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Position: Senior Scientist, [Institute of Geology & Geophysics, Academy of Sciences of Uzbekistan](#);

Education: **Ph.D.** in Geology and Mineralogy, Environmental Geochemistry, Institute of Geology and Geophysics, Academy of Sciences of Uzbekistan, Tashkent, Uzbekistan (2000).
M.S. in Geology and Mineralogy, Geochemistry, Tashkent State University, Tashkent, Uzbekistan (1993).

Specialization: Environmental Geochemistry, Environmental Protection in mining districts and rational management of nature.

Research Interests: Environmental Geochemistry of technogenic dispersion aureoles caused by mining and industrial waste; The forms of heavy metals in contaminated soils and forms of their transformation during interaction with the environment; the transfer of metals from soils to biota; theories and techniques of remediation of metal-contaminated sites; Bio - and hydro-geochemical methods for estimation of natural ecosystems; Occurrence forms and bioavailability of heavy metals in polluted soils; Interactions of soil microorganisms and heavy metals in contaminated soils in industrial areas, with bioremediation aspects.

Employment and Experience.

Years of professional work: 16 years (1993 - 2008).

2000- up to now	Senior Scientist, Institute of Geology and Geophysics, Academy of Sciences of the Republic of Uzbekistan.
1997-2000	Scientist, Institute of Geology and Geophysics, Academy of Sciences of Uzbekistan.
1994-1997	Ph.D. Student, Institute of Geology and Geophysics, Academy of Sciences of Uzbekistan.
1993-1994	Research assistant, Institute of Geology and Geophysics of Academy of Sciences, Uzbekistan.

Academic Awards and Honors:

2000 - has been awarded a prize by the Academy of Sciences of Uzbekistan for the best scientific investigation of year in natural sciences; 2001 and 2005 – DAAD short term research scholarships for further academic study and training in Germany; 2003-2004 – UNESCO/Israel co sponsored postdoctoral fellowship for collaborative research in Israel; 2004 – NATO science fellowship for collaborative research in Greece; 2006-2007 – INTAS YS postdoctoral fellowship. [International training courses:](#) 2000- ITEC training course on Office Technologies and Internet Applications, (August-September, New-Delhi, India); 1998 (May-June, Ankara Turkey), 2001 (September-October, Ankara, Turkey), 2004 (November-December, Beijing, China) – JICA International training courses on Geochemistry; Mineral exploration; RS and GIS technologies.

Publications: 89 publications (26- in Journals, 63 - in Abstracts of International conferences and meetings).

Recent selected publications:

1. Shukurov, N., Pen-Mouratov, S. and Steinberger Y. (2005). The impact of Almalyk industrial complex on soil chemical and biological properties. *Environmental Pollution* 136:331-340.

The effect of heavy metals on soil free-living nematodes, microbial biomass (C_{mic}) and basal respiration (BR) was studied along a 15 km downwind deposition gradient, originating at the Almalyk Industrial Complex. Soil samples from 0-10 and 10-20 cm layers were collected at 5 km intervals. A significant decrease in heavy metal deposition was found going from the source in the downwind direction and with depth. The soil microbial biomass, basal respiration and derived microbial indices for soil samples from the Almalyk industrial area were analysed. The lowest soil microbial biomass and total number of free-living nematodes were found in soil samples near the industrial complex, with a high heavy metal and weak total organic carbon (C_{org}) content. The highest C_{mic} was found in the soil samples collected 15 km from the pollution source. BR displayed similar results. The derived indices, metabolic quotient (qCO_2) and microbial ratio (C_{mic}/C_{org}), revealed significant differences with distance, confirming environmental stress in the first and second locations. The present study elucidates the importance of soil nematode and microbial populations as suitable tools for bio-monitoring the effect of heavy metals on soil systems.

2. Shukurov, N., Pen-Mouratov, S., Genzer, N., Steinberger, Y. and Plakht, J. (2005). Distribution of soil microbial biomass and soil free-living nematode population in terrace chronosequences of the Makhtesh-Ramon crater. *Arid Land Research and Management*, Vol 19:1-17.

