of some polycyclic aromatic hydrocarbons (pahs) and simple statistics of heavy metals contents in the honey samples from Nigde city, Turkey.
4. Bobir S. Y., Zelenskaja M. S., Vlasov D. Yu. Biophysical and biochemical destruction of marble in the Necropolises of the State Museum of Urban Sculpture iN Saint-Petersburg
5. Dobretsova I. G., Dobinchouk V. T. On bacteria participation in the formation of magnetite balls and introducing magnesium to the composition of hydrothermal ferriferous crusts from the MAR.
6. Gablina I. F., Dobretsova I. G., Popova E. A. Effect of bigenous carbonate sediments on the formation of modern sulfide ore on the MAR.
7. Immel F., Guichard N., Marie A., Gaspard D., Marin F. Calcium carbonate biomineralization: biochemical studies of peptides and proteins. The case of brachiopod shell matrices.
8. Isakov A. I., Kotelnikova E. N., Lorenz H. Crystal chemistry of non-equimolar discrete compounds formed in the system of malic acid enantiomers.

9. Ivanova E.A. Analysis of microbial communities by using high-throughput sequencing — a new approach applied to studies of conservation state monuments.
10. Izatulina A. R., Punin Yu.O., Shtukenberg A. G. Crystal genesis of calcium oxalates from renal stones.
11. Izmaylov R. R., Golovanova O. A., Zerich Y. V. Synthesis and study of Sr-containing apatite prepared from model synovial fluid of human.
12. Kogut B. M., Semenov V.M. Theoretical concepts about organic matter, humus, humic substances in soils and their adequate experimental determination.
13. Kolotilova N. N. Some aspects of geological microbiology in the scientific heritage of V. O. Tauson (On the occasion of the 125th Anniversary of the birth) .
14. Korolkov V. V., Golovanova O. A., Panova T. V., Obrezanova I. P. Study of calcium oxalate crystallization by optical microscopy
15. Kuzmina M. A., Molodtsova EA, Frank-Kamenetskaya OV. Synthesis of titanium-containing apatite and anatase-apatite composite by precipitation method.
16. Lessovaia S. N., Desyatkin.R.V., Okoneshnikova M. V. Identification of pedogenic processes in the soils of ultra-continental climate based on clay mineralogy.
17. Leventeli Y. The importance of qanats in effective usage of groundwater.
18. Machulina S.A. The Black Smokers of Stylsky gorst of the southwest Donbass as an example of ancient biomineralization.
19. Medvedev P. V., Chazhengina S. Y., Svetov S. A. Application

of Raman spectroscopy and high-precision geochemistry for study of stromatolites.

20. Novikov V. M., Bortnikov N. S., Boeva N. M., Gendler T. S., Zhegallo E. A., Zhukhlistov A. P., Soboleva S. V. Bionominerals of iron oxides in the weathering basalts of Vietnam — crystallomorphological, thermal and magnetic properties.
21. Popkova A. V., Kumanev A. S., Mazina S. E. Application of silver nanoparticles to prevent biocorrosion palaeolithic paintings.
22. Romanenko Z. V., Golovanova O. A. Synthesis of fluorapatite from model solution oral fluid.
23. Rozhkova V. S., Kochneva I. V., Korobkina E. V., Kovalevski V. V. Initial biomineral transformation of shungite rocks.
24. Ryabinkin S. V. Misunderstandings during the solution of the equations of material balance
25. Semenova I. N., Rafikova Yu. S., Suyundukov Ya. T., Biktimerova G. Ya. Regional peculiarities of microelements accumulation in objects of environment and their influence on population health (on the example of transural region of the Republic of Bashkortostan) .
26. Slukin A. D., Bortnikov N. S., Zhegallo E. A., Zhukhlistov A. P., Zaytseva L. V., Boeva N. M. Biomineralization in bauxitic laterites of modern- and paleotropics of earth.
27. Solodyankina A. A., Golovanova O. A. Crystallization parameters of solutions simulating composition of human blood plasma in the presence of additives.
28. Versilin N. N. Geographical cover and biosphere — concepts,

relationships, evolution.

29. Yalcin M. G., Yuksel S., Copuroglu I., Aslan E., Akcadag T., Paksu E. The observation of gallbladder stone in the Nigde city, central Turkey.
30. Zaitseva L. V., Samylina O. S., Pahnevich A. V. Participation of algae-bacterial community in formation of modern stromatolites in Cock Soda Lake (Altai region).
31. Zelenzkaya M. S., Vlasov D. Yu. Micromycetes on stone monuments in necropolises of the State Museum of Urban Sculpture (Saint-Petersburg).
32. Zhegallo E. A. Biological contaminants in sedimentary rocks.

Closing Ceremony: starts at 17.00