In this study, we examined the effects of the age of erosional fluvial terraces of Makhtesh Ramon (Ramon crater) in the central Negev Desert on soil chemical and biological properties. There were significant effects of erosion age of these terraces on soil moisture, organic carbon, soil salinity, and electrical conductivity. It is known that soil biological activity in arid ecosystems is determined by well-known limiting factors such as soil moisture and organic matter. Significant ($P < 0.002$) differences in total nematode population and microbial biomass [(22.0–3.4 C_{mic} (mg C g⁻¹ soil))] were observed between terraces. Biological activity of soils in lower and younger terraces was greater than in older and higher terraces. The ecophysiological status (qCO_2) of the soil microbial community was found to decrease from a maximal value of 1.3 to 0.32 mg CO₂-C (gC_{mic})⁻¹ along the terraces (from younger to older ones). This study illustrates the integrated effect of age, altitude, and the morphostratigraphic position of terraces on the biological activity of soils.

3. Shukurov, N., Pen-Mouratov, S. and Steinberger Y. (2006). The influence of soil pollution on soil microbial biomass and nematode community structure in Navoiy industrial park, Uzbekistan. *Environment International*. 32: 1-11.

The effects of ammonium-rich and heavy-metal air pollution produced by the industrial enterprises at Navoiy (Uzbekistan) on soil free-living nematodes and microbial population activities was investigated in soil samples collected in a 5-km radius surrounding the industrial enterprises. At each location (n=4), soil samples were collected from the upper layer (0–10 cm) for determination of soil moisture (SM), total organic carbon (C_{org}), total soluble nitrogen (TSN), soil electrical conductivity (EC) and cations (Ca²⁺, K⁺, Na⁺). Heavy metals (As, Cu, Pb, Zn), soil basal respiration (BR), microbial biomass (C_{mic}) and nematode populations were determined. The highest level of TSN was found near the industrial enterprises, with 23.8 and 24.0 mg/kg at NavoiAzot and NavoiGRES, respectively. Soil sample pH was found to be weakly alkaline, with levels ranging between 7.9 and 8.1. Mean soil moisture content varied from 0.75% to 0.93% of the wet weight, without any significant differences between the sampling stations. The heavy metals As, Cu, Pb and Zn were accumulated in the upper soil layer. A significant difference was found between soil heavy-metal content for Cu ($p < 0.0005$) and As ($p < 0.02$). Basal respiration and microbial coefficient (C_{mic}/C_{org}) were found to be significantly negatively correlated with Cu and As soil content. A significantly positive correlation was found between the Cd concentration and the metabolic quotient (qCO_2) ($p < 0.003$). No significant correlation was observed between the soil microbial population and total soluble nitrogen. Furthermore, the qCO_2 , which is a known ecophysiological index for the soil microbial population, was found to be correlated with the total number of nematodes in general and with the bacteriovore-feeding group in particular. No significant correlation was observed between the soil microbial population and total soluble nitrogen.

4. Pen-Mouratov, S., Shukurov, N., Steinberger, Y. (2008). Influence of industrial heavy metal pollution on soil free-living nematode population. *Environmental Pollution*, Volume 152:172-183.

The effect of distance from a heavy metal pollution source on the soil nematode community (trophic structure, sex structure, and taxa composition) was investigated along a 15-km transect originating at the Almalyk Industrial Complex, Uzbekistan (pollution source). The soil nematode community was exposed to heavy metal influence both directly and through soil properties changes. Pollution effect on the density and biomass of soil free-living nematodes was found to be highest at pollution source, with fungivores and plant parasites dominating at the upper and deeper soil layers next to the pollution source. These groups decreased along the transect, yielding domination to bacteria- and fungi-feeders. The sex ratio of nematode communities was found to be dependent on heavy metal pollution levels, with the juveniles being the most sensitive nematode group. The Maturity and modified Maturity Indices, reflecting the degree of disturbance of the soil ecosystem, were found to be the most sensitive indices.

List of publications

Articles in Scientific Journals:

1. Talipov, R., Artikov, A., **Shukurov, N.** and Tverskaya K. (1995): Influence of technogenic factors on the enterprises vicinity environment. Uzb. Geol. Journal, 3, 42-49.
2. Talipov, R., **Shukurov, N.**, Tverskaya K., (1996): Geochemical study of soils, water and vegetation for estimation of anthropogenic pollution of Chirchik and Akhangaran rivers valleys. Uzb. Geol. Journal, 1, 44-49.
3. **Shukurov, N.**, Gofurov U., (1996): The most important problem of the day. (Environmental impact of the wastes of Almalyk mining and smelting combine / J. Economics and reports, 2, 62-64.
4. Talipov, R., **Shukurov, N.**, Artykov A., (1997): Biogeochemical anomalies of rare metals at tungsten ore mining and dressing fields. Uzb. Geol. Journal, 3, 40-46.
5. **Shukurov, N.** (1998): Environmental Geochemistry of heavy metals in soils, water and plants of Almalyk mining and smelting area. Uzb. Geol. Journal, 3, 65-72.
6. **Shukurov, N.**, (1999): Occurrence forms of heavy metals-toxicants in soils of technogenic landscape within the Almalyk mining industrial area. Journal of Geology and Mineral Resources, 5, 44- 48.
7. Talipov, R., **Shukurov, N.**, (2000): Technogenic pollution aureoles in soils, waters and vegetation within the precious, rare, and non-ferrous metal mining and treatment areas of Near-Tashkent region. Journal of Geology and Mineral Resources, 2, 44-48.
8. **Shukurov, N.** (2001): The effect of mining and smelting activity on the environment. J. News of Ecology, 3, 5-7.
9. Talipov, R., **Shukurov, N.**, (2002): Distribution of non-ferrous and rare metals in soils and plants ashes within the influence zone of metallurgical enterprises over the Tashkent region. Journal of Geology and mineral resources,1. 46-50.
10. Talipov R.M., **Shukurov N.E.**, (2004): About distribution of concentration of arsenic in waters and plants in the vicinity of arsenic-bismuth dumps of Ustarasay-Burchmulla ore field (Chatkal mountains). Journal of geology and mineral resources, 6, 45-50.
11. **Shukurov, N.**, Klimanov, E., (2004): Results of studies on heavy metals occurrence forms in polluted soils by the method of sequential extraction. Journal of geology and mineral resources, 1, 39-41.
12. Talipov R., **Shukurov, N.**, (2005): Geochemical features of distribution noble and nonferrous metals in biosphere on ore and industrial areas of northern slopes of Kurama mountain range. Journal of Geology and mineral resources, 1, 36-41.
13. Talipov R., **Shukurov, N.**, (2005): Development biogeochemical methods for searching and explorations of ore deposits in Central Kyzyl-Kum desert, Uzbekistan. J. Mining bulletin of Uzbekistan, 4/23, 3-7.
14. **Shukurov, N.**, Pen-Mouratov, S. and Steinberger Y. (2005): The impact of Almalyk industrial complex on soil chemical and biological properties. Environmental Pollution 136:331-340.
15. **Shukurov, N.**, Pen-Mouratov, S., Genzer, N., Steinberger, Y. and Plakht, J.(2005): Distribution of soil microbial biomass and soil free-living nematode population in terrace chronosequences of the Makhtesh-Ramon crater. Arid Land Research and Management, Vol 19:1-17.
16. **Shukurov, N.**, Pen-Mouratov, S. and Steinberger Y. (2006): The influence of soil pollution on soil microbial biomass and nematode community structure in Navoiy industrial park, Uzbekistan. Environment International. 32(1):1-11.
17. Talipov R., **Shukurov, N.**, (2006): Biogeochemical methods of study technogenic pollution in Tamdytau Mountains (Kyzyl-Kum desert, Uzbekistan). Journal of Geology and mineral resources, 1/ 48-53.
18. Turesebekov, A., Talipov, R., **Shukurov, N.**, Baranova, T.N. (2007): Problems of Geochemistry and geotechnology. Journal of Geology and mineral resources, 4/ 75-84.
19. Turesebekov, A., Sharipov, H.T., Talipov, R., **Shukurov, N.**, Baranova, T.N. (2007): Evolution of Geochemical processes of substance transformation in technogenic systems regarding waste recycling and ecological problems. / Journal of Geology and mineral resources, 4 / 157-163.
20. Talipov R.M., **Shukurov, N.**, (2007): Distribution of heavy metals in soils and plants ashes in a zone of influence of metallurgical enterprises of Navoiy region. Journal of Geology and mineral resources. 1/ 54-59.
21. Pen-Mouratov, S., **Shukurov, N.**, and Steinberger, Y. (2008): Influence of industrial heavy metal pollution on soil free-living nematode population. Environmental Pollution, Volume 152:172-183

22. Pen-Mouratov, S., **Shukurov, N.**, Plakht, J., Steinberger, Y. and (2008): Soil microbial activity and free-living nematode community in the upper soil layer of the anticline erosional cirque, Makhtesh Ramon, Israel. *European Journal of Soil Biology* 44:71-79.
23. Talipov, R., **Shukurov, N.** (2008): The ability to use biogeochemical methods for searching rare-metal deposits in desert conditions of Western Uzbekistan. *Journal of Geology and Mineral Resources*. 2008, № 2, 50-57.
24. Talipov, R., **Shukurov, N.** (2008): Biogeochemical scattering oreoles on skarn-scheelite ore deposits in Zirabulak Mountains. *Journal of Geology and Mineral Resources*. 2008, № 5 (in print).
25. Pen-Mouratov S., **Shukurov N.**, Steinberger Y. (2008). "Soil free-living nematodes as indicators of both industrial pollution and grazing activity in Central Asia", *J. Ecological Indicators* (submitted).
26. **Shukurov N.**, Pen-Mouratov S., Steinberger Y., Kersten M. (2008). «Soil biogeochemical properties of Angren industrial area, Uzbekistan». *J. Soils & Sediments* (submitted).

Papers presented at conferences and meetings:

27. Talipov, R., Artikov, A., **Shukurov, N.**, (1996): The Mines and Plants Influence upon environment, Tashkent District, Uzbekistan. 30th International Geological Congress. Abstracts. Beijing, China. Vol. 3.
28. **Shukurov, N.** (1997): About ecological situation in the Almalyk mining district. First conference of young scientists. Abstracts, Tashkent, Uzbekistan. p. 140-148.
29. Talipov, R., **Shukurov, N.** (1997): The Influence of mining industry of Western Uzbekistan on the Environment. Conference "Social-ecological criteria of human interest", Tashkent, Uzbekistan, Abstracts. P.53-55.
30. **Shukurov, N.E.** (1999), Occurrence forms of heavy metals-toxicants in soils effected by mining and smelting complexes (on example AMSC). International Conference on modern geotechnologies. Navoiy, Uzbekistan. Abstracts. (in Russian).
31. Talipov, R., **Shukurov, N.** (1999): Ecological estimation of the geochemical anomalies caused by As-Bi bearing ores wastes of Ustarasay-Burchmulla mining field. *Ecotechnology -99, Regional workshop*. Russia. Orenburg. Abstracts. P. 49-50.
32. **Shukurov, N.** (2000): Occurrence forms of heavy metals-toxicants in soils effected by mining and smelting complexes (on example AMSC). International Conference on modern geotechnologies. Navoiy, Uzbekistan. Abstracts. P.145-146.
33. Akbarov, Kh., **Shukurov, N.** , Khudoykulov K. (2000): The Stable development of mountain regions. International Conference on modern geotechnologies. Navoiy, Uzbekistan. Abstracts. P.27-28.
34. Talipov, R., **Shukurov, N.**, (2000): Ecological geochemical environmental changes under the influence of mining and smelting factories wastes. International Conference. Navoiy, Uzbekistan. Abstracts. P. 147-149.
35. Talipov, R., **Shukurov, N.**, Kim, O. (2000): Bio- and hydrogeochemical methods for estimation of natural ecosystems in ore-bearing fields of Uzbekistan. 31st International geological congress. 6-17 Aug. Rio-de-Janeiro. Brazil.
36. **Shukurov, N.** (2000): Environmental geochemistry of technogenic dispersion aureoles (on example of the Almalyk mining and smelting complex, Uzbekistan). 31st International geological congress. 6-17 Aug. 2000. Rio-de-Janeiro, Brazil.
37. Turesebekov, A., **Shukurov, N.** (2000): The material and the element composition analysis of the dusts from copper manufacture. Abstracts. Anniversary Plaksins readings. "Development of I.N.Plaksins ideas in the field of enrichment of minerals and hydrometallurgy ". 9-14 October, Moscow. 2000. P. 25-26.
38. Turesebekov, A.Kh., **Shukurov, N.E.** (2000), The analysis of dust copper manufacture composition. International Conference. 9-14 October. 2000. Moscow, Russia. Abstracts. (in Russian)
39. **Shukurov, N.** (2000): Environmental Geochemical researches of the dispersion aureoles of technogenic elements within the territory of mining object influence. Bishkek, Kirghizistan. Abstracts. P.239-245.
40. Akbarov, Kh., **Shukurov, N.** (2000): Ecological problems and stable development of mountain regions of Uzbekistan. Bishkek, Kirghizistan. 2000. Abstracts. P.218-223.
41. Akbarov, Kh., **Shukurov, N.**, (2000): Method of local prognosis of poly-metallic deposits of Tien-Shan. Study of the mountains and life in the mountains. Bishkek, Kirghizistan. 2000. Abstracts. P.61-69.
42. **Shukurov, N.E.** (2000): The ecological situation in the Almalyk mining district. First conference of young scientists. Tashkent, Uzbekistan. Abstracts. (in Russian).

43. **Shukurov, N.E.** (2000) Ecological estimation of production and processing technologies of nonferrous metals ores. International Conference. Tomsk, Russia. Abstracts. (in Russian).
44. Klimanov E.V., **Shukurov N.E.** (2001): Technological and Eco-Geochemical aspects of behaviour of industrially valuable and ecologically dangerous elements in system coal-production-waste for the area of intensive industrial coal burning (Angren lignite mining area). / Abstracts of the conference «Technical sciences and global problems of XXI century». Vol IV. Tashkent, 2001., P.171-172.
45. Akbarov Kh.A., Talipov R.M., **Shukurov N.E.**, Khudaykulov K.Kh. (2001): Environmental prevention measures at mining fields/ Geoecology and geoenvironmental problems of mountain and interranges. Abstracts of International Conference. 26-28 March, 2001, Tashkent. P. 20-23.
46. Talipov R.M., **Shukurov N.E.**, Kim O.A. (2001): Ecological aspects of studying of heavy metals in technogenic landscapes of the Tashkent Region. Geoecology and geoenvironmental problems of mountain and interranges. Abstracts of International Conference. 26-28 March, 2001, Tashkent. P. 114-117.
47. Talipov R.M., **Shukurov N.E.** (2001): Methods of ecogeochemical investigations for assessment of environmental contamination / Geoecology and geoenvironmental problems mountain and interranges. Abstracts of International Conference. 26-28 March, 2001, Tashkent. P. 117-119
48. **Shukurov, N.** (2001): Measures on environmental pollution reduction under production and processing of ores. International Conference on Geo-ecological problems. 26-28 March, 2001., Tashkent, Uzbekistan. Abstracts. P.143-145.
49. **Shukurov, N.**, Otaboeva, N. (2001): Sources of the environmental pollution of Almalyk-Akhangaran industrial area. International Conference on Geo-ecological problems. 26-28 March, 2001., Tashkent, Uzbekistan. Abstracts. P. 145-147.
50. **Shukurov, N.**, Talipov, R. (2001): Geochemical features of technogenic aureoles of dispersion oreogenic elements in underground waters of Akhangaran valley./ "New ideas in Earth sciences". 5th International Conference. Moscow, Russia. Abstracts. P.230-233.
51. **Shukurov, N.**, (2001): The occurrence forms of heavy metals-toxicants in soils of technogenic landscapes and in wastes of metallurgical enterprises (Uzbekistan)/ "New ideas in Earth sciences". 5th International Conference. Moscow, Russia. Abstracts.
52. **Shukurov, N.** (2001): Ecological estimation of production and processing technologies of nonferrous metals ores. Abstracts of the international scientific symposium of post-graduate students and young scientists, "Problems of geoecology and mineral exploration". 9-13 April, Tomsk, Russia.
53. Akbarov, Kh., Alibekov L.A., **Shukurov, N.**, (2001): Work Against Desertification and Sustainable Development of Mountain Regions. Desert technology 4th International conference. September 16-24. Urumqi, China. Abstracts. P.6.
54. Talipov R.M., **Shukurov, N.**, (2001): Geochemical assessment of sources of environmental contamination in Tashkent region. Abstracts of international conference on «Actual problems of mining and mineral exploration». 22-24 October, 2001, Tashkent. P. 263-264.
55. **Shukurov, N.** (2001): Mineral forms of heavy metals in soils samples from Almalyk mining industrial area. Abstracts of international conference on «Actual problems of mining and mineral exploration», 22-24 October, Tashkent, Uzbekistan. P.265-267.
56. **Shukurov, N.E.** (2001) Measures on environmental pollution reduction under production and processing of ores. International Conference on Geo-ecological problems. Tashkent, Uzbekistan. Abstracts. P.143-145. (in Russian)
57. **Shukurov, N.E.**, Otaboeva, N. (2001), Sources of the environmental pollution of Almalyk-Akhangaran industrial area. International Conference on Geo-ecological problems. Tashkent, Uzbekistan. Abstracts. P. 145-147. (in Russian)
58. **Shukurov, N.E.**, Talipov, R.M. (2001), Geochemical features of technogenic aureoles of dispersion oreogenic elements in underground waters of Akhangaran valley./ "New ideas in Earth sciences". International Conference. Moscow, Russia.. Abstracts. P.230-233. (in Russian)
59. **Shukurov, N.E.**, Talipov, R.M. (2001). The occurrence forms of heavy metals-toxicants on the territory of the influence of mining and metallurgical enterprises. International Conference on Geo-ecological problems Tashkent, Uzbekistan. Abstracts. P.23-29 (in Russian).
60. Turesebekov, A., **Shukurov, N.**, Klimanov, E., Djuraev, A., Kim, O. (2002): Ecological mineralogy of endogenic, exogenic, technogenic systems (problems, methods and solutions)/ Role of mineralogical investigations in solution environmental problems (theory, application, perspectives of developing)/ Materials of annual meeting of Russian Mineralogical Society. 28-30 May, Moscow, Russia. P.179-181
61. Turesebekov, A., **Shukurov, N.**, Djuraev, A., Klimanov, E., Kim, O., (2002): Mineralogy of Toxicants in Endogenic, Exogenic, technogenic and urbanized systems. / Role of mineralogical investigations in solution environmental problems (theory, application, perspectives of

developing)/ Materials of annual meeting of Russian Mineralogical Society. 28-30 May, Moscow, Russia. P. 181-183.

62. **Shukurov N.E.**, Otaboeva N.A., (2002): The results of studying chemical forms of heavy metals in contaminated soils by using a method «sequential extraction». / Abstracts of the International conference «Istiqloq», Actual tasks of modern mining-technological complexes and ways of their decision. Navoiy. 26-28 September, 2002 P. 97-98.
63. Talipov R.M., **Shukurov N.E.**, (2002): Concerning the distribution of arsenic in waters and vegetation in territory As-Bi ore wastes in Ustarasay-Burchmulla mining field. / Abstracts of the International conference «Istiqloq», Actual tasks of modern mining-technological complexes and ways of their decision. Navoiy. 26-28 September, 2002 P.104.
64. Talipov R.M., **Shukurov N.E.** (2003): Some geochemical conformities to natural laws in distribution of nonferrous and rare metals in soils, waters and vegetation in territory of the industrial enterprises of the Tashkent region, Uzbekistan. Abstracts of 6th International conference «New Ideas in Earth Sciences», April, Moscow, 2003. Vol. IV. P.80.
65. **Shukurov, N.** (2003): Environmental geochemistry of technogenic dispersion aureoles of heavy metals. Abstracts of 6th International conference «New Ideas in Earth Sciences», April, Moscow, 2003. Vol. IV. 96.
66. **Shukurov, N.** (2003): Environmental geochemistry and mineralogy of heavy metals in contaminated soils from the Almalyk mining and smelting complex area, Uzbekistan. Goldschmidt Conference Abstracts 2003, on Geochemica et Cosmochemica Acta, No 18S, Page 436.
67. **Shukurov, N.** (2003): Ecogeochemical aspects in the study of non-ferrous and rare metals in technogenic landscapes of foothills and mountains of Uzbekistan. Abstracts, 6th International Symposium on Environmental Geochemistry, 7-11 September 2003, Edinburgh, Scotland, UK.
68. Akbarov, Kh.A., Maripova, S.T., **Shukurov, N.E.** (2003): Application of geoinformation system (GIS) in analysis of geology and mineral resources of Uzbekistan. 4th European Congress on Regional Geoscientific Cartography and Information Systems Geoscientific Information for Spatial Planning. 17-20 June, Bologna, Italy.
69. Talipov R.M., **Shukurov, N.E.** (2003) Ecogeochemical aspects in the study of non-ferrous and rare metals in technogenic landscapes of foothills and mountains of Uzbekistan. Abstracts, 6th International Symposium on Environmental Geochemistry, 7-11 September 2003, Edinburgh, Scotland, UK.
70. **Shukurov, N.**, Otaboeva, N. (2004): Occurrence forms of heavy metals in polluted soils within the Almalyk Mining and Metallurgical Complex (Uzbekistan). 32nd International Geological Congress (32IGC), 20-18 August, 2004, Florence, Italy.
71. Pen-Mouratov, S., Shukurov, N., and Steinberger, Y. (2004): The effect of Almalyk industrial complex on of soil free living nematode population XIVth International Colloquium on Soil Zoology and Ecology, "Soil Animals and Ecosystem Services", At the University de ROUEN (Mont Saint Aignan, France), From August 30th to September 3rd 2004.
72. **Shukurov, N.**, Pen-Mouratov, S. and Steinberger, Y. (2004): Effect of heavy metals on soil chemical and biological activity in the vicinity of the Almalyk Mining and Metallurgical Complex, Uzbekistan. XIVth International Colloquium on Soil Zoology and Ecology, "Soil Animals and Ecosystem Services", At the University de ROUEN (Mont Saint Aignan, France), From August 30th to September 3rd 2004.
73. **Shukurov, N.**, Pen-Mouratov, S. and Steinberger, Y. (2004): The impact of soil pollution on nematode community structure and soil microbial biomass in the Navoiy industrial area, Uzbekistan. Colloquium on Soil Zoology and Ecology, At the Israel society for ecology & environmental quality sciences (ISEEQS), 9-10 June, 2004. Tel-Aviv, Israel. Abstracts. P. 66-67.
74. Klimanov E.V., **Shukurov N.E.**, (2004): Studying Eco-geochemical features of elements-impurity of coals at use in power plant system./ Modern Technics and Technologies of Mining-Metallurgical Branch and a Way of Their Development. September, 23-25, 2004. Abstracts. P. 107.
75. Talipov, R., **Shukurov, N.**, Klimanov, E., Otaboeva, N. (2004): Environmental protection in Almalyk mining area, Uzbekistan. International Scientific and Technical Conference Istiqloq. Modern Technics and Technologes of Mining-Metallurgical Branch and a Way of Their Development. September, 23-25, 2004. Abstracts. p.210-212.
76. Pen-Mouratov, S., Steinberger, Y., **Shukurov, N.**, (2004): The response of soil biota to heavy metal industrial pollution. International Scientific and Technical Conference Istiqloq. Modern Technics and Technology of Mining-Metallurgical Branch and a Way of Their Development. September, 23-25, 2004. Abstracts. p.212-213.
77. **Shukurov, N.**, Pen-Mouratov, S., Steinberger, Y. (2004): The impact of soil pollution on nematode community structure and soil microbial biomass in the industrial area of Navoiy, Uzbekistan. International Scientific and Technical Conference Istiqloq. Modern Technics and

Technologies of Mining-Metallurgical Branch and a Way of Their Development. September, 23-25, 2004. Abstracts. p.213-214.

78. **Shukurov, N.**, Pen-Mouratov, S., Steinberger, Y., Talipov, R. (2005): Soil free-living nematodes community structure and soil microbial biomass response to soil pollution in the vicinity of Navoiy industrial area, Uzbekistan. Conference Supplement to Geochimica et Cosmochemica Acta, Goldschmidt Conference 20-25 May 2005, Moscow, Idaho, USA. Geochimica et Cosmochemica Acta, Vol.69, Iss.10, Supplement 1, Page A233.
79. Genzer, N., **Shukurov, N.**, Pen-Mouratov, S., Steinberger, Y. and Plakht, J. (2005): Distribution of soil microbial biomass and soil free-living nematode population in terrace chronosequences of the Makhtesh-Ramon crater. The 4th Congress of the Federation of the Israel Societies for Experimental Biology, February 7-10, 2005, Eilat, Israel.
